KEMI
Swedish Chemicals Agency

REPORT 7/15

Occurrence and use of highly fluorinated substances and alternatives

Report from a government assignment

kemikalieinspektionen.se

KEMI
Swedish Chemicals Agency

The Swedish Chemicals Agency is supervisory authority under the Government. We work in Sweden, the EU and internationally to develop legislation and other incentives to promote good health and improved environment. We monitor compliance of applicable rules on chemical products, pesticides and substances in articles and carry out inspections. We review and authorise pesticides before they can be used. Our environmental quality objective is A Non-toxic Environment.

ISSN 0284-1185. Article number: 361 164.

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Preface

The Swedish Chemicals Agency (KEMI) has been assigned by the Swedish Government to produce a national action plan for a toxic-free everyday environment: *Action plan for a toxic-free everyday environment 2011 – 2014 – protect the children better*. The action plan has been extended to 2020. Efforts are going on in several areas, both in Sweden, within the EU and internationally and often in cooperation with other authorities.

Reducing chemical risks in the everyday environment is one step towards attaining the Swedish Parliament´s environment quality objective A Non-Toxic Environment, which is the objective that the Swedish Chemicals Agency is responsible for. Within the framework of the action plan, we compile knowledge in the Swedish Chemicals Agency's report and PM series elaborated by experienced colleagues, researchers or consultants. In this way, we present new and essential knowledge in publications which can be downloaded from the website www.kemikalieinspektionen.se.

One area of focus in the action plan is highly fluorinated substances. The Swedish Chemicals Agency has been assigned to produce a national programme of measures for highly fluorinated substances. As part of this task the Swedish Chemicals Agency has carried out a survey of the occurrence and use of highly fluorinated substances and alternative substances and materials. The survey is presented in this report.

The aim of the survey is to give a clearer picture of where highly fluorinated substances are currently used and what alternative substances, materials and technologies are available.

The survey was carried out by the Department for the Development of Legislation and Other Instruments. The head of unit Agneta Falk-Filipsson was responsible for the project and the project group comprised Stellan Fischer and Jenny Ivarsson (project leader). Johan Forsberg and Maria Delvin have also contributed to the report.

Content

Summary

Highly fluorinated substances (per- and polyfluorinated alkyl substances, PFAS) are used in many different articles and chemical products due to their attractive properties. They are repellent to water, grease, and dirt, temperature resistant and film-forming. However, other less desirable properties are their extreme persistence in the environment, and that several of them accumulate in living organisms and can be toxic.

The knowledge of the presence and use of highly fluorinated substances is limited and this report is a survey of how these substances are used. The report will be used in future work to prevent additional health and environmental problems with PFAS.

The survey was conducted at the Swedish Chemicals Agency in (the spring) 2015. It is based on information from databases available to the agency (e.g. the Swedish products register and EU databases). Searches were also made in scientific publications and reports as well as lists of industrial chemicals from various countries (mainly from North America and Asia). In addition, information has been obtained from the industry and searches have been made in patent databases. Although all known uses of PFAS are considered in the report, the focus is on those assessed to be most relevant for Sweden. Alternatives to PFAS, alternative materials and methods are also included in the survey.

The highly fluorinated substances have been compiled and grouped and, when possible, related to different uses.

The results of this survey demonstrate that there are probably more than 3,000 commercial highly fluorinated substances in circulation on the global market. The largest group is polymers. Many of the substances have technical qualities with more or less unspecified formulations. We see that the industry has replaced longer carbon chain lengths with shorter ones, mainly six perfluorinated carbons. Information from various patents suggests a strong increase of proposed uses of existing substances in new technical areas. Further, it indicates that the development of new highly fluorinated substances is more moderate.

The survey shows that these substances already today are widely used, from more well-known areas, such as fire-fighting foam, textiles and food packaging to less investigated areas, such as cosmetics, dental restorative materials and dirt-repellent coating for smartphones.

Identified alternatives to PFAS are fluorine-free substances, different materials and alternative techniques. Alternatives could be identified primarily for textiles and fire-fighting foam. Generally, it has been difficult to find alternatives that will match the desired properties of the highly fluorinated substances. This lack of alternatives demonstrates that there is a need for technical development.

Due to significant lack of available information this survey cannot give a complete picture. For example, information on quantities could only be obtained for a few substances. Furthermore, our sources could only give information on uses for about half of the identified substances. This is not surprising, since many of the highly fluorinated substances are entering the EU and Sweden through imports of articles, and for those there are virtually no control.

Another reason for the lack of information is that many highly fluorinated substances are very effective and therefore used in low concentrations to achieve the desired effect. Within REACH there are register requirements for the manufacturers or importers of substances from 100 tonne/year. At low volumes, which can be the case for most PFAS, information

requirements are very low. For quantities below 100 tonne/year (1 tonne/year from June 2018) manufacturers and importers are not required to submit any information at all. In Sweden manufacturers and importers are obliged to register chemical products in the Swedish products register. However, there are in many cases no requirements to notify substances that are added in concentrations below 5 percent, which often is the case for highly fluorinated substances in chemical products.

The results of the survey show that there is a need for increased reporting demands from the industry in Sweden as well as the rest of the EU. Furthermore, we see that there is a need to follow the development of both the known and the less known uses.

Sammanfattning

Högfluorerade ämnen (per-och polyfluorerade alkylsubstanser, PFAS) används i många olika varor och kemiska produkter på grund av sina eftertraktade tekniska egenskaper. De är fett-, smuts- och vattenavvisande, temperaturtåliga och filmbildande. Andra, mindre eftersträvansvärda egenskaper är dock att de är extremt svårnedbrytbara i miljön, samt att flera av dem ansamlas i levande varelser och kan vara giftiga.

Kunskapen om högfluorerade ämnens förekomst och användning är begränsad och denna rapport är en kartläggning av hur ämnena används. Rapporten ska användas i det kommande arbetet med att förhindra ytterligare hälso- och miljöproblem med PFAS.

Kartläggningen genomfördes på Kemikalieinspektionen under våren 2015. Den är baserad på information från databaser som myndigheten har tillgång till (t.ex. det svenska produktregistret och EUs databaser). Sökningar har även gjorts i vetenskapliga artiklar och rapporter samt listor över industrikemikalier från olika länder (främst från Nordamerika och Asien). Dessutom har information inhämtats från industrin och patentdatabaser. Alla kända användningar av PFAS har vägts in i rapporten. Fokus ligger dock på användningar som bedöms som mest relevanta för Sverige. Rapporten redovisar även alternativ till PFAS samt alternativa material och metoder.

De högfluorerade ämnena har sammanställts och grupperats och, i de fall det varit möjligt, kopplats till olika användningsområden.

Resultatet av kartläggningen visar att fler än 3000 kommersiella högfluorerade ämnen troligtvis finns i omlopp på världsmarknaden. Största gruppen utgörs av polymerer. Många av ämnena är tekniska kvaliteter med mer eller mindre ospecificerade sammansättningar. Vi ser att industrin gått över till ämnen baserade på kortare kolkedjor, främst sex perfluorerade kol. Information från olika patent antyder en stark ökning av föreslagna användningar av befintliga ämnen inom nya teknikområden. Vidare verkar utveckling av nya högfluorerade ämnen uppvisa en mera måttlig utvecklingstakt.

Kartläggningen visar att dessa ämnen redan idag har en bred användning, från mer kända såsom brandskum, textil och livsmedelsförpackningar till mindre undersökta som kosmetika, tandlagningsmaterial och smutsavvisande ytbehandling för smartphones.

Identifierade alternativ till högfluorerade ämnen består av fluorfria ämnen, andra materialval samt alternativa tekniker. Det är främst för textil och brandskum som alternativ har hittats. Generellt har det varit svårt att hitta alternativ som mäter sig med de högfluorerade ämnenas eftertraktade egenskaper. Denna brist på alternativ visar på ett behov av teknisk utveckling.

Betydande brist i tillgänglig information gör att denna kartläggning inte ger en heltäckande bild. Exempelvis har information om mängder enbart varit möjlig att få fram för ett fåtal ämnen. Vidare saknas information om användning i våra källor för hälften av de identifierade ämnena. Detta är inte förvånande, då många av de högfluorerade ämnena kommer in i EU och Sverige genom import av varor, och för dessa saknas i stort sett kontroll.

En annan anledning till avsaknad av information är att många högfluorerade ämnen är mycket potenta och därför endast behöver används i låga koncentrationer. Inom Reach finns krav att registrera ett ämne som tillverkas eller importeras i mängder om minst 100 ton per tillverkare/importör och år i EU. Vid de låga volymer som det kan handla om för PFAS är krav på information mycket låga. För mängder under 100 ton/år (1 ton/år fr.o.m. juni 2018) behöver tillverkare och importörer inte registrera någon information alls. Även det svenska produktregistret har liknande begränsningar i registreringsplikten. Här finns i många fall inget krav på

att anmäla tillsatsämnen som används i halter lägre än 5 procent, något som ofta är fallet för högfluorerade ämnen i kemiska produkter.

Resultaten från kartläggningen visar att det finns behov av ökade inrapporteringskrav från industrin i så väl Sverige som resten av EU. Vidare ser vi att det finns behov av att bevaka utvecklingen för såväl de mer kända som de mindre uppmärksammade användningarna.

1 Background

Highly fluorinated substances (perfluorinated and polyfluorinated alkyl substances, PFAS) are used in many different chemical products and articles because of their desirable properties and as a result they find their way into the environment. The substances have extremely poor environmental biodegradability (persistent, P) and many of them accumulate in living organisms (bioaccumulating, B) and are toxic (T). There is a lack of overall knowledge of highly fluorinated substances and to prevent further pre-existing health and environmental problems from building up and persisting for a long time, it is important to map out the occurrence and use of these substances.

We know that the use of highly fluorinated substances in fire-fighting foam is particularly problematic as it involves direct release into the environment. There are also other possible sources of the highly fluorinated substances that are found in humans and in the environment. Highly fluorinated substances can cause very long term problems in the environment by contaminating groundwater and subsequently drinking water. It is suspected that drinking water with high levels of these substances can increase the risk of adverse health effects, affecting for example the thyroid gland, the liver, fat metabolism and the immune system.

In the government directive M2015/375/Ke, *Action plan for a toxin-free everyday environment*, the Swedish Chemicals Agency has been instructed to develop a programme of measures for dealing with highly fluorinated substances. In implementing this task we have carried out a survey of how highly fluorinated substances are used and what alternative substances and materials are commercially available. The survey will be used as a basis for other projects within the programme of measures for highly fluorinated substances.

There is only limited knowledge of the occurrence of PFAS in Sweden and the EU. One reason is that many PFAS are very potent and are therefore used at low concentrations to achieve the desired effect. These low concentrations can be below the level at which REACH requires information to be registered and therefore do not permit hazard and risk assessments. For quantities below 100 tonne/year[1] manufacturers and importers are not required to register any information at all.

There are various phases in the life cycle of highly fluorinated substances (Figure 1) when release can occur, with exposure of humans and the environment. The first is the manufacture of the substance itself, after which there are various processing stages in which the substance may be used (such as process chemicals in the production and formulation of chemical products, for example, fire-fighting foam). This survey focuses on final stage uses, i.e., the final use of a chemical prior to its entering the waste management stage, as this is deemed to be the most relevant to Sweden. However, use as a starting material in chemical synthesis (polymer production) is described in section 6.2.9. The waste management stage is an important part of the life cycle. Bearing in mind that all highly fluorinated substances (directly or indirectly) are very persistent and in some cases also bioaccumulating and toxic, waste from various applications may be highly relevant with regard to exposure. Incineration at high temperatures (at least 1100°C) generally breaks down PFAS to carbon dioxide and hydrogen fluoride (Sandblom 2014, UNEP 2012). However, it is not known what is produced at lower temperatures.

[1] This will be reduced to 1 tonne/year from the start of June 2018.

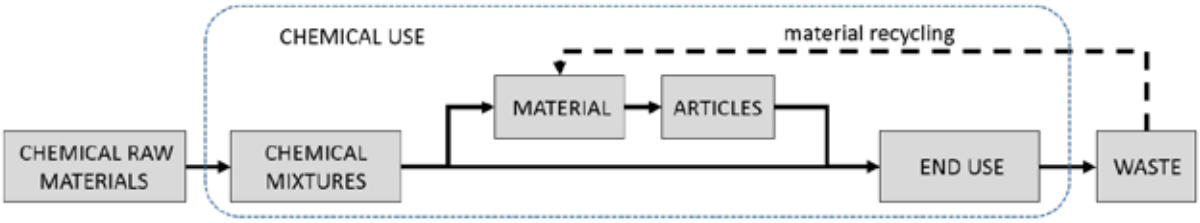


Figure 1: Life cycle of chemicals in the community.

2 The assignment and its scope

The survey looks at highly fluorinated substances, the definition of which, as used in this study, was derived from the conventionally accepted definition of perfluorinated and polyfluorinated alkyl substances, PFAS (OECD 2013). Added to these are those perfluorinated substances which, though lacking functional groups, are regarded as extremely persistent and have similar areas of application (cosmetics raw materials, emulsifiers, solvents, refrigerants).

The survey includes known highly fluorinated substances on the world market as well as known alternatives. This is based on information from the literature and from those databases to which the Swedish Chemicals Agency has access.

This survey includes both short- and long-chain PFAS. Using this definition there are a very large number of highly fluorinated substances on the world market. A large group of these (>1000) includes only short fragments of perfluorinated carbon, principally the CF_3-group (see Figure 2). Compounds with CF_3-groups are broken down to perfluoroacetic acid, which is much less persistent than other PFAS (Benskin 2015), and can also be formed naturally in the environment. The CF_3-group has been assessed to be of less relevance and has therefore not been included in this survey.

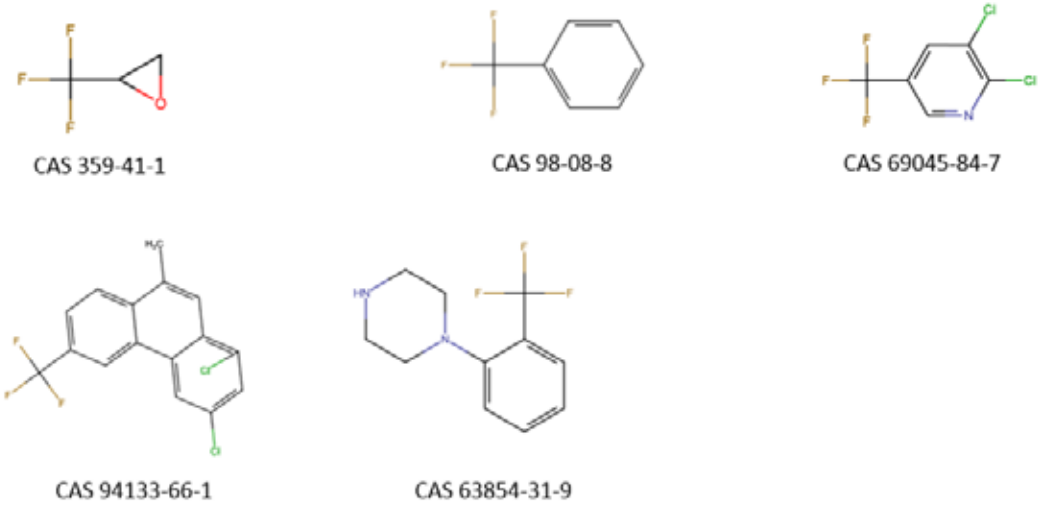


Figure 2: Examples of substances that only have"-CF_3" and are therefore not included in the survey.

A group of PFAS with short perfluoro chains which by contrast have been included in the survey is perfluoro ethers, in which several short perfluoro chains are linked to each other via oxygen bridges (so-called ether bridges, see Figure 3). If there are several oxygen bridges in the same chain, the substance is termed a perfluoropolyether. These have been included in the

survey as it is suspected that they have similar properties, including persistence, to PFAS with longer carbon chains (Gomis et al. 2015).

Perfluoro alkyl**ether** (e.g, 2 C3s):	$F_3C\text{-}CF_2\text{-}CF_2\text{-}\mathbf{O}\text{-}CF_2\text{-}CF_2\text{-}CF_3$
Perfluoro alkyl**poly**ether (>2 perfluoro chains):	$F_3C\text{-}CF_2\text{-}CF_2\text{-}\mathbf{O}\text{-}CF_2\text{-}CF_2\text{-}\mathbf{O}\text{-}CF_2\text{-}CF_3$
Examples of relevant perfluoro **alkyl** chains: (if **n** > ca. 20, the molecule is regarded as a polymer)	$\text{-}[\text{-}CF_2\text{-}CF_2\text{-}CF_2\text{-}\mathbf{O}\text{-}]_n\text{-}$ $\text{-}[\text{-}CF_2(CF_3)\text{-}CF_2\text{-}\mathbf{O}\text{-}]_n\text{-}$ $\text{-}[\text{-}CF_2\text{-}CF_2\text{-}\mathbf{O}\text{-}]_n\text{-}$ $\text{-}[\text{-}CF_2\text{-}\mathbf{O}\text{-}]_n\text{-}$

Figure 3: Other types of perfluoro ethers that are described in the survey.

The survey focuses on chemical products and articles in Sweden in which PFAS can be found. As it can be assumed that there are similar uses in other EU countries and non-EU countries, information from other countries is to a certain extent included in the assignment. As PFAS can be incorporated into polymers used in the production of articles imported from other countries outside the EU, PFAS marketed in other parts of the world are included in this survey.

Uses considered in this report are primarily end uses but the use of PFAS as starting materials in polymer production is also described. However, the waste produced by this end use is not included in the survey.

To the extent that information was available on how much PFAS are used, quantities have been recorded (however, the information is only available for a few substances and applications).

There are several studies which have analysed PFAS in various chemical products and articles in different markets. A number of these are mentioned in this survey. However, only a few substances have been analysed (mainly those for which chemical reference substances are available).

The survey includes no exposure calculations or risk assessments. This also applies to the various alternatives mentioned in the report.

3 Terminology, manufacture, function and abbreviations

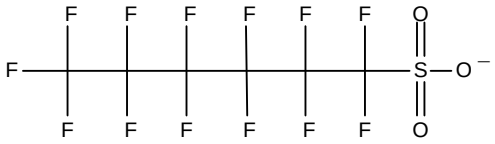
3.1 Perfluorinated and polyfluorinated alkyl substances (PFAS)

Highly fluorinated substances belong to an extensive group of substances which can be divided into several sub-groups, some of which were reported in OECD (2013). To begin with, polymers and non-polymers are normally separated and these can then be divided into the sub-groups listed below.

3.1.1 *Non-polymers*

- Fully or partially fluorinated carbon chains that are usually[2] bound to a functional group[3] (n = number of perfluorinated carbons, CX=PFAS with X perfluorinated carbons)

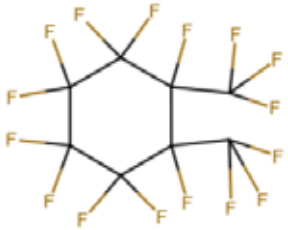
  - *Perfluoroalkyl sulfonic acids (PFSA)*: e.g., PFHxS and PFOS
    - long chain n ≥ 6, PFHxS (C6) and longer.
    - short chain n < 6, e.g., PFBS (C4).



  - *Perfluoroalkyl carboxylic acids (PFCA)*: e.g., PFOA
    - long chain n ≥ 7, PFOA (C7) and longer.
    - short chain n < 7, e.g., PFBA (C3), PFHxA (C5).

  - *Precursors to PFSA and PFCA*: such as fluorotelomers, e.g., 6:2 FTOH and 8:2 FTS. Fluorotelomers consist of a carbon chain that is not fully fluorinated and a functional group (6:2 indicates that 6 carbons are perfluorinated, 2 are non-fluorinated). These can be broken down to PFCA in the environment.

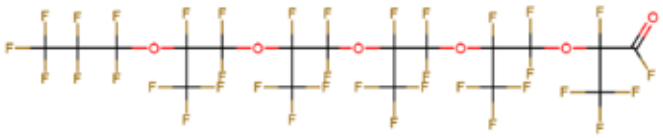
  - *Branched and/or cyclic perfluorocarbon chains*: e.g., Decafluoro-5,6-bis(trifluoromethyl)cyclohexane.



  - *Perfluoro ethers:* ethers can have one or more oxygen bridges (Figure 3). Those with the most bridges are so long that they can be defined as polymers.

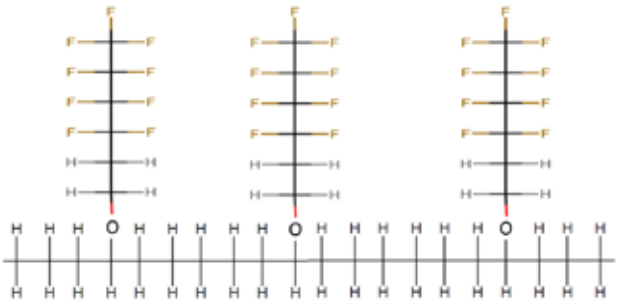
[2] Fluoro waxes consist solely of a perfluorinated carbon chain and are included in this survey.
[3] By functional group we mean a group of atoms which has a major effect on the molecule's properties. Examples of functional groups are an -OH bound to a hydrocarbon chain (this gives an alcohol) and the carboxyl group -COOH which gives a carboxylic acid.

The limit for applying the term polymer is uncertain but it could be greater than 20 (Posner 2015). In the literature, ethers with more than one oxygen bridge are termed perfluoropolyethers, PFPE (Buck et al. 2011). It is mainly the low molecular weight polyethers that have been recorded in this survey. Polyethers have two or more perfluorinated methyl-, ethyl- and/or propyl chains, linked together by oxygen bridges (see Figure 3), e.g., 3,6,9,12,15-Pentaoxaoctadecanoyl fluoride, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,17,18,18,18-eicosafluoro-2,5,8,11,14-pentakis(trifluoromethyl)- (CAS no. 13252-15-8).



3.1.2 *Polymers*

- *Side-chain fluorinated polymers:* Polymers with fluorinated side chains. Side-chain fluorinated polymers comprising polyfluorinated (and possibly perfluorinated) side chains. These can be broken down to PFCA.



- *Fluoropolymers:* Polymers with a fluorinated backbone (the backbone consists solely of carbon atoms to which fluorine is bound).

Examples of common fluoropolymers are:

- Polytetrafluoroethylene (PTFE) which is used in Teflon®.
- Polyvinylidene fluoride (PVDF) which is used in electronics, for example, loud speakers.
- Fluorinated ethylene propylene (FEP) which is mainly used in cables, for example, in computers.
- Perfluoroalkoxyl polymer (PFA) which is used, for example, in cable insulation that requires unusual thermal, chemical, etc., properties.

Fluoropolymers are not produced from PFCA nor from their precursors. However, variants of different PFCA are used as process chemicals in

manufacture and the finished product may contain residues of these substances.

3.2 Manufacture and technical quality

As stated earlier in section 3.1 the highly fluorinated substances group is complex and includes several different substance groups. To obtain a better understanding of this, this section describes the underlying chemistry on which these substances are based as well as the two main manufacturing processes.

The highly fluorinated substances are based on two structural components:

1) a hydrophobic (water repellent) tail which consists of a perfluorinated part and

2) a hydrophilic (water soluble) component.

In some cases there is also a ”spacer” group which links these together (Figure 4). These three components together create a substance with many beneficial functions. The water-soluble component can be made up of a wide range of different groups (which means that the highly fluorinated group has a lot of development potential): a) anionic, such as carboxylates, sulfonates and phosphates, b) cationic, such as quaternary ammonium, c) non-ionic, such as acrylamide oligomers and polyethylene glycols, and d) amphoteric, such as betaines and sulfobetaines (Buck et al. 2012).

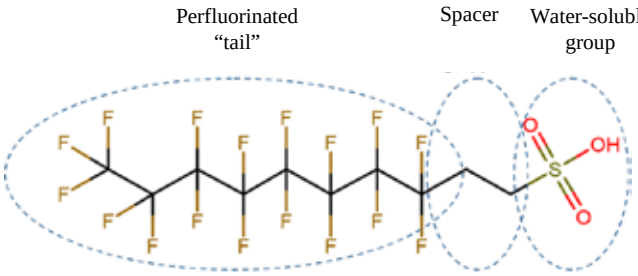


Figure 4: Schematic diagram of the formation of fluorosurfactants.

Highly fluorinated substances are mainly produced via two different processes: electrochemical fluorination, ECF and telomerization (Buck et al. 2011). The highly fluorinated substances formed can then undergo further reactions to produce polymers and various derivatives.

3.2.1 *Electrochemical fluorination, ECF*

Electrochemical fluorination, ECF is a method which major manufacturers in the west are increasingly moving away from (Buck et al. 2011). The method involves dissolving, in liquid hydrogen fluoride (HF), the organic chemical raw material (for example, octane sulfonyl fluoride, $C_8H_{17}SO_2F$) that is to be fluorinated and passing an electrical current through the solution (electrolysis). This causes all the hydrogen atoms (H) to be replaced by fluorine atoms (F). The process is very powerful and results in a mixture of linear and branched perfluorinated isomers with different carbon chain lengths. The relationship between the amounts of linear and branched perfluorinated carbon chains that are formed during ECF varies, depending on how well the process is controlled, but roughly 70-80 percent is linear and 20-30 percent branched. ECF with $C_8H_{17}SO_2F$ yields various perfluorinated substances which in turn can react further; for example perfluorooctane sulfonyl fluoride (POSF,

$C_8F_{17}SO_2F$) which is the starting material for manufacturing PFOS. The major fluorochemical manufacturers (DuPont, 3M and BASF) previously used ECF to produce perfluorinated alkane sulfonyl derivatives and products from these, principally those based on six and eight (though also ten) perfluorinated carbon atoms. PFOA has also historically been manufactured using this process. Nowadays ECF is not used to the same extent and is based on perfluorobutane, therefore C4 rather than C8 (Buck et al. 2011). It is not clear how extensively the ECF process is used nowadays; there is information on its use in at least three facilities in the EU (ECHA 2015).

3.2.2 *Telomerization*

Telomerization is now the most commonly used process for manufacturing highly fluorinated substances (Wang et al. 2014). The first step involves the reaction of a perfluoroalkyl iodide ($C_mF_{2m+1}I$, PFAI, most commonly PFEI), termed a telogen, with a tetrafluoroethylene iodide ($CF_2=CF_2$, TFE), termed a taxogen. The telogen and the taxogen react to form a mixture of perfluoroalkyl iodides with longer perfluorinated chains, $C_mF_{2m+1}(CF_2CF_2)_nI$ (termed Telomer A). The product mixture is often allowed to react further in a second step by adding ethylene to form $C_mF_{2m+1}(CF_2CF_2)_nCH_2CH_2I$ (termed Telomer B). Telomer A and Telomer B then serve as intermediates that are used to manufacture more building blocks which then react further to produce a large group of fluorotelomer based surfactants and polymers (Buck et al. 2011). When a linear telogen and taxogen react, the product is exclusively linear. If a telogen that is branched and/or has an odd number of carbons atoms is reacted with a taxogen, the product is branched, with or without an odd number of carbon atoms. However, it is uncertain how marketable such branched variants are.

3.2.3 *Technical quality*

The technical quality depends on the manufacturing process for the highly fluorinated substances. In the manufacture of C6 (substances with six perfluorinated carbons), C8 (substances with eight perfluorinated carbons) are produced as by-products. The intermediate C6 product contains around 20 percent C8 which to a large extent is removed before the end product is brought onto the market. According to industry residual content is less than 0.01% of C8 in the C6 end product (European Commission 2014). However, there are studies which show that C6 products have large contents of both C8 and longer carbon chains. In some cases the content of C8 can be more or less higher than that of C6 despite the fact that it is marketed as ”C6” (SUPFES 2015). C4 (substances with four perfluorinated carbons) content has also been found in C6 products, though in smaller quantities. Similarly other lengths of carbon chains have been found in C8 products. A previous study from the Swedish Chemicals Agency (2006) shows that telomers are produced and marketed commercially as mixtures of different chain lengths of perfluorinated carbons.

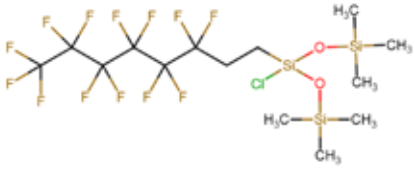
3.3 Properties and functions

Highly fluorinated substances have been produced and used since the 1950s because of their special properties. The substances have high thermal stability, are fire resistant and have film-forming properties. They are repellent towards water, dirt and grease and are also electrically stable. They are used in many different applications, ranging from industrial use to consumer household use. As PFAS are very potent substances low concentrations will usually achieve the desired effect.

Moreover, the more or less fully fluorinated single carbon chains with a single functional group (similar to PFOS, PFOA) have PFAS chains incorporated as part of the larger molecule. One aim is to combine the properties of PFAS with other properties that will allow the substance to be used in new technical concepts. Examples of such structures are:

2-Propenoic acid, 2-[[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-eicosafluoroundecyl)sulfonyl] methylamino]ethyl ester

(CAS no. 66008-68-2)

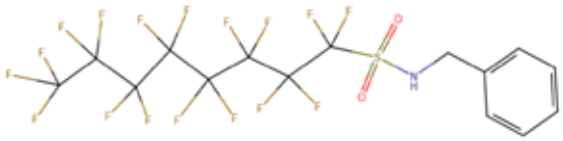


Trisiloxane, 3-chloro-1,1,1,5,5,5-hexamethyl-3-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-

(CAS no. 94237-06-6)

1-Hexanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-[2-(phosphonooxy)ethyl]-

(CAS no. 67969-65-7)



1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(phenylmethyl)-

(CAS no. 50598-29-3)

3.4 Abbreviations and explanations

See Appendix 1

4 Legislation and voluntary agreements

Only a few highly fluorinated substances are currently governed by regulations, mainly PFOS (perfluorooctane sulfonate).

4.1 The Stockholm Convention

PFOS and around a hundred substances that can be broken down to PFOS were nominated by Sweden in 2005 for a global phasing out by listing them under the Stockholm Convention on Persistent Organic Pollutants, POPs. In a decision by the parties to the Convention[4] in 2009 PFOS and PFOS-related substances were included in the Stockholm Convention's Annex B for global regulation of production, use and also waste management. However, in the regulations there are 20 permitted uses that are regularly reviewed. In 2015 a conference of the parties to the Convention carried out the first overhaul of these exemptions for PFOS use which are valid until 26 August 2015. This resulted in half the twelve time-restricted exemptions being cancelled for all parties. This means that for the following areas the global use of PFOS will cease no later than 2015: carpets, leather articles, textiles and fillers, paper and packaging material, and rubber and plastics.

Only two of the 179 parties have registered a need for the remaining time-restricted exemptions. These are: photomasks for semiconductors and liquid crystals for the manufacture of monitors, decorative chrome plating and hard chrome plating in closed-loop systems, electronic components for certain colour printers/photocopiers, insect bait for controlling red imported fire ants and termites, and chemical enhanced oil recovery.

With regard to the eight exemptions that are not time-restricted the conference of the parties decided only on continuing registration and follow up. Each party can decide for itself whether to cancel its registration of the use of PFOS in: photographic film, etchants for semiconductors and ceramic filters, hydraulic oils for the aviation industry, certain medical equipment, mist suppressants for hard chrome plating in closed-loop systems, fire-fighting foam and insect bait for controlling two species of ants. The overhaul carried out at the conference of the parties in 2015 showed that there are alternatives for fire-fighting foams, etc.

The regulation of PFOS under the Stockholm Convention has been implemented in the EU by the so-called POPs regulation[5]. In the EU some of the globally permitted (not time-restricted) uses have been withdrawn but some remain, including those for photographic film, hydraulic oils for the aviation industry, and mist suppressants for hard chrome plating in closed-loop systems. However, according to a study carried out in 2015 (European Commission 2015a) the only application for which there is still a need in the EU is in hard chrome plating.

The EU intends in 2015 to nominate the substance PFOA (perfluorooctanoic acid) for global phasing out by listing it under the Stockholm Convention (European Council 2015).

[4] The Stockholm Convention involves parties from 179 countries.
[5] Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

4.2 EU regulations

REACH[6] is the most important regulatory framework for chemicals in the EU. At present the regulation does not impose any restriction on PFAS but a process is underway to restrict the use of PFOA through a supplement to Annex XVII of the REACH ordinance. If the proposed restriction is accepted a ban will be imposed on the manufacture and the release onto the EU market of PFOA and substances that can be broken down into PFOA, as well as the use of any of these in manufacturing processes or articles.

Many perfluorinated long-chain carboxylic acids are already regulated or about to be regulated under the REACH system in the EU. Sweden is actively involved in this work, for example, the Swedish Chemicals Agency has submitted proposals for harmonized classification of PFNA (perfluorononanoic acid) and PFDA (perfluorodecanoic acid), for which we, together with Germany, have submitted (for PFNA) and will submit (for PFDA) proposals for addition to the REACH candidate list. PFNA is therefore expected to appear on the candidate list at the end of 2015 and PFDA during 2016. We are also examining the possibility of placing PFHxS (perfluorohexane sulfonate) on the candidate list. PFHxS is a shorter version of PFOS.

The REACH candidate list currently includes PFOA, the ammonium salt of PFOA and four perfluorinated carboxylic acids with longer carbon chains (Table 1). If a substance appears on the candidate list this does not mean that its use is restricted. However it is subject to an information provision requirement in accordance with Article 33 of REACH. This stipulates that a manufacturer, importer or distributor of a product containing more than 0.1 weight percent of substances on the candidate list is required to provide information on these substances. Substances on the candidate list may in the long term become the subject of the REACH authorization process.

Table 1: PFAS on the candidate list spring 2015.

Substance	CAS no.
Perfluorooctanoic acid (PFOA)	335-67-1
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
Heneicosafluoroundecanoic acid (PFUnDA)	2058-94-8*
Heptacosafluorotetradecanoic acid (PFTeDA)	376-06-7*
Pentacosafluorotridecanoic acid (PFTrDA)	72629-94-8*
Tricosafluorododecanoic acid (PFDoDA)	307-55-1*

* Perfluoro carboxylates for which there is a lack of information on areas of use. The substance is not registered under ECHA.

In the current situation only PFOS and PFOA (and some of their related substances) have harmonized classification and they are classified as, amongst other things, reproductively toxic, carcinogenic and harmful to the thyroid.

PFOS comes under the Water Framework Directive[7], which means it is a priority substance with environmental quality standards that are used to establish chemical status. If

[6] Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
[7] Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy, Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy.

environmental quality standards are exceeded then good chemical status in surface water bodies is not achieved and measures must be taken. PFOS is also subject to EU regulations governing the export and import of hazardous chemicals[8]. The regulations do not impose any restrictions on the use of the substance but do contain certain requirements for information concerning export and import.

PFAS are also governed by an EU regulation concerning plastic material intended to come into contact with food[9]. The regulation includes a list of substances that can be used (the so-called Union list). The list also states the manner in which the substances may be used. PFOA is one example of the PFAS that are included.

In addition there are a number of regulatory frameworks which ban substances according to their classification, for example, the regulatory framework for medical devices which regulates the use of CMR substances. This means that PFAS can be regulated indirectly, depending on classification.

The regulation of cosmetic products has been dealt with in the Swedish Chemical Agency's report “Bättre EU-regler för en giftfri miljö” (Improved EU-rules for a non-toxic environment) (Swedish Chemicals Agency 2012). The report states that cosmetics regulations are aimed at protecting consumers from health risks associated with the use of cosmetics, but the regulations do not deal with environmental aspects, nor with health risks mediated through the environment (for example, drinking water). The cosmetics regulations state that such risks should be dealt with through the REACH regulation.

4.3 Voluntary agreements

At the start of 2006 the 2010/2015 PFOA Stewardship Program (US EPA 2015) was launched. This is a voluntary agreement between industry and the US Environmental Protection Agency aimed at reducing and eliminating industrial emissions and PFOA content in products. The agreement also covers substances that can be broken down to PFOA as well as related substances with longer carbon chains. Through an incremental reduction of emissions and content, there will be a complete phasing out of these substances by the end of 2015. DuPont, 3M, Solvay and BASF are amongst the companies taking part. There has been a significant reduction of PFOA and the companies have also reported that there will be no problem in entirely phasing out PFOA within the specified time scale. At the same time as industry has implemented these changes, an increase has been observed in the use of highly fluorinated substances with shorter carbon chains (principally with six perfluorinated carbons but also with four carbons).

5 Survey methodology

The survey was developed from a preliminary study carried out by the Swedish Chemicals Agency in spring 2014 and comprises two parts, one of which concerns the occurrence and use of highly fluorinated substances which are described in section 6, and the other of which concerns the occurrence and use of alternative substances, materials and technologies which can be found in section 8.

[8] Regulation (EU) No. 649/2012 of the European Parliament and of the Council concerning the export and import of hazardous chemicals.
[9] The European Commission's Regulation (EC) No. 10/2011 on plastic materials and articles intended to come into contact with food.

5.1 Highly fluorinated substances and alternatives on the market

The work of this survey is based on information from databases that the agency has access to (e.g., the Swedish Products Register and the ECHAS database of registered substances). An important limitation for these sources is the fact that the material may be confidential. This means it is not always possible to communicate all data in detail. In addition, there is a lack of information on substances that are distributed in smaller volumes: in the Products Register less than 100 kg per product and year and under REACH (IUCLID) less than 100 tonne per company and year. In many cases there is no requirement to declare substances to the Products Register which are added at concentrations below 5%[10], which is often the case with PFAS in chemical products.

Searches have also included scientific articles and various reports on, and lists of, industrial chemicals from other countries (mainly North America and Asia). Information from industry has also been examined.

All known uses have been recorded but the focus has been on those that are most relevant to Sweden. Information on substances has been compiled, grouped and, where possible, linked to different areas of application.

Substances manufactured in Asia and North America have been included, mainly because they can enter the EU and Sweden via articles, with importers expected to have difficulties in obtaining information on any PFAS content.

5.1.1 *The work process*

A screening of available information was carried out to gain an awareness of the great variety of highly fluorinated substances on the Swedish market. The work began with an initial inventory of known substances on the world market (Figure 5). Information on which articles and chemical products PFAS end up in is often not found in open source literature. As the majority of those substances that are found lack all types of function descriptions, these have been deduced instead from other information such as chemical structure, chemical and physical properties, and structural analogy with known substances. Possible areas of application have been assumed from technical function, thus giving an indication of occurrence in consumer products (incl. synthetic chemicals).

[10] Only for substances with a high hazard classification (CMR) and/or with a CSR that according to REACH needs to be declared at lower concentrations.

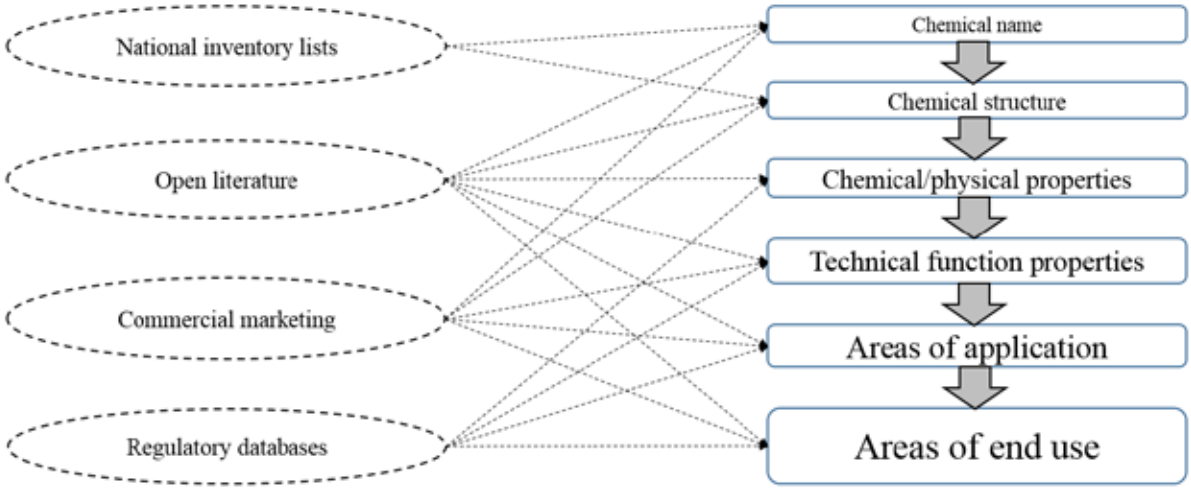


Figure 5: The work procedure for identifying highly fluorinated substances (grey arrows) together with the main types of information sources.

Official national lists of industrial chemicals[11] (”Inventory lists”) have been an important source of information for the international survey. However, behind the lists there is a substantial amount of hidden data because regulations usually give suppliers of newly developed substances the right to withhold the exact identity of these substances from publication in order to protect the company from competitors. Therefore we also attempted to discover additional substances on the international market by looking through the marketing material of various companies.

Searches have also been made of various regulatory databases, such as the Products Register (covering Swedish chemicals management), the IUCLID database (substances registered under REACH) and CosIng (the EU's cosmetics database).

Information on alternatives (substances and materials) to highly fluorinated substances is based on various reports and documentation from industry. Available information on substances/substance groups, technologies and materials has been recorded for various areas of application.

[11] Sweden, the EU, the USA, Canada, China, Japan, South Korea, New Zealand and the Philippines (downloadable from the internet).

5.1.1.1 Regulatory databases

The Products Register

The Swedish Products Register covers a substantial part of Swedish management of chemical products. Use data has been stored since 1992 and covers Swedish products that are marketed in Sweden at more than 100 kg per year. However, information on composition for substances without hazard classification only needs to be recorded if the content in the product is above 5 percent. Most highly fluorinated substances lack hazard classification and, if they are used at low concentrations, are not recorded in the Product Register. The search for use information has been carried out for both commercially active products and expired products. Unlike other chemical registers the Swedish Products Register also includes polymers. The register only covers the use of PFAS in chemical mixtures. However, indications of usage as raw material for articles can be recorded indirectly if the articles were manufactured in Sweden (via sector and function codes in the Products Register). For “commercially active” products on the Swedish market the last year for which data can be searched on the register was 2013.

The IUCLID database

IUCLID is a regulatory database[12] which contains information on industrial chemicals that are registered under REACH. It contains substances that are classified as hazardous or have been brought onto the EU market in a quantity of at least 100 tonne per company per year (the limit will be reduced to 1 tonne in 2018). In the first instance the non-confidential information has been covered by the survey.

National inventory lists

National authority inventory lists (”regulatory inventory lists”)[13] have been used to identify which chemicals are found in various markets throughout the world. These mainly cover industrial chemicals. The information available on these lists is chemical names and various identity numbers (usually CAS number). This is often enough to identify which are highly fluorinated substances. Searches have been carried out of inventory lists from the EU (EINECS, as well as substances pre-registered under REACH), the USA (TSCA), Canada (DSL), China (IECSC), Japan (ENCS), Korea (KECI), the Philippines (PICCS) and New Zealand (NZIoC).

The EU's Classification and Labelling Inventory database

The hazard classification of chemicals is stored on a publicly searchable database called “C&L Inventory”[14]. This contains around 130,000 substances. Highly fluorinated substances that have only been identified in this database have not been included with those that are "available on the market" but have been dealt with separately. The reason is that it also contains substances that are still undergoing research and development.

The EU's cosmetics database

On its database CosIng the European Directorate General for Health and Food Safety records information on substances that may be found in cosmetics (CosIng 2015). The database is available on the internet. It lists, amongst other things, the so-called INCI name which will appear in the list of contents printed on the cosmetic products. The database also contains more detailed information on the chemical identity and function(s) of the substances.

[12] http://ECHA.europa.eu/information-on-chemicals/registered-substances
[13] http://www.cirs-REACH.com/Inventory/Global_Chemical_Inventories.html
[14] Included here are both harmonized classification and the company's own classification.
http://ECHA.europa.eu/information-on-chemicals/cl-inventory-database

Patent information

Searchable patent information includes detailed descriptions of chemicals and their intended use. However, a patent does not constitute proof that a proposed use will be commercialized. Nevertheless it does contain valuable technical information that can clarify the scanty information obtained from other sources. A patent usually consists of a very comprehensive body of text. Each patent should therefore always include a brief summary. This survey uses the database of the United States Patent and Trademark Office, USPTO[15]. This was chosen because it represents a large and strategic market (in which patents are sought from all over the world). In addition, the database has a flexible search engine. The search functions "date search" and "indexed text search" were used.

As patents can be searched back in time (>1760s) it has been possible in patent searches to determine the trends over time in perfluoro technology. By carrying out retrospective searches it is possible to determine when a chemical first turned up in a patent and in how many patents certain words appeared over a particular time period. The text fragment “perfluoro” is often used in the English language technical literature in which the use of highly fluorinated substances is mentioned. The fragment “perfluoro” was therefore chosen for searching patent databases. Text searches were carried out on two levels: in the abstract text and in whole body of the text. If "perfluoro" was found in the summary it was assumed that the patent focused on the development of perfluoro technology; for example, the development of new substances, polymers or materials. If instead "perfluoro” was found in the full body of text it was assumed that the patent concerned the use of existing perfluorinated substances on the market in new areas of application. Whole text searches also included summary texts. However, this overlap was assessed to be negligible as it was estimated that it did not exceed 4 percent of cases. This search strategy should only be regarded as a preliminary screening of trends. One restriction in the choice of a name fragment is that in principle it should also include substances with only one perfluorinated carbon (which have been excluded from the survey). However, test searches of the database showed that such substances did not occur very often. For a more reliable assessment one also needs to analyse and categorize each individual patent.

5.1.1.2 Scientific literature

Inventories have also been made of use descriptions in scientific articles, regulatory reports and industry documentation. Posner at al. (2013) have compiled data to obtain an overview of which PFAS are found in various applications and have surveyed usage in the Nordic countries. In many studies the focus has been on PFOS and PFOA but Posner et al. (2013) have taken a broad view in an attempt to include all PFAS on the Nordic market. The work with the Stockholm Convention includes reports which describe different uses, such as UNEP/POPS/POPRC.9/INF/11/Rev.1 (2013) and the European Commission (2015a). Another example is OECD's and UNEP's global perfluorinated and polyfluorinated chemical group which in 2013 produced a synthesis paper on highly fluorinated substances (OECD 2013).

5.1.1.3 Company information

The marketing material of chemical companies has been used as a complementary source of information on chemical usage. A number of publicly searchable databases have been used,

[15] http://patft.uspto.gov/netahtml/PTO/index.html

including LockChem[16], ChemNet[17], ChemicalBook[18], Made-in-china[19] and AgenaChemical[20].

Different branches of the chemical industry in the EU have compiled lists of substances in the various sectors. This survey employs an inventory of chemicals that were used in printing inks for printing on food packaging (EuPIA 2013).

To some degree the age of a substance on the global market can be estimated from the date when the substance assigned to an international identity number (CAS no.). This can sought from the registry management organization Chemical Abstract Service[21]. This survey instead applied a simplified method based on the fact that the length of the CAS number increases with the time of registration. This relationship is shown to be linear from around the year 2000. A simple equation was then used to calculate the registration years during the period 2000 to 2014[22]. However, the registry date can in individual cases sometimes be misleading. For example, deviations can arise when old substances are re-registered and where the manufacturer has delayed for several years before obtaining a CAS number (e.g., to avoid publicity). The method works best when screening a large number of substances.

5.2 Uncertainty in gathered information

5.2.1 *Substance identification*

Most information databases which contain chemically related use information can normally be searched using the substance's CAS number. In many cases companies communicate substance information without attaching the CAS number. This applies to marketing, safety data sheets and registration with various authorities. As a result an unknown number of PFAS have not been picked up in this survey. A rough estimate has therefore been made in this survey of how many PFAS on the world market missing CAS numbers. This has been carried out using information on substances registered with the European Chemicals Agency's (ECHA's) IUCLID register and with the EU's cosmetics database, CosIng. Both registers are based on legislation which requires the reporting of all contained components. The chemicals reported here are given an unambiguous chemical identification. It is expected that the CAS number will be included if it is available. It is therefore possible to make a rough estimate of the number of "hidden" substances from the number of registered PFAS which have no CAS number.

Many PFAS are not pure substances but isomer mixtures. In practice they are mixtures of similar PFAS. Normally the length of the perfluorinated chain varies and/or the chain is to a greater or lesser degree branched. The chemical name does not always indicate whether a PFAS is an isomer mixture. Also, it usually does not indicate the dominating chain length. Overall, isomer mixtures create significant uncertainty with regard to what substance is being used.

[16] http://www.lookchem.com
[17] http://www.chemnet.com
[18] http://www.chemicalbook.com
[19] http://www.made-in-china.com
[20] http://www.angenechemical.com
[21] http://www.cas.org
[22] CASno (without hyphen) = 262133 * registration date (Excel's data format) + 9E+09. When applied to the period 2000-2014, gives a precision of R^2=0.9994.

5.2.2 *Assessment of end use*

For PFAS where the CAS number is available it has been possible to carry out database searches of different markets. However, there was only a very sparse amount of available information on how the substances were used. Possible areas of application can nevertheless be deduced on the basis of chemical structure and similarity with other PFAS with known uses. Yet there can be large variations in uncertainty. The large number of identified substances has not permitted any more detailed analysis of the end uses of PFAS.

5.2.3 *The limits of notification requirements*

It is because PFAS have such high potency that information in various regulatory substance- and product-registers on how they are used is conspicuous by its absence. High technical effectiveness means that only very low concentrations need to be added, whereas in many cases requirement for registration depends on content or quantity. Only industrial semi-manufactures and concentrates are recorded, while end-user products fall outside the regulatory framework.

5.2.4 *Confidential company information*

Another difficulty with PFAS is that they are relatively new on the international market. The more recently a substance has appeared on the market the more concerned the manufacturer is over information on its molecular structure and usage becoming known to competitors. In many cases manufacturers regard the content of fluoro ingredients as trade secrets and therefore do not always apply for patents for their products. However, they may consider releasing information in special cases where a confidentiality agreement is involved.

5.2.5 *Import of articles*

Many PFAS uses involve the manufacture and treatment of solid materials. A major part of the materials and articles consumed in the EU are manufactured outside the EU. As a whole this leads to a great deal of uncertainty over the occurrence of PFAS in imported articles (e.g., textiles). The reason is that the EU's chemicals legislation is not totally appropriate for imported articles. Naturally, the fact that importers of articles do not normally have focus/expertise in the field of chemicals means even greater uncertainty.

6 Occurrence and use of highly fluorinated substances

Summary of the Occurrence and use of highly fluorinated substances

- There are more than 3000 commercial PFAS on the world market.
- A substantial proportion of them do not have a CAS number.
- The largest group is polymers (mostly acrylate based).
- Isomer mixtures make up more than 14 percent of PFAS (C8-14 and C4-8 are the most common).
- Information on quantities is seldom available.
- Use in the EU currently involves mainly chains with six perfluorinated carbons.
- PFAS have many different areas of application.
- As the substances are highly effective, only low concentrations are needed in products.
- There is no usage information available for half of all PFAS.
- Less well-known areas of application include cosmetics, dental restorative material, medical equipment and dirt-repellent agents for building materials, smart phones and solar cells.

6.1 General overview

The main limitation in uncovering information on end uses of PFAS is the fact that it is often not generally available. In addition a difficulty generally encountered by purchasers of PFAS-based products is the fact that the product name is often retained even if the chemical composition is changed over time (Swedish Chemicals Agency 2014). For example, some fire-fighting foams and impregnating agents have been replaced by more short-chain PFAS alternatives but have kept the same product names. This creates difficulties for purchasers who want to know what substances a product contains.

Because of the known environmental risks associated with long-chain PFAS, industry in the west has largely switched to more short-chain variants for various applications (Posner et al. 2013). These include:

- 6:2 fluorotelomers, which replace their long-chain equivalents.
- Perfluorobutane sulfonyl fluoride (PBSF)-based PFAS, which replace perfluorooctane sulfonyl fluoride (POSF) for surface treatment and coating.
- Perfluoropolyethers (PFPE), which are alternative process chemicals for fluoropolymer production.

6.1.1 *Types of PFAS*

PFAS on the international market are found in a large number fluoroorganic groups (Table 2). One large group comprises different types of PFAS-containing polymers. The most common polymer type is (meth)acrylate-based. A second major group comprises fluorosurfactants, principally various sulfonamide derivatives. Other major PFAS groups include phosphates,

alkanes, esters, sulfonic acids (surfactants), carboxylic acids, silicones/siloxanes, (meth)acryl monomers, iodides, sulfonamides, thiols, etc.

All identified PFAS are listed in Appendix 2 with CAS number, EC number, name, chemical grouping and perfluoro chain length.

Table 2: Chemical grouping of PFAS found on the global market and the number of different substances in each group.

Fluoro group	Number of substances
fluorinated (meth)acrylate polymers	234
N-alkyl perfluoroalkyl sulfonamides	226
poly/perfluorinated polymers	173
poly/perfluorinated phosphoorganics	143
polytetrafluoroethylene (PTFE)	137
poly/perfluorinated alkanes/alkenes	120
poly/perfluorinated sulfonic/sulfinic acids	93
poly/perfluorinated carboxylic acids	93
other poly/perfluorinated organics	90
poly/perfluorinated ethers	80
poly/perfluorinated esters	69
poly/perfluorinated alkanoyl/sulfonyl chloride or fluorides	68
poly/perfluorinated iodides	64
poly/perfluorinated (meth)acrylates	58
poly/perfluorinated alcohols	56
poly/perfluorinated sulfonamides	52
poly/perfluorinated siloxanes/silicones/silanes/silicates	50
poly/perfluorinated thiols	45
poly/perfluorinated copolymers	35
fluorinated urethanes polymers	33
poly/perfluorinated amines	34
polyfluoro siloxane and silicone polymers	29
poly/perfluorinated ammonium organics	21
poly/perfluorinated naphthalenes	16
poly/perfluorinated oxiranes	14
poly/perfluorinated ethoxylates	8
fluorinated oxetane polymers	8
poly/perfluorinated iodides	4
poly/perfluorinated urethanes	3
perfluoroalkyl sulfonamides	2
polyvinylidene fluoride (PVDF)	2
Total number	**2060**

From the chemical name, 296 (14%) could be identified as isomer mixtures. They are usually mixtures of different lengths of perfluoro chains. Ranges of up to 1-24 carbons (C1-24) are found. The most common isomer mixtures are in the ranges C8-14 and C4-8 (Table 3). The broadest ranges are C1-24, C1-20 and C4-23 (Table 4).

Table 3: The distribution of various isomer mixtures amongst PFAS on the global market - The ten most common isomer mixtures on the global market.

Perfluoro chain length	Number of PFAS
C8-14	60
C4-8	54
C8-20	26
C6-12	25
C4-14	16
C6-20	9
C4-20	9
C8-16	8
C4-10	5
C6-14	5

Table 4: The distribution of various isomer mixtures amongst PFAS on the global market - The ten broadest chain length ranges for PFAS.

Perfluoro chain length	Size of chain length range
C1-24	23
C1-20	19
C4-23	19
C4-20	16
C6-22	16
C2-18	16
C7-22	15
C3-18	15
C6-20	14
C4-18	14

500-600 PFAS were found in the EU's Classification and Labelling Inventory database which were not found in any of the other databases that were searched. This could be because they are still in the research and development phase and are therefore more representative of newly developed PFAS. However, this assignment does not involve a closer analysis of what these substances are.

6.1.2 *Description of PFA usage.*

Information on how the substances are used could be found or deduced for around half the substances (Figure 6). The information discovered was usually brief. One fifth of the substances had associated information on "surface active substance" functions. Surface active substances have relatively broad areas of application. More detailed information was found for one third of all substances. These were, in decreasing order:

- Synthetic chemicals
- Electronics products
- Printing products
- Cosmetic products
- Textiles/leather impregnation
- Pharmaceuticals/plant protection/biocides
- Paint/Adhesive raw materials
- Paper impregnation
- Foam-based fire-fighting agents

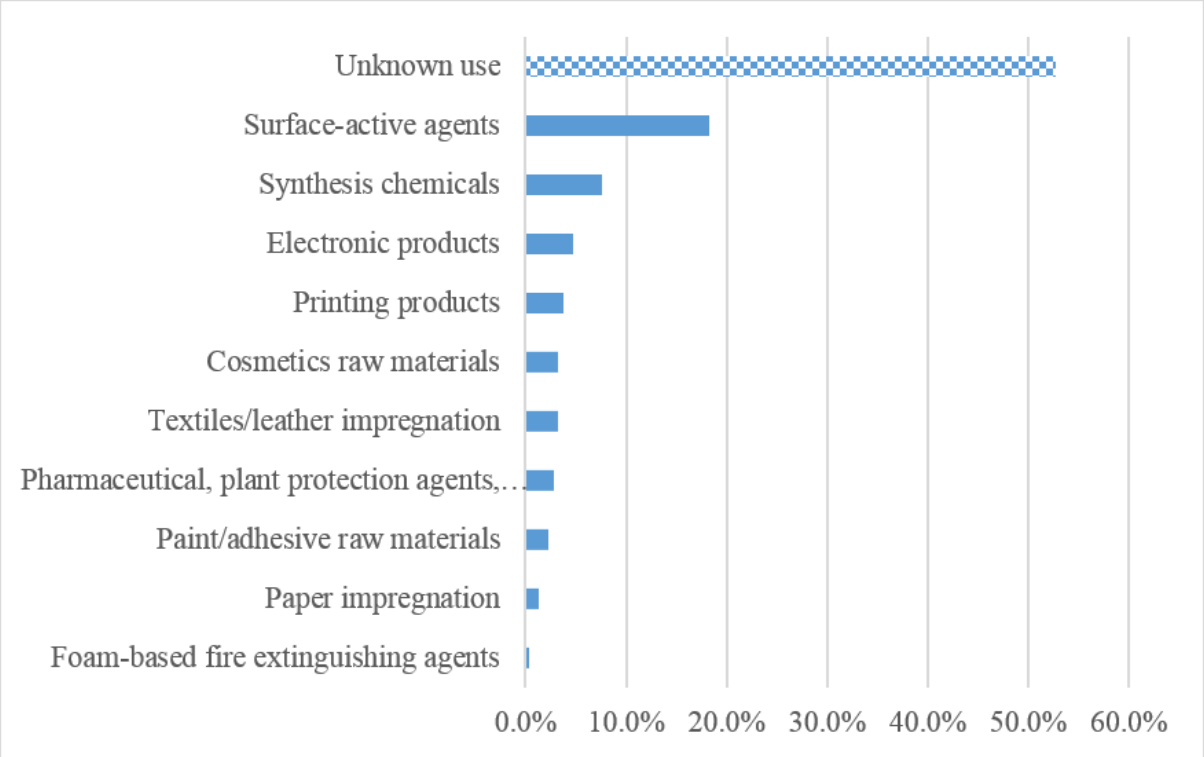


Figure 6: Uses (and non-uses) of PFAS identified on the global market (identified in spring 2015).

Many PFSA groups have several areas of application. Figure 7 shows the most commonly occurring associations. The number of PFAS identified for the different substance- and usage-groups is also included. The associations in the figure show a complex structure which suggests that the majority of PFAS groups probably have a broad usage potential in the community. However, only possible associations are presented. If quantitative data is found to be available it should be possible to determine which associations are dominant.

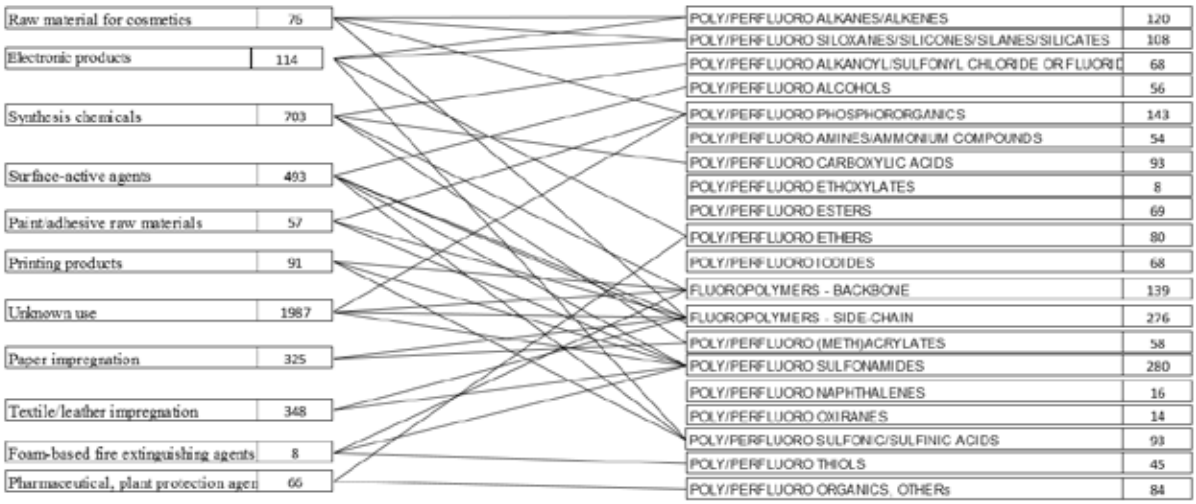


Figure 7: The number of PFAS found on the global market and their distribution between different areas of application. The figures give the number of substances per usage group (left) and chemical group (right).

6.1.3 *Number of PFAS on the global market*

The survey was able to identify 2060 highly fluorinated substances that are found or have been found on the global market. It is mainly substances with CAS numbers that have been identifiable. To obtain an idea of the total number of PFAS on the market an estimate is therefore needed of the number of PFAS without CAS numbers. This has been derived from two regulatory databases on which substances without CAS numbers must also be registered. These were the EU's IUCLID database (which is administered by the European Chemicals Agency, ECHA) and the EU's cosmetics database (CosIng). A total of 134 PFAS were found on these registers (Table 5). 49-53% of these substances had no CAS number. Assuming that this is true for all PFAS on the market, there will be an additional 2000 unidentified PFAS. This gives a total of around 4000 PFAS.

Table 5: Number of registered PFAS without a CAS number.

Database	Total number of PFAS	PFAS without a CAS no.
IUCLID (industrial chemicals)	58	31 (53%)
CosIng (cosmetics chemicals)	76	37 (49%)
Average value	**134**	**68 (51%)**

Examples of substances which may still not have been fully brought onto the market are the 500-600 unique PFAS found in the EU's Classification and Labelling Inventory database (all with CAS numbers). The database also includes chemicals that are in research and development. This could be the reason why these are not found in other databases.

Given the overall uncertainty in calculation and assumptions one might reasonably estimate that there are probably at least 3000 PFAS currently on the global market.

6.1.4 *Volumes in the EU*

It is not easy to obtain information on the quantities of highly fluorinated substances that are imported, manufactured and used in Sweden and the EU. It is assumed that the import of articles accounts for a substantial proportion. These are poorly monitored. Another reason for the scarcity of information is the fact that companies often regard fluorine content as confidential, something which came to light in the Swedish Chemical Agency's survey of fire-fighting foams carried out in spring 2014 (Swedish Chemicals Agency 2014). The most closely observed substances are and have been PFOS and PFOA. It is therefore not surprising that the information we have obtained mainly concerns these substances (and to some extent substances that can be broken down to PFOS or PFOA).

Within the framework of the Stockholm Convention and the POPs regulation there are lists of uses in the EU of PFOS and substances that can be broken down into PFOS (ESWI 2011, European Commission 2015a). The best available information has been compiled in Table 6 below.

The quantities recorded below do not give the full picture; it is most definite an underestimate with respect to the number of different highly fluorinated substances on the market.

Table 6: Estimated PFOS use in industry in the EU and Sweden. Source European Commission (ESWI 2011, European Commission 2015a) and Glas (2013).

Sector	PFOS use in the EU (kg/year)	PFOS use in Sweden (kg/year)
Hard chrome plating industry	6500	180
Photographic industry	562	0
Semiconductor industry	9.3	0
Hydraulic fluids for the aviation industry	600-730	6-10

The restriction proposal for PFOA (ECHA 2015) gives an estimate of the quantities of PFOA and PFOA-related substances that are imported into or manufactured in the EU (Table 7). The estimate is based on REACH registrations, information from the European Commission and consultation with industry. PFOA and its salts are not registered under REACH but it is estimated that 40 tonne PFOA (and its salts) are imported annually by the EU. Certain PFOA-related substances are registered under REACH and on the basis of this information it is assumed that 100-1000 tonne per year are manufactured in the EU. However, it is likely that not all PFOA-related substances are registered yet, which means it is probable that more than 1000 tonne are involved. According to industry 100-1000 tonne PFOA-related substances are imported each year (which are not registered under REACH). Only a limited number of companies participated in the consultation with industry, therefore it is highly likely that larger quantities are involved. In addition, it is assumed that substantial quantities of substances that can be broken down to PFOA enter the EU via import of articles, but it is difficult to obtain information on this (Table 7). ECHA (2015) regards textiles as a particularly important area of use and estimates that 1000-10,000 tonne of PFOA-related substances enter the EU in the form of imported textiles. There is a lack of information on other articles.

Table 7: Import of PFOA and PFOA-related substances into the EU.

Import into the EU	(tonne/year)
PFOA (and its salts) as substances	20
PFOA (and its salts) as mixtures	10
Import of PFOA (and its salts) in articles	10
PFOA-related substances	100-1000
PFOA-related substances in textiles	1000-10,000

6.2 Identification of areas of application

The various uses identified for highly fluorinated substances are recorded in this section. This is based on official databases which contain information from manufacturers and importers about what substances they use in their production. We have had access to the Swedish Products Register and the EU's IUCLID database and cosmetics database (CosIng), as well as various national inventory lists of industrial chemicals. These databases show that there are a large number of PFAS on the global market. As well as databases we have also included scientific literature, other reports, and company information.

6.2.1 *Textiles and leather*

Various highly fluorinated substances are used extensively by the textile industry in a range of textile-related articles such as outer garments, umbrellas, bags, sails, tents, parasols, car seat covers, leather articles, shoes, carpets, etc. They are used to repel water, oil and dirt (stains). PFAS contribute circa 2-3 percent of fibre weight in textiles and around 15 percent in synthetic carpets. There are mainly two different polymer groups that are used:

1) High molecular weight polytetrafluoroethylene (PTFE), which belongs to the PFAS group of fluoropolymers. This is used in highly porous fabrics (such as Gore-Tex®). A 10 micrometre thick membrane of PTFE is laminated onto a conventional textile material to impart mechanical strength. This thin film has 1.4 billion pores per cm^2. The pores are much smaller than raindrops (2-3 µm compared with 100 µm) but much larger than water vapour molecules (0.0004 µm). The materials are thus permeable to water vapour but not to water in liquid form (rain) and are therefore popular in outdoor clothing and camping equipment.

2) Side-chain fluorinated polymers such as, for example, PASF[23]- or fluorotelomer-based acrylate polymers are used as surface treatments (finish) to improve surfaces and to make them water-, grease- and dirt-repellent. The method is used, for example, in textiles, carpets and leather.

These polymers can contain residues of, or are broken down to, fluorotelomers (such as 8:2 FTOH and 6:2 FTOH) or perfluorinated carboxylic acids (such as PFOA and PFHxA) (Posner 2015).

With so-called all-weather clothing it is normal for different parts of the garment to consist of different types of polymers. A porous PTFE membrane is often used to allow the garment to "breathe". Moreover, the outer later can consist of nylon or polyester that has been treated with side-chain fluorinated polymers. The occurrence of highly fluorinated substances in

[23] Perfluoralkyl sulfonyl fluoride

textiles has been analysed in many studies (particularly all-weather garments but also carpets). In many cases high levels of polyfluorinated substances can be detected but this has varied between tests (Kotthoff et al. 2015, Greenpeace 2014a, Greenpeace 2014b, Liu et al. 2014, Liu et al. 2013, Greenpeace 2012, Herzke et al. 2012, STF 2006). The fluorotelomer alcohols observed in clothing are from the side-chain fluorinated polymer and not from the PTFE membrane. (Buck et al. 2011).

Protective clothing for various applications (for example, flame retardant clothing) can either be surface treated with a side-chain fluorinated polymer or produced from fluoropolymers such as woven porous PTFE or similar materials. A German study from 2012 looked at various perfluorinated substances in workwear for medics, pilots and firemen which protect against cold, rain and fire (Zangl et al. 2012). The concentrations varied but it was possible to detect, for example, PFHxA, PFOA, PFNA and PFDA in a number of analysed garments.

With PFAS used in textiles and leather, the trend in the west seems to be towards shorter chain lengths. Instead of side chains consisting of fluorotelomers with 6-14 perfluorinated carbons or POSF[24]-based derivatives, shorter equivalents with side chains are now being used. In the 2000s 3M developed a number of surface treatment products that were side-chain fluorinated polymers based on derivatives of PBSF (perfluorobutane sulfonyl fluoride), i.e., in which four perfluorinated carbons were used. Examples of product names are Scotchguard PM-3622 (CAS number 949581-65-1), PM-490 (CAS number 940891-99-6) and PM-930 (CAS number 923298-12-8). There are also examples of fluorotelomers that are used as alternatives, primarily those based on six perfluorinated carbons. These contain copolymers from 6:2 fluorotelomers and polyfluorinated siloxanes. The company Miteni has launched polyfluoroalkyl alcohols (5:1 and 3:1 FTOH, CAS numbers 423-46-1 and 375-01-9) that can be used as building blocks for side-chain fluorinated polymers. Solvay uses PFPE as an alternative to side-chain fluorinated polymers (Wang et al. 2013).

In China, for example, PHxSF (perfluorohexane sulfonyl fluoride), is produced as an alternative to PFOS. There are also indications that there is some production in the EU, in Italy (Miteni 2015). PHxSF can be broken down to PFHxS (perfluorohexane sulfonate) which is a shorter version of PFOS.

Information from inventoried databases concerning textiles shows that, amongst polymers and polymer raw materials, it is mainly polyfluorinated/perfluorinated (meth)acryl polymers (C2-20) that are used. Other polymers include fluorinated urethanes (C4-18). Other raw materials include various polyfluorinated/perfluorinated substances. These are alkyl sulfonamide derivatives (C4-9), alkyl ammonium compounds (C4-7), alkyl alcohols (C3-14), and a smaller number of alkyl sulfonic acids/sulfinic acids (C8), alkyl thiols (C8-20), alkyl sulfonamides (C8), alkyl esters (C8-14), alkanes/alkenes (C6) and alkanoyl/sulfonyl chlorides or fluorides (C8).

6.2.2 *Paper- and food-packaging*

Fluorochemicals are used in the paper industry to manufacture grease- and water-repellent paper. They are used in food packaging (plates, popcorn bags and pizza cartons) and in other paper packaging (cartons, containers and masking paper). A content of 1-1.5 weight percent in the end product is normal (UNEP/POPS/POPRC.9/INF/11 2013).

There is a range of different brands from various suppliers on the international market that are listed in UNEP/POPS/POPRC.9/INF/11 (2013) and Posner et al. (2013). It is mainly side-

[24]Perfluorooctane sulfonyl fluoride (starting material in PFOS-manufacture)

chain fluorinated polymers and polyfluoroalkyl phosphonic acids (PAPs/diPAPs) that are used (Wang et al. 2013). Nowadays these are mainly based on 6:2 fluorotelomers, unlike previously when fluorotelomers with longer chains were used. Acrylate polymers and other polymers with a fluorinated side chain are also commonly found because they are effective repellents of oil, grease and water. Several examples of 6:2 fluorotelomers used for this purpose are registered in the USA, some being from DuPont. Perfluoropolyesters (PFPE) from Solvay are also used as alternatives. Usage in the EU and Sweden is unclear but according to researchers it is relatively easy to determine whether a paper has been treated with highly fluorinated substances (Trier 2015). Oil and water both form round drops with PFAS, whereas oil drops, but not water drops, are levelled out with, for example, silicone. In many cases there is a lack of information on PFAS in paper- and food-packaging as this is regarded as confidential business information. Analyses of Danish microwave popcorn bags show contents of diPAPs and S-diPAPs (Trier et al. 2011). An American study (Liu et al. 2013) was able to measure the content of FTOH in nearly 90% of food packaging examined. The highest levels found were of 6:2 FTOH (12 mg/kg) and the median level for total FTOH was 0.4 mg/kg.

Information from the Swedish Products Register, the IUCLID database and various inventory lists shows that on the global paper industry market there are a large number of polymers/polymer raw materials, mainly polyfluorinated/perfluorinated (meth)acryl polymers and monomers. Other major substance groups are poly/perfluorinated alkyl thiols (C4-20), poly/perfluorinated alkyl sulfonamide derivatives (C4-9), and poly/perfluorinated alkyl phosphorus compounds (C8). There are a smaller number in the substance groups alkyl esters (C6-14), alkyl silicones/siloxanes (C6) and alkyl sulfonic/sulfinic acids (C8).

6.2.3 *Fire-fighting foam*

The occurrence of PFAS in fire-fighting foam has been described in previous publications from the Swedish Chemicals Agency (Swedish Chemicals Agency 2013, 2015a, 2015b). There are various types of fire-fighting foam that are used with different types of fire. So-called Class A foams are for fires in fibrous materials such as in building whereas Class B foams are used for fires involving liquids. It is in Class B foams where highly fluorinated substances are used (Swedish Chemicals Agency 2015b). They are mainly used because of their effectiveness in creating a thin film of water between the foam and the burning fuel. The film increases the ability of the foam to spread rapidly over the liquid surface and at the same time inhibits evaporation and heat radiation. These fire-fighting foams are used in petroleum fires; for example, at airports and oil refineries, so-called Class B fires. There are also examples of fluorinated fire-fighting foams being used at fire-fighting training centres, though in a diluted form (Swedish Chemicals Agency 2015a).

Fluorine-based fire-fighting foams can be divided into the following categories:

- Fluoroprotein foam (FP). Common outside Sweden and used, for example, for fire protection in petroleum industries and on board ships.
- Film forming foam (AFFF, Aqueous Film Forming Foam). Developed in the 1960s and used for petroleum fires in, for example, aviation and the marine sector.
- Film forming fluoroprotein foam (FFFP). Also used in aviation. Fluorinated substances are also used here as foam stabilizers (Wang et al. 2013).
- Alcohol- resistant fluoropolymer detergent liquids (alcohol-resistant aqueous film forming foam, AR-AFFF). This is a universal foam in which the fluorinated substance is used as a foam stabilizer.

- Alcohol-resistant film forming fluoroprotein foam (AR-FFFP). This is a universal foam developed in the 1970s.

The survey of fire-fighting foams carried out by the Swedish Chemicals Agency together with the Swedish Civil Contingencies Agency in spring 2014 (Swedish Chemicals Agency 2015a) shows that there are two manufacturers of fire-fighting foam in Sweden: Fomtec in Helsingborg and Kempartner in Vadstena. They produce film forming foams, both with and without fluorosurfactants. With regard to suppliers, the Swedish market for fire-fighting foam is dominated by Dafo, Presto and Kidde. Dafo has part ownership in Fomtec and distributes Fomtec's products to airports, oil terminals, and fire and rescue services. Presto purchases a large portion of its products from Dr Sthamer in Germany, ABC Fire Protection in England and also from smaller European manufacturers. ABC Fire Protection specializes in portable fire extinguishers. Kidde buys in most of its fire-fighting foam from Angus in England and supplies industries, coast guard operations, and fire and rescue services in Sweden.

According to the Swedish Chemicals Agency (2014) there were no direct imports from manufacturers outside the EU or USA by those players who participated in the study. The fire-fighting foam used was produced in the EU and USA. However, this may not apply to other parts of the EU market. On the basis of information obtained in the various interviews we carried out in the course of the survey, it would seem that fire-fighting foam has nowadays become restricted and is only used to a small extent. This applies to both training and real fires. However, the situation appears to vary between municipalities. One player who was interviewed said that their use of foam was increasing as the area of application for fire-fighting foam had been expanded to include fires in buildings.

Even though manufacturers believe that their products comply with Swedish legislation and do not contain any PFOS, the survey of fire-fighting foam shows there is a lack of knowledge about other PFAS. Fire-fighting foam available on the Swedish market may contain an amount of various components but the information on fluorosurfactants is often regarded as confidential. There is therefore a significant lack of information on constituent highly fluorinated substances. Producers regard constituent components as confidential business information and therefore do not seek to patent their products. However, they may consider releasing information in special cases where a confidentiality agreement is involved. Another problem can be that purchasers and users are unable to find out whether a product has changed its chemical content.

According to the Swedish Chemicals Agency's PM from 2013, which identified fire-fighting foam as a possible polluter of drinking water (Swedish Chemicals Agency 2013), fire-fighting foam is produced as a concentrate (1-6% fluorosurfactants) and mixed with water. This agrees with information in the Swedish Products Register. A search for products with perfluorinated and polyfluorinated substances shows that there are a number of highly fluorinated substances with fire extinguishing function. However, the information in the Products Register is deficient as in most cases companies are not required to record lower levels of PFAS. The information in the Products Register is therefore incomplete (see section 7.4).

Nowadays PFOS and substances that can be broken down to PFOS are regulated globally under the Stockholm Convention (read further in section 4.1). However, only in the EU is there a ban on their use in fire-fighting foam. Globally PFOS is permitted in fire-fighting foam. Production and use still take place in China (even of PFHxS - six perfluorinated carbons) for fire-fighting foam. In 2002 the only manufacturer in the west, 3M, ceased producing PFOS-based AFFF and then developed an agent based on a fluorinated ketone in gaseous form (CAS number 756-13-8, UNEP/POPS/ POPRC.8/INF/17 2012). Today most

AFFF are based on fluorotelomers with six perfluorinated carbons. There is also a company in China that has developed an AFFF product based on PFBS derivatives (four perfluorinated carbons). It is not clear whether it is distributed nowadays (Fire fighting foam coalition 2015, Wang et al. 2013).

The Stockholm Convention has ordered a study of which fluorine-based fire-fighting foams (in the AFFF group) are currently in use and has written about C6-fluorotelomers (for example 6:2 FTS) and dodecafluoro-2-methylpentan-3-one which is manufactured by 3M (UNEP/POPS/POPRC.8/INF/17/ Rev.1 2012). Nine different fluorinated fire-fighting foams are named in the analysis but the chief fluorinated component (6:2 FTS and dodecafluoro-2-methylpentan-3-one) is given for only two of these. For the other seven there is a reference to confidential business information. It also writes that AFFF can be used in all different types of fire extinguishing equipment (e.g., sprinklers, portable fire extinguishers, fire services equipment).

According to Posner et al. (2013) the alternatives that are most commonly used are C8-C20-γ-ω-perfluorotelomer thiols with acrylamide (CAS number 70969-47-0). The aim is to use pure 6:2 fluorotelomers (betaines and amine oxides). However, it has proved difficult and expensive to get rid of longer chain molecules (e.g., C8) that can be broken down to PFOA. The petroleum sector has declared that it uses PASF (perfluoralkyl sulfonic acids) and FTS (fluorotelomer sulfonates). It has also been reported in a publication from the Swedish Chemicals Agency (2013) that the new generation of fire-fighting foams are to a large extent based on 6:2 FTS.

Swedavia, which owns ten Swedish airports, including Arlanda and Landvetter, had previously used fluorine-based fire-fighting foams but in June 2011 switched to a fluorine-free alternative (see section 8.1.3.3).

The Swedish Armed Forces began phasing out the use of perfluorinated substances in fire-fighting foam in Sweden in 2011 [according to Berglind et al. (2013)]. Nowadays the Swedish Armed Forces use a fluorotelomer-based fire-fighting foam, i.e. the substance that is broken down to perfluorinated substances. (Swedish Chemicals Agency 2015a).

PFOS can still be found in old portable fire extinguishers and in the equipment of fire and rescue services (Berglind et al. 2013). Concentrates of fire-fighting foam can be found in the inventories of fire services and on ships.

In autumn 2014, under commission from the Swedish Chemicals Agency and the Swedish Civil Contingencies Agency, Örebro University analysed ten different fire-fighting foams that were on the Swedish market (Swedish Chemicals Agency 2015b). Selection for analysis was based on the Agencies' previous survey of fire-fighting foams (Swedish Chemicals Agency 2015a) and on what was considered to be common on the Swedish market. In the analyses the researchers searched specifically for certain known PFAS but the products were also screened, revealing other fluorinated substances. One problem in the analysis was the fact that some samples from users were contaminated. Samples from unbroken packaging (with less risk of contamination) were also included in the study. The results showed that it was in Class B foams where fluoro-organic substances were to be found. The main substance groups contained in these foams were 6:2 fluorotelomer-based (6:2 FTSAS[25] and 6:2 FTAB, CAS number 34455-29-3[26]) which can be broken down to the perfluorinated substances PFHxA

[25] Fluorotelomermercaptoalkylamido sulfonate.
[26] Fluorotelomer sulfonamide alkylbetaine, 1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[[(3,3,4,4,5,5,6,6,7,7,8,8,+ C339458-tridecafluorooctyl)sulfonyl]amino]-, inner salt.

and PFPeA). All products from unbroken (non-contaminated) packaging contained 6:2 FTS, PFHpA, PFHxA and shorter carboxylic acids. PFOA and PFNA could also be detected, though at low concentrations. The analysis report concludes that C8 was probably not used in the products studied. Whether low concentrations of PFOA and PFNA are detected depends in all likelihood on the technical quality of the C6-fluorochemicals (also certain amounts of C8 are formed in the production of C6).

Information from inventoried databases, etc., on fire-fighting foam is limited. Only six PFAS are mentioned. Besides those mentioned above there are also the following:

- Polymers (the Swedish Products Register, precise identity confidential).
- Polyperfluorinated alkyl thiols (the Swedish Products Register, precise identity confidential).

6.2.4 *Cosmetic products*

There has recently been an expansion in the use of highly fluorinated substances in various cosmetic and hygiene products (Fujii et al. 2013). This specifically concerns polyfluoroalkyl phosphonic acids (PAPs/diPAPs). These are used in sun creams, body lotions and other cosmetic products to make the products oil- and water-repellent. A Japanese study (Fujii et al. 2013) analysed various products that contained PAPs or other fluorine-based compounds (for example, polyfluoroalkyl silylated mica) according to the international cosmetics database INCI (International Nomenclature of Cosmetic Ingredients). Various cosmetic products for the face and nails were analysed, as were sun creams from various manufacturers. The results show that besides PAPs the products also contained perfluorinated carboxylic acids, PFCA (in the form of PFOA and shorter carbon chains such as PFHxA and PFHpA). 87 percent of cosmetics samples (13 of 15) and 89 percent of sun creams (8 of 9) contained PFCA. The highest concentration of analysed PFCA found was 5.9 µg/g in a foundation cream in powder form and 19 µg/g in a sun cream. The levels were generally higher in the sun creams. Also analysed were products which, according to INCI, did not contain any fluorine-based substances (such as PAPs) but which came from the same manufacturer. These contained no detectable PFCA which, according to the study, indicates that PAPs are an important source of PFCA in consumer products. However, this was a small study and more analyses would need to be performed before any reliable conclusions could be drawn.

CosIng is the European Commission's public database with information on substances that may be found in cosmetic products (see section 5.1.1.1). As well as chemical identity, there is also information on the substances' technical functions. 76 PFAS were found in the database. These represent many different chemical groups (see Table 8).

Table 8: Substance groups that can be found in cosmetics (CosIng 2015).

fluorinated (meth)acrylate polymers
poly/perfluorinated naphthalenes
poly/perfluorinated alkanes/alkenes
other poly/perfluoro organics
poly/perfluorinated alcohols
poly/perfluorinated siloxanes/silicones/silanes/silicates
poly/perfluorinated polymers

poly/perfluorinated copolymers
poly/perfluorinated sulfonamides
polytetrafluoroethylene (PTFE)
poly/perfluorinated phosphoorganics
poly/perfluoro ethers
poly/perfluoro esters
polyfluoroalkyl phosphoric acid esters (...PAPs)
poly/perfluorinated sulfonic/sulfinic acids
poly/perfluorinated (meth)acrylates

The public part of the database contains no information on concentrations and quantities so it is not possible to determine how commonly occurring these are in cosmetics on the Swedish market.

Table 9 shows the technical functions of various PFAS in cosmetic products. These cover a broad range of uses, such as anticaking agents, emulsifiers, antistatics, stabilizers, surfactants, film formers, viscosity regulators and solvents. The list shows that many of the substances have been used for a variety of different functions. Many of them are indicated for use on the skin and hair.

Table 9: Functions found (incl. combinations) for PFAS in cosmetic product (CosIng 2015).

Adsorbent, anticaking, emulsion stabilizing, skin conditioning
Adsorbent, anticaking, skin conditioning, binding, emulsion stabilizing
Anticaking
Antistatic, hair conditioning, skin conditioning
Binding
Binding, emollient
Bulking
Cleansing, surfactant
Cosmetic chemical
Detangling, skin conditioning, solvent
Emollient
Emollient, skin conditioning
Emulsifying
Emulsifying, skin conditioning
Emulsifying, surfactant
Emulsion stabilizing, solvent, surfactant
Emulsion stabilizing, skin conditioning
Film forming
Film forming, opacifying
Film forming, skin conditioning
Film forming, viscosity controlling
Hair conditioning
Hair conditioning, skin conditioning

Hair conditioning, skin conditioning, solvent
Hair conditioning, skin conditioning, surfactant
Skin conditioning
Solvent
Solvent, skin conditioning
Solvent, viscosity controlling
Surfactant
Surfactant, viscosity controlling

6.2.5 *Household products*

PFAS are used in various household products. Often only low concentrations are needed to achieve the desired function in various cleaning agents (window polish, floor polish, waxes and car care products). Other examples of household products in which PFAS can be used are paints, printing inks, lacquer and cooking vessels (non-stick frying pans coated with PTFE).

6.2.5.1 Impregnating agents for textiles

There are a number of studies which show the content of various highly fluorinated substances in impregnating agents for textiles (Ye et al. 2014, Kotthoff et al. 2015, Liu 2014, Herzke et al. 2012, Fielder et al. 2010, Schulze and Norin 2007). These examine both fluorotelomers (FTOH and FTS) and perfluorinated substances, primarily carboxylic acids with various chain lengths. It is mainly fluorotelomer alcohols, FTOH, that are found in high concentrations. In the Swedish study by Schulze and Norin (2007) 3 out of 13 analysed products had concentrations of 1000-9000 mg FTOH (C4-C10)/L impregnating agent. The median values for 10:2 FTOH, 8:2 FTOH and 6:2 FTOH in the German study by Kothoff et al. (2015) were 71 mg/kg, 146 mg/kg and 19 mg/kg, respectively.

There was no available information on textile treatment in the databases searched as this is too detailed a function to be found listed there.

6.2.5.2 Paint, printing ink and lacquer

Highly fluorinated substances such as PFOA can be used in paints and printing to improve wetting, smoothness and flow. The highly fluorinated substance is used to reduce surface tension in paints so that the surface on which the paint is applied is wetted. Compared with other wetting agents, such as silicones, PFAS are more effective in reducing surface tension which ultimately improves paint adhesion. It is primarily in water-based paints where these properties are required and PFAS can be present at concentrations of about 1 percent. However, this figure is unreliable; in most cases there may be much lower concentrations, around 0.05 percent (ECHA 2015). Yet there does not appear to be any significant use of highly fluorinated substances [at least not in Denmark and Finland according to Posner et al. (2013)]. Suppliers in the paint industry are of the opinion that surface-active fluorinated substances are generally significantly more expensive than alternative surface-active substances. They are therefore used only if such a low surface tension is required that this cannot be achieved with a fluorine-free alternative (UNEP/POPS/POPRC.9/INF/11 2013).

Adding fluorinated surface active substances to inkjets improves the working of modern printers as well as enhancing picture quality with different media. The surface active fluorinated substance improves surface wetting during the printing process (UNEP/POPS/POPRC.8/INF/17 2012).

As for other areas of application, there are indications that, where paint and lacquer are concerned, industry has switched to highly fluorinated substances with shorter perfluorinated chain lengths (ECHA 2015). Highly fluorinated substances that can be found today are:

- Short-chain fluorotelomer-based surface-active substances (for example, Capstone®).
- C4-compounds based on PFBS (particularly where the surface treatment of electronic products is concerned).
- Fluorinated polyethers (for example, PolyFox®).

A number of polymers and polymer raw materials appear in inventoried databases of paints and adhesives. These include perfluorinated and polyfluorinated (meth)acryl polymers, PTFE, and fluorinated urethane, as well as several complex compounded side-chain fluorinated polymers (copolymers) which have not been categorized. Other raw materials include various polyfluorinated/perfluorinated substances. These are alkylsulfonamide derivatives (C4-9), silicones/siloxanes (C2-14), alkylammonium compounds (C4-7), and a smaller number of alkyl thiols (C4-20), alkyl sulfonamides (C4-8), phosphorus compounds (C6), iodides (C11), alcohols (C8-14), meth(acrylates (C6).

For printing inks there are on the global market a smaller number of polymers/polymer raw materials, principally PTFE, poly/perfluorinated (meth)acryl polymers (C4-16) and fluorinated urethanes (C8). Other raw materials include various poly/perfluorinated alkyl sulfonamide derivatives (C4-8), polyfluorinated silicones/siloxanes (C6-14), poly/perfluorinated alkyl sulfonamides (C4-8), poly/perfluorinated alkyl alcohols (C8-14).

An inventory carried out by the EU branch organization for printing inks, published in 2013, found 37 highly fluorinated substances that were used within that sector [out of a total of 5452 substances according to EuPIA (2013)]. These were divided into four different technical printing ink functions: ”monomer or other precursors”, ”plastics additives”, ”polymer resins” and ”printing ink additives” (Table 10). Most PFAS belong to the group sulfonic acids and sulfonamide derivatives. These were all categorized as “printing ink additives” and have between four and nine perfluorinated carbon chains. PFAS were also found in binders in the form of perfluoropolyethers, perfluoro(meth)acrylate and perfluoralkyl alcohols. Other PFAS are PTFE and a polyfluorinated siloxane polymer.

Table 10: PFAS in printing inks in the EU (EuPIA 2013).

Chemical group	Number of PFAS	Function	Perfluorinated chain length
N-alkyl perfluoroalkyl sulfonamides	16	Printing ink additives	C4-9
poly/perfluorinated sulfonic acids	8	Printing ink additives	C4-8
polytetrafluoroethylene (PTFE)	4	Printing ink additives	C4
poly/perfluorinated polymers	1	Printing ink additives	
poly/perfluorinated ethers	1	Monomer or other precursor	C3
poly/perfluorinated copolymers	1	Printing ink additives	
poly/perfluorinated carboxylic acids	1	Printing ink additives	C7
poly/perfluorinated carboxylic acids	1	Plastics additives	C7
poly/perfluorinated alcohols	1	Polymer resins	C8-14
poly/perfluorinated (meth)acrylates	1	Polymer resins	C6
poly/perfluorinated (meth)acrylates	1	Monomer or other precursor	C1-6
polyfluoro siloxane and silicone polymers	1	Printing ink additives	C8
fluorinated (meth)acrylate polymers	1	Printing ink additives	C6

6.2.5.3 Cleaning agents and polish

With regard to floor polish most manufacturers believe that fluorinated substances are necessary to give the product the desired properties (wetting, flowing and levelling evenly over the floor). Concentrations of 100-200 ppm have been found in the products (Posner et al. 2013).

A German study (Kotthoff et al. 2015) analysed nine different cleaning agents. The results showed low or no content of perfluorinated carboxylic acids whereas levels of fluorotelomer alcohols were high (median 10:2 FTOH 23 mg/kg, 8:2 63 mg/kg, 6:2 38 mg/kg). In an American study (Liu et al. 2014) of around fifty different consumer products in ten different categories, products for the treatment of floors and stone/wood had the highest levels of 6:2 FTOH (the highest level was 331 mg/kg) and 8:2 FTOH (the highest level was 92 mg/kg).

There was no available information on cleaning agents and polish in the databases searched as this is too detailed a function to be found listed there.

6.2.5.4 Non-stick products

So-called non-stick frying pans are treated with fluoropolymer (usually PTFE) to prevent food from sticking to the pan. PTFE-treated non-stick products cope with temperatures up to 290°C. Coatings are made up of one to three layers. These are sintered at[27] between circa 200°C and circa 430°C (Termoflon coating 2015). A previous method involved the frying pan being hard blasted to give a rough surface to which PTFE could adhere. However, the method gave a surface that was prone to being removed when scraped with a metal implement. Nowadays PTFE with various degrees of "slipperiness" are used. The surface is still roughened initially and a sticky variant of PTFE is sprayed on as the base layer, followed by a middle layer of less sticky PTFE. Finally a layer of normal PTFE is applied (often mixed with ceramic material) for a more durable surface. These products have various trade names, for example, Teflon® which was launched by DuPont in 1944; another example is Dyneon™ PTFE from 3M.

A Norwegian study (Herzke et al. 2012) analysed samples from six non-stick frying pans, three of which contained PFOS and PFHxS, though not at concentrations which exceeded the currently permitted PFOS level (threshold limit 0.1 weight %). PFOA was found in one of the samples (436 µg/kg) which also had the highest total PFAS concentration (739 µg/kg).

There was no available information on non-stick agents in the databases searched as this is too detailed a function to be found listed there.

6.2.5.5 Ski Wax

It has been shown that the use of PFAS in ski wax is a source of exposure for professional users of ski wax (mainly via air). Studies in Sweden and Norway have shown elevated levels of PFOA and PFNA in blood samples (Nilsson et al. 2010). Another study produced similar results (Freberg et al. 2010). Analysis has also been carried out of fluorotelomers in air samples in association with the use of ski wax, and this showed high levels of fluorotelomer alcohols, FTOH (Nilsson et al. 2013).

It is not certain what levels are present in the products themselves but ski waxes may contain mixtures of many different perfluoro-n-alkanes (C12-C24, C7 or C8) (Posner et al. 2013). Analyses of short-chain PFAS in the Nordic countries showed the presence of 6:2 FTOH in

[27] Sintering is a process in which particles are joined together at high temperatures to form larger objects.

all analysed ski waxes, though at low levels, 0.2-0.7 mg/kg (Blom and Hanssen 2015). A study of 13 different ski waxes (Kotthoff et al. 2015) showed the presence of various perfluorinated substances, principally perfluorinated carboxylic acids (C4-C14 PFCA in the form of PFBA, PFHxA, PFOA, PFNA and PFDA). PFOA (max. concentration 658 µg/kg, median 3.2 µg/kg) was found in 90% of the samples, along with PFHxA (max. concentration 183 µg/kg, median 1.4 µg/kg). PFOS could also be detected in all samples, though at lower concentrations.

There is a lack of market information on PFAS in ski wax. However, likely product choices can be obtained from information in patent documents (USEPO 2015). International patent information indicates that the first generation of PFAS in ski wax consisted of perfluorinated carbon chains (perfluoroparaffins, C1-21). It is proposed that these include both straight and branched chains (US patent 5202041, 1993, USEPO 2015). More complex perfluoro molecules appear in later patents, such as:

- Perfluoroalkyl polyether diols (US patent 6,465,398, 2002, USEPO 2015).
- Tetrafluoroethylene-perfluoro (propylvinyl ether) copolymer (US patent 6,465,398, 2002, USEPO 2015).
- Organofunctionalized silicone polymer, which contains at least one straight or branched, saturated or unsaturated perfluoro chain (C1-10), e.g., trifluoropropylmethyl/dimethyl siloxane) (US patent 7,745,560, 2010, USEPO 2015).
- Polychlorotrifluoroethylenes (PCTFE) (US patent 7,655,606, 2010, USEPO 2015).

6.2.6 *Metal (hard- and decorative-chrome plating)*

Fluorine-based surfactants are used as wetting agents in hard chrome plating processes[28] because they effectively reduce surface tension. During chrome plating hydrogen gas and oxygen gas are released from the chromium bath, drawing chromium vapour with them into the surrounding air.

The use of PFOS in non-decorative hard chrome plating is authorized under the Stockholm Convention[29]. PFOS-related substances reduce surface tension in the chromium (VI) bath and form a barrier over the bath, thereby inhibiting the release of chromium vapour (the Swedish Chemicals Agency 2004). Other wetting agents are broken down more or less rapidly under the conditions prevailing in the chromium bath (which are strongly corrosive and oxidizing). Chromium (VI) is carcinogenic and therefore its emission is regulated in order to protect workers from exposure in the work environment.

Examples of areas in which hard chrome plated metal is used are wheel bearings and couplings for the rail industry, hydraulic cylinders and moulds for the plastics and rubber industries. Before 2010 circa 200 kg PFOS was used each year by the hard chrome plating industry in Sweden. Now usage is circa 180 kg/year. According to information (Glas 2013) there are seven hard chrome plating facilities in Sweden, three of which use PFOS. Non-decorative hard chrome plating accounts for 95 percent of the market. Because of internationalization of the machine industry over recent decades, a number of companies have disappeared from the sector.

[28] The term ”hard” refers to the process for applying a 0.2 mm or thicker layer of a specific type of metal directly onto a substrate.
[29] This is assuming that it takes place in a closed system, which is a misleading term as 10-20% of the PFOS added is discharged in the waste water.

The PFOS-related substance that is used most in hard chrome plating is tetraethylammonium heptadecafluorooctane sulfonate (with trade names such as Fluortenside-248 and SurTec 960) which is found as 5-10 percent solutions.

In more recent years substitutes for PFOS seem to have appeared globally in the form of various polyfluorinated surfactants. For example, in the EU salts of 6:2 FTS (6:2 FTSA) are used which have been shown to be effective in certain tests but at present there are no alternatives that can match PFOS in creating low surface tension (European Commission 2015a). Therefore 3-10 times the amount of a polyfluorinated alternative is required to replace PFOS. Derivatives of PFBS (N(Et)4-PFBS, CAS number 25628-08-4) have also been registered in the EU for use in metal chrome plating, with a production volume of 1-10 tonne per year.

However, in some cases fluorotelomers have been shown to impart sufficiently good properties and are now used by two medium-sized hard chrome plating companies in Sweden. These companies believe that the cost is lower than with PFOS. Fluorotelomers were introduced into the Swedish hard chrome plating industry in 2009 by one dealer after which, in the same year, two companies carried out a test run with a substance and in 2011 they completely replaced PFOS with this substance. In addition, a smaller chrome plating firm is planning to introduce fluorotelomers. It is estimated that circa 8 kg fluorotelomers are now used in hard chrome plating in Sweden.

There are also alternative technologies which involve PTFE-coated spheres situated above the chrome bath.

In China two different products are used in place of PFOS. These are:

- Potassium 1,1,2,2-tetrafluoro-2-(perfluorohexyloxo)ethane sulfonate with the trade name F-53 and CAS number 754925-54-7.
- Potassium 2-(6-chloro-1,1,2,2,3,3,4,4,5,5,6,6-dodecafluorohexyloxy)-1,1,2,2-tetrafluoroethane sulfonate with the trade name F-53B and the CAS number 73606-19-6.

Approximately 20-30 tonne F-53 and F-53B were used in China in 2009. These are substances that can be broken down to PFHxS. Some of these substances can only be broken down in boiling water, which makes it an awkward process.

Decorative chrome plating is a different process from hard chrome plating which is described above. The chrome layer is much thinner (0.05-0.5µm) than with hard chrome plating (0.2 mm or thicker). PFOS was also once used in decorative chrome plating but new technology, which uses chromium (III) instead of chromium (VI), results in less intensive processes and non-hazardous aerosols. There is therefore not the same need for highly fluorinated substances (European Commission 2015a).

Decorative chrome plating is carried out for aesthetic reasons, preventing the metal from becoming tarnished and discoloured. It is used for car and motorcycle components, kitchen appliances, smartphones, etc.

Inventoried databases for metal chrome plating show that there is available information on the global market for a small number of substances (23) that can be used in metalwork. The use mainly concerns metal surface coating (”electroplating”), but in some cases it involves instead the use of lubricants in metal working. The substances found are recorded in Table 11.

Table 11: PFAS which can be used in metalwork. Chemical group with the largest number of substances recorded at the top (others in decreasing order).

Chemical group	Perfluorinated chain length
poly/perfluorinated alcohols	C8-14
poly/perfluorinated amines	C5-12
poly/perfluorinated (meth)acrylates	C6
poly/perfluorinated phosphoorganics	C4-6
poly/perfluorinated sulfonic/sulfinic acids	C8
poly/perfluorinated sulfonamides	C6-8
poly/perfluorinated sulfonyl chloride	C6
n-alkyl perfluoroalkyl sulfonamides	C4
fluorinated (meth)acrylate polymers	C7-8
other poly/perfluorinated organics	C4-5

6.2.7 *Hydraulic systems in the aviation industry*

The manufacture of phosphate ester-based hydraulic fluids for the aviation industry involves the use of PFOS or PFOS-related substances as additives, with a PFOS level of around 0.1 percent. According to manufacturers they prevent fire, corrosion and evaporation. Before 2013 10 tonnes hydraulic fluids and 6 kg PFOS were used each year in Sweden. The equivalent figure for the EU was 600 kg PFOS/year. However, according to information from a supplier this use of PFOS has been phased out in Sweden and has been replaced by the use of other highly fluorinated substances. The total global market for highly fluorinated substances in hydraulic fluids for aircraft is estimated at circa 2 tonne per year (European Commission 2015a). The equivalent figure for the EU is circa 730 kg per year. Because of confidential business information it is difficult to find out which specific PFAS these products contain.

Inventoried databases only contain information on the use of hydraulic oils associated with three different PFAS. They are all cyclohexane-based poly/perfluorinated sulfonic acids (C7-8).

6.2.8 *Photographic & Electronic equipment and components*

6.2.8.1 Electronic equipment and components

Fluoropolymers are used in electronics because they are water-repellent and do not conduct electricity. They are used, for example, in printed circuit boards, PVDF films in loud speakers, transductors and similar products.

According to manufacturers the potassium salt of PFBS (CAS number 29420-49-3) is used as a flame retardant in polycarbonate resins (OECD 2013).

PFOS-related substances can be used in the manufacture of printers, scanners, digital cameras, mobile telephones, radar systems, etc. Use in colour printers and colour copiers is permitted in large parts of the world, but not in the EU. The PFOS-related substances are used as process chemicals and the end product is free from PFOS. They are used in many parts of the electronics industry and are added in various processes that are necessary both for electrical and electronic components and that involve both open and closed systems.

Highly fluorinated substances can be a component in dirt-repellent coatings which safeguard the transparency of glass surfaces on, for example, smartphones and solar cells (ACS 2009, US patent 8864897, Oct. 2014, USEPO 2015). These can consist of fluorosilanes with a perfluorinated dirt-repellent tail (see Figure 4). The tail can consist of C1-20 perfluoro chains or polyethers (molecular weight > 1000, at least 20Å[30] thick). Besides their dirt repellent properties fluoro substances are colourless and do not interfere with the optical properties that are necessary for the functioning of an underlying antireflex coating (US patent No. 6,277,485, USEPO 2015). (Meth)acrylates with straight (C1-9) or cyclic (C3-7) perfluorocarbon chains are also mentioned in patents for this type of use (US patent 8231973 from 2012, USEPO 2015).

6.2.8.2 Photographic surface layers

PFOS-related substances have been used in the photographic industry for the manufacture of film, film paper and photographic plates. It is mainly light-sensitive imaging materials (such as high speed film) that benefit from the properties of highly fluorinated substances (European Commission 2015a). It has also been reported that PFOA and PFOA-related substances (for example 8:2 FTOH) are used in the EU both professionally and by consumers. These fluorinated substances repel dirt and also function as friction control agents to reduce static electricity and surface tension. There are reports that 0.1-0.8 µg/cm^2 of PFOS-related substances were used previously and that small amounts of PFOS are still used in x-ray film for photo images for industrial and medical technology equipment. According to information from industry (ECHA 2015) less than 0.1 tonne PFOA and 0.1 tonne PFOA-related substances are used in the EU per year for photographic applications. However, this figure could be an underestimate. The use of photographic film globally and in Sweden is showing a downward trend in line with the development of digital technologies. In 2013 only a few gramme PFOS were imported into Sweden in film. Other conceivable highly fluorinated substances that have been identified in reports within the international work with the Stockholm Convention (UNEP/POPS/POPRC.9/ INF/11/Rev.1 2013) are substances with three or four perfluorinated carbons (C3 and C4) and telomer-based products with varying perfluorinated carbon chain length.

This use is too detailed to be found in inventoried databases.

[30] 1Å = 1x10^{-7}mm.

6.2.8.3 Photoresistors and anti-reflective coatings for semiconductors

PFOS has been used as a surfactant to reduce surface tension and reflectivity in etching solutions, which is important for precise photolithographs in the semiconductor industry (photomasks). Small amounts of PFOS are required in a couple of critical photolithographic uses in the manufacture of semiconductor chips. (UNEP/POPS/POPRC.9/INF/11/Rev.1 2013). Before the year 2000 ca 500 kg PFOS were used for this application in the EU. Ten years later this figure was 10 kg. However, it is not clear which other highly fluorinated substances are used. Industry has stated that nowadays there are no alternatives for these critical applications. It is thought that PFBS, PFPE (perfluoropolyethers) or telomers can be used for non-critical applications (for example, developing agents).

This use is too detailed to be found in inventoried databases.

6.2.8.4 Market information Photographic & Electronic equipment and components

Market information on use in electronic equipment can be found in those databases that have been searched. In total 114 PFAS are associated with electronic equipment. Table 12 shows those fluorosurfactants that may possibly be associated with electronic products. The substances found have been listed in order of decreasing number on the global market.

Table 12: PFAS with possible associations with electronic products. Chemical group with the largest number of substances recorded at the top (others in decreasing order).

Chemical group	Perfluorinated chain length
poly/perfluorinated sulfonic/sulfinic acids	(C4-10)
poly/perfluorinated alkanes/alkenes	(C1-8)
other poly/perfluorinated organics	(C4-8)
poly/perfluorinated esters	(C1-8)
poly/perfluorinated carboxylic acids	(C5-8)
n-alkyl perfluoroalkyl sulfonamides	(C4-9)
poly/perfluorinated ethers	(C1-8)
poly/perfluorinated amines	(C4-18)
poly/perfluorinated siloxanes/silicones/silanes/silicates	(C4-8)
poly/perfluorinated phosphoorganics	(C4-9)
fluorinated (meth)acrylate polymers	(C4-8)
polytetrafluoroethylene (PTFE)	
poly/perfluorinated copolymers	(C8)
poly/perfluorinated thiols	(C6-8)
poly/perfluorinated iodides	(C4-20)
poly/perfluorinated polymers	
poly/perfluorinated ammonium organics	(C4-7)
poly/perfluorinated alcohols	(C3-8)
poly/perfluorinated (meth)acrylates	(C6-8)
poly/perfluorinated sulfonamides	(C8)

6.2.9 *Synthesis chemicals (intermediaries)*

All manufacturers used to use sodium- or ammonium perfluorooctanoate (NaPFO or APFO, i.e. salts of PFOA) to a significant extent as process chemicals in the production of fluoropolymers (polymers with a fluorinated backbone, for an explanation see section 3.1). Surface-active fluorinated substances are used as emulsifiers and contribute to the substance's ability, from the aqueous phase, to react with substances from the hydrophobic phase to form a polymer. According to Prevedouros et al. (2006) only a few tenths of a percent of the highly fluorinated substance is required, relative to the amount of polymer produced. The process chemical (the surface-active fluorinated substance) is destroyed when the water-containing the fluoropolymer emulsion is dried at high temperatures. At low hardening temperatures residues of the process chemical can be found in the finished polymer product. One example of a fluoropolymer is polytetrafluoroethylene (PTFE) which is used in Teflon®; other examples are polyvinylidene fluoride (PVDF), fluorinated ethylene propylene (FEP) and perfluoroalkoxyl polymer (PFA). The largest manufacturers in North America, Japan and Europe have joined the American EPA's so-called Stewardship Program and have thereby undertaken to phase out PFOA and its salts from production by the end of 2015. This means that the use of PFOA for the production of fluoropolymers in the EU will decrease. By contrast it is highly likely that companies which have not joined the Stewardship Program (major manufacturers in China and Russia) will continue to use PFOA.

The current total demand for fluoropolymers in the EU is estimated at 53,000 tonne per year [20 percent of the global market according to ECHA (2015)]. In terms of volume PTFE is the most important fluoropolymer as it makes up circa 60 percent of the global fluoropolymer market. Demand in the EU for PTFE produced via emulsion (therefore using fluorochemicals as process chemicals) is estimated at 21,000 tonne per year. Assuming that supply in the EU reflects the global market, this means that 70 percent have joined the Stewardship Program and that other manufacturers are still using PFOA and their salts in their production. Therefore 6500 tonne per year (30 percent) of the PTFE used in the EU may contain residues of PFOA.

Studies reported in the PFOA restriction proposal (ECHA 2015) show that when PFOA is used as a process chemical the end product (the fluoropolymer) may contain relatively high levels of PFOA. But the level of PFOA can vary significantly, between 0.001-0.005 percent in dry material and 0.1-0.5 percent in dispersed material. This means that (based on 6500 tonne PTFE) that around 3-16 tonne PFOA per year enter the EU via imports of PTFE mixtures.

Even if several companies in the west have stopped using PFOA in their production, in recent years they have developed other fluorine-based alternatives, often producers develop their own. Use of these as process chemicals (corresponding to the way in which PFOA is used) can mean that there are residues remaining in the end product. In many cases various perfluoropolyesters (PFPE) are used as process chemicals instead of PFOA. For example, the global chemical companies 3M, DuPont, Solvay and Asahi have developed various substances which belong to the group PFPE.

GenX or D3 Dimer salt ($CF_3CF_2CF_2OCF(CF_3)COO^-$ $NH4^+$, CAS number 62037-80-3) from DuPont is registered under REACH for a production of 10-100 tonne/year in the EU. Other examples of fluorine-based process chemicals that are registered in the EU are ADONA from 3M ($CF_3OCF_2CF_2CF_2OCHFCF_2COO^-NH_4^+$, CAS number 958445-44-8) (Wang et al. 2013, ECHA 2015) and EEA-NH4 (ammonium difluoro [1,1,2,2-tetrafluoro-2-(pentafluoroethoxy)ethoxy]acetate, CAS number 908020-52-0) (ECHA 2015).
According to industry (ECHA 2015) highly fluorinated substances with shorter carbon chains function in a similar way to PFOA, though higher concentrations are required to achieve the

same effect. Chinese manufacturers can use 6:2 fluorotelomer carboxylic acids (6:2 FTCA, $C_6F_{13}CH_2COOH$, CAS number 53826-12-3) as an alternative to PFOA. There are also examples of Chinese companies (Chenguang 2015) which use PFPE-related substances as alternative process chemicals. As a rule, larger amounts of these substances are required, compared with PFOA (ECHA 2015).

On the basis of the above information it can be assumed that 14,500 tonne PTFE/year (21,000 x 70%) on the EU market may contain residues of fluorine-based process chemicals (with shorter carbon chain lengths than PFOA). If the same calculations as above are used (0.001-0.5% fluorine content, depending on type of material) this should mean that totally 7-36 tonne highly fluorinated substances with shorter perfluorinated carbon chains (primarily PFPE) enter the EU each year via the import of PTFE mixtures. However, it is important to remember that this is a rough estimate. For example, larger amounts of PFPE are required than PFOA in manufacturing. This should mean higher levels in the finished PTFE mixture.

Information from inventoried databases concerning use in synthesis shows that one third of the PFAS found on the world market can wholly or partly be used as raw materials for synthesis. These can be divided into two groups: polymer raw materials and raw materials for fluorosurfactants. The chemical groups recorded in Table 13 could be identified (arranged in order of decreasing number).

Table 13: PFAS that can be used as raw materials for the synthesis of polymers and fluorosurfactants. Chemical group with the largest number of substances recorded at the top (others in decreasing order).

Polymer raw materials Chemical group	**Perfluorinated chain length**
poly/perfluorinated (meth)acrylate polymers	
poly/perfluorinated urethane (meth)acrylate polymer	(C3-22)
polytetrafluoroethylene polymer (PTFE)	-
poly/perfluorinated oxetane polymers	-
Fluorosurfactant raw materials (only those most commonly occurring are included)	
poly/perfluorinated carboxylic acids	(C2-20)
poly/perfluorinated iodides	(C3-26)
poly/perfluorinated alcohols	(C3-22)
poly/perfluorinated alkanoyl/sulfonyl chlorides or fluorides	(C1-12)
poly/perfluorinated sulfonamide derivatives	(C4-9)
poly/perfluorinated esters	(C1-11)
poly/perfluorinated phosphorus compounds	(C4-12)
poly/perfluorinated (meth)acrylates	(C4-9)
poly/perfluorinated oxiranes	(C2-17)
poly/perfluorinated sulfonamides	(C5-8)
poly/perfluorinated sulfonic/sulfinic acids	(C4-8)
poly/perfluorinated ethers	(C1-4)
poly/perfluorinated alkanes/alkenes	(C1-17)
poly/perfluorinated thiols	(C6-11)
poly/perfluorinated siloxanes/silicones	(C6)

6.2.10 *Other uses*

6.2.10.1 Medical devices

Fluorochemicals are used in medical devices and equipment. Textiles, for example surgical drapes and gowns are treated with side-chain fluorinated polymers to improve the surfaces and to enhance water-, oil- and dirt-resistance. The inert properties of fluoropolymers make them suitable material for implants and other medical materials. Also highly fluorinated substances are used in the manufacture of x-ray film that is still needed for photoimaging with medical equipment (OECD 2013). Old video endoscopes in hospitals have a CCD colour filter which contains small amounts of PFOS. New CCD filters are PFOS-free. There are other medical devices in which PFBS has replaced PFOS. Some manufacturing in the EU uses PFOA as a process chemical. This could, for example, be the manufacture of mechanical heart valves, artery tubes and equipment for implanting these (European Commission 2015b).

A Japanese patent for the manufacture of contact lenses from 2012 names a large number of PFAS as raw materials. These belong to the group (meth)acrylate polymers (C1-4) and carboxylic acid esters (C1-20) (US patent 8,288,496, USEPO 2015). The text of the patent refers to other patents in which PFAS are proposed as raw materials.

A Nordic study (Blom and Hanssen 2015) analysed, amongst other things, two different types of dental floss. The results show a content of various fluorotelomers (6:2 and 8:2 FTOH, average concentration 0.4 mg/kg and 2.5 mg/kg, respectively) and low levels of PFOA.

Linear/branched alcohols, ethers and esters with alkyl chains which are terminated with perfluoro chains (C1-6) (US patent 8,962,708, USEPO 2015) are mentioned in a German patent document from February 2015 dealing with the composition of UV-hardened dental restorative materials.

Another German patent document from 2013 dealing with the composition of UV-hardened dental restorative materials also mentions longer perfluorinated alkyl chains (C1-9 and C2-6) (US patent 8,466,210, USEPO 2015).

This use in medical equipment is too detailed to be found in inventoried databases.

6.2.10.2 Building materials

Fluoropolymers, such as PTFE and PVDF, can be used as surface treatments in various building materials (for example, tiles and glass material) to impart fire- or weather-resistant properties.

There are reports that some fluorochemicals are used in various building and construction products that have contact with lightweight concrete. Examples of these substances are thiols, C_8-C_{20}-γ-ω-perfluorotelomer thiols with acrylamide (CAS number 70969-47-0). This is found in Australia but it is not known whether this use also occurs in the EU and in the Nordic countries (Posner et al. 2013). The construction material in question here is often recovered, crushed and used as a filling material at landfill sites.

This use in building materials is too detailed a function to be found in inventoried databases.

6.2.10.3 Oil- and mining-production

Highly fluorinated substances (formerly PFOS) are used in the oil and mining industries to enhance oil or gas recovery, as an aviation fuel, as a hydrocarbon solvent, as a petrol evaporation inhibitor, and to increase the amount of metal recovery from ore in copper and

gold mines (UNEP/POPS/POPRC.9/INF/11/Rev.1 2013). According to OECD (2006) 3M was intending to develop PFBS as alternatives to PFOS. Other perfluorinated substances for this use are (according to US patents) perfluoralkyl-substituted amines, amino acids and thioether acids. At present there is not much information on their uses.

This use in oil and mining production is too detailed a function to be found in inventoried databases.

6.2.10.4 Plant protection agents

International studies (UNEP/POPS/POPRC.9/INF/11 2013) have reported that highly fluorinated substances can be used in plant protection agents both as active ingredients (the pesticide) and as additives (adjuvants). PFAS can have various functions as additives: dispersants, to facilitate the spreading of plant protection agents on insects and plant leaves and to increase uptake by insects and plants. As PFAS is an effective additives it is only required in relatively low concentrations (0.1 percent). There are patents for these substances and they have been marketed. Posner et al. (2013) claim that no studies have been carried out to determine what they are and that there is a lack of information on manufacturers. It is also unclear whether and to what extent they are used on the Nordic and European markets (Posner et al. 2013). In Sweden, however, all plant protection agents have comprehensive information on composition, manufacturers of the substances contained and co-formulants.

The PFOS-related substance sulfuramid (or sulfluramid) (EtFOSA) is both a surfactant and a plant protection agent and is used in tropical environments against termites, cockroaches and other insects. PFOS-related agents are not used on the European market. The EU and the American EPA ceased registration of sulfuramid in 2008. On the other hand, the substance is used in Brazil and China. It is estimated that 10 percent of the substance is broken down to PFOS.

Moreover there are also plant protection agents which contain one or more fluorine atoms, usually as substance groups with $-CF_3$.

The use of plant protection agents is too detailed a function to be included in inventoried databases.

7 Market trends

Summary of Market trends

- Less than 2 percent are registered under REACH (should increase to <20 percent by 2018) and less than 4 percent in the Swedish Products Register.
- The Swedish chemical industry has carried out an extensive replacement of highly fluorinated substances (at least over the last 20 years).
- Historical development towards shorter chains.
- Many perfluorinated chains can be branched.
- Patent data indicates moderate development of new highly fluorinated substances, with a strong increase in the use of existing PFAS in new areas.

The occurrence of chemicals on the Swedish market is strongly integrated with the international market. This applies in particular to trade in imported articles and trade in small quantities of chemical products where the possibilities for control are limited. Therefore it is thought that even information on the use of articles manufactured in other parts of the world, such as the USA and China, can also be found in Sweden. Information from foreign sources has been assessed to be relevant and has therefore been included in this survey.

Of all the PFAS that can probably be found on the global market, 58 (<2%) were registered under REACH in 2015. Chemicals in the lowest quantity category (1-100 tonne per company per year) will be registered under REACH in 2018. Information on pre-registrations[31] indicates that a good 500 more PFAS (a further 18%) will be registered.

Information on chemical-specific market trends is usually not officially available and is mainly produced for various industrial players. Some rough estimates can be made from the official information. In this study information has been gathered from scientific articles, an official patent database, and from confidential chemical registers in Sweden (the Products Register) and of the European Chemicals Agency (ECHA).

7.1 Market history

One way of understanding the history is to analyse at what point in time a manufacturer registered a CAS number. It has been possible to estimate the year of registration from and including the year 2000 (estimated from the length of the CAS number, see section 5.1.1.3). The majority of identified PFAS were registered before the year 2000 (87%). A clear downward trend can be observed for the remainder (13%). Fewer and fewer new PFAS are being registered. The figure was nearly zero in 2014 (Figure 8).

[31] The reduced list from 2010.

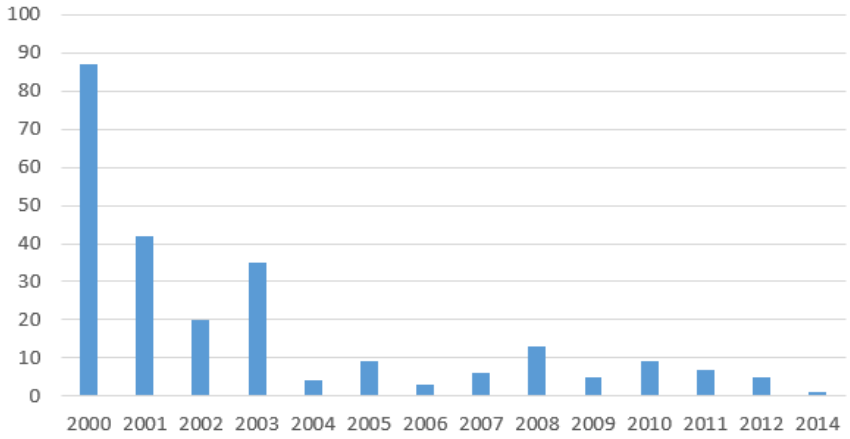


Figure 8: Number of CAS-registered PFAS per year.

7.2 Conformational changes in PFAS chains

Simpler perfluorinated chains in PFAS molecules have over time been replaced by more complex molecules (see Figure 9). This is in part because regulations and restrictions have been introduced as substances with simple perfluorinated chains have shown, and are suspected to have, PBT properties.

One adjustment that can be observed is a shortening of the perfluorinated carbon chain. Another tendency has been for the structures to become more complex, such as:

- Branched molecules.
- Cyclic molecules.
- With oxygen bridges in perfluorinated chains [”polyether”-bridges, Buck et al. (2012)].
- Fluorine atoms on one or more carbons in perfluorocarbon compounds have been replaced by other halogens or hydrogen atoms.

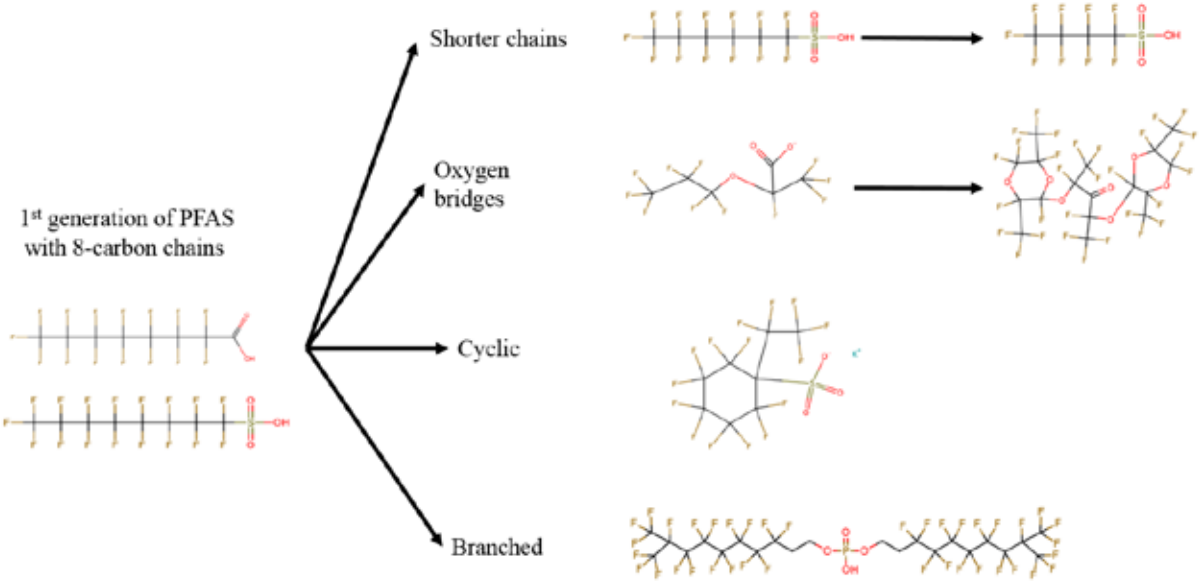


Figure 9: Changes in the conformation of perfluorinated chains (…-CF2-…) in marketed PFAS.

An American study (Liu et al. 2013) analysed perfluorinated carboxylic acids (PFCA) in various products between 2007 and 2011. Treated carpets, floor waxes, sealants and paper- and food-packaging are examples of products included in the study. Different time trends could be observed. There was generally a reduction in PFCA content, particularly for carpets, textile care products and treated healthcare clothing. On the other hand, it was observed that recorded concentrations of PFBA had increased in 19 of 35 examined products, with floor waxes showing a significant increase. Perfluorinated sulfonic acids (PFSA) were also analysed in 14 different products over a period of time. Among the products analysed, various products used to treat carpets had the highest concentrations. It was observed that the concentration of PFSA in a carpet shampoo increased between 2008 and 2011. There are indications that the short-chain perfluorinated sulfonic acid PFBS has been developed by 3M as an alternative to PFOS (Wang et al. 2013). The results are in agreement with information from industry (Holt 2011) and elsewhere that short-chain PFAS are becoming more common in various areas of application. However, it is uncertain how effective C4 chemistry is compared with C6. According to experts (Posner 2015) C8 substances (such as PFOS, PFOA, 8:2 FTOH) confer the ultimate properties and to some degree C6 substances (6:2 FTOH etc.) can confer similar properties but are not as powerful as C8s. There is less certainty about the effectiveness of fluorinated substances based on four perfluorinated carbons (C4).

7.3 Patent information

The text fragment “perfluoro” is normally used in patents where highly fluorinated organic substances are mentioned. A patent usually comprises a very comprehensive body of text and must therefore always have a summary. A search for the fragment was carried out partly in the patent's summary and partly in the entire patent text. If it was found in the summary text it was assumed that the patent concerned a further development of perfluoro chemistry itself whereas if it was found in the full text it was assumed that the patent concerned the exploitation of existing perfluoro chemistry in more or less new areas of application (see section 5.1.1.1).

A total of 73,642 different patents contained “perfluoro” in their full text. In barely 4 percent of these, “perfluoro” was also mentioned in the summary.

The first patent in which “perfluoro” was found in the patent text was from the period 1950-1955 (Figure 10A). The curve subsequently shows a clear increase throughout the entire period studied (up to 1 Jan 2015). In the year 2000 3M announced that, for environmental reasons, it was ending its manufacture of PFOS (Swedish Chemicals Agency 2004). This could possibly explain the temporary brake in the number of patents during the period 2000-2010. However, the subsequent strong growth in patents during the most recent period (2010-2015) indicates optimism prior to a continuation in the use of perfluoro technology.

Our searches in patent summaries (the “abstract” text, Figure 10B) during the same period also show this in the form of a substantial increase in the occurrence of the text fragment “perfluoro”. However, the difference was that the increase came to a halt in the 1990s, after which the trend was one of slight reduction.

In summary, the patent information indicates that the development of new perfluorinated substances appears to be proceeding at a moderate rate, whereas the use of existing perfluorinated substances is probably still developing strongly.

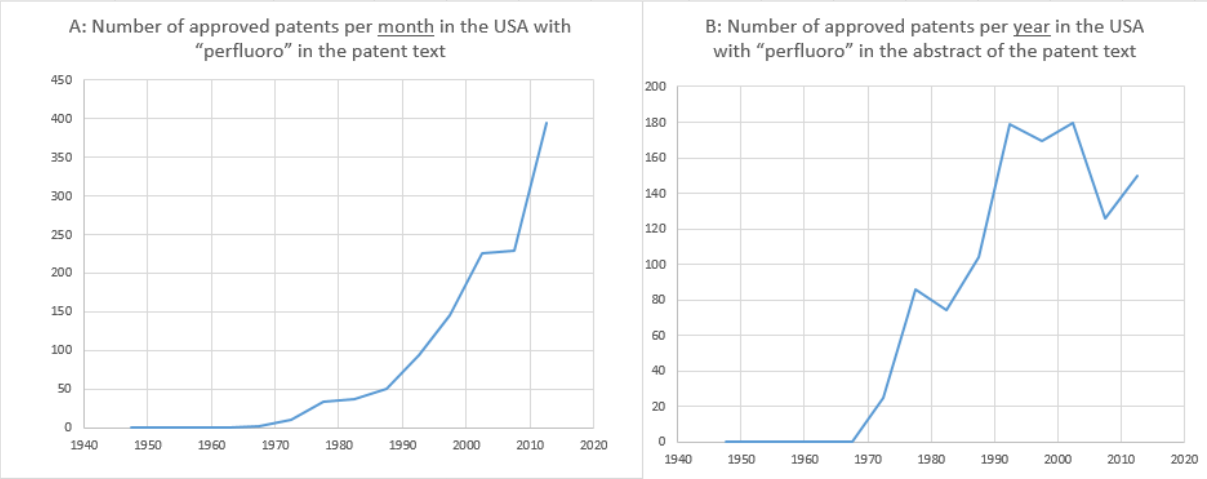


Figure 10: Trends over time in the number of patents in which the word "perfluoro" is mentioned in the full patent text (A), and in the text's summary (B) (searched in the patent database USPTO April 2015).

7.4 The Swedish Products Register

There are a total of 232 PFAS in the Swedish Products Register which is administered by the Swedish Chemicals Agency. A good half (53%) of these are products on the Swedish market (active products). Those PFAS that are no longer registered as active products (expired products) in Sweden can, despite this, still be found on the Swedish market, mainly for the following reasons:

1. They may be in products at concentrations that are below the limit at which substances must be reported. The limit is 5 weight percent for substances that are not classified as hazardous (which is the case for most PFAS).

2. They can be found in products sold in Sweden but are below the quantity limit at which registration with the Product Register is required (100 kg product/year per company).

3. They can be found in durable articles that have not yet reached the waste management stage.

4. They can arrive in Sweden via imported articles (e.g., in impregnated textiles). The substances may be used in countries from which Sweden imports consumer articles. Even those PFAS that are regulated in the EU (through the candidate list) may arrive in Sweden via articles imported from countries outside the EU.

The precise identity of substances on the Products Register is sometimes confidential and it may require the company's permission before a substance's identity can be published. Therefore only the chemical group to which they belong is given below. The range of lengths of perfluorinated carbon chains is also given.

7.4.1 *Changes over time*

The historical information in the Swedish Products Register allows analysis of trends over time. This shows that many PFAS, new to the Swedish market, were registered up to the start of the 2000s (the oldest registration date is from 1992, Figure 12). Around 2002 there was a temporary net reduction in the number of PFAS in active products. After this period the turnover of PFAS in the register balanced itself out at about zero (newly registered ≈ deregistered).

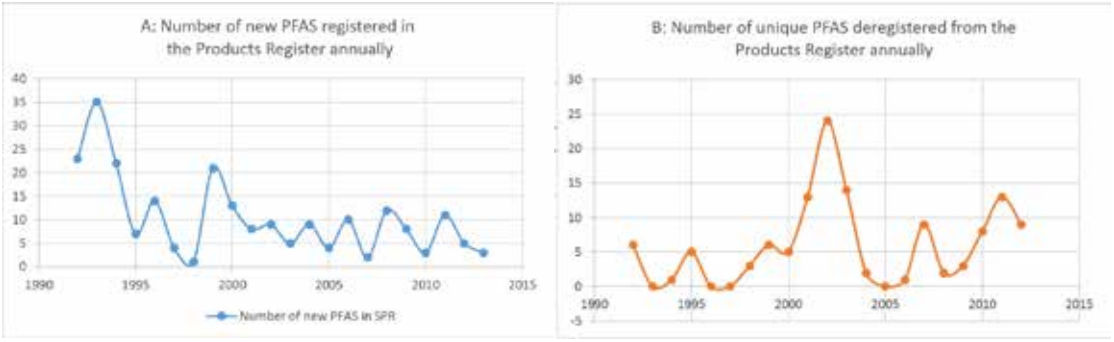


Figure 11: Annual increase (A) or decrease (B) in unique PFAS in the Product Register 1992-2013.

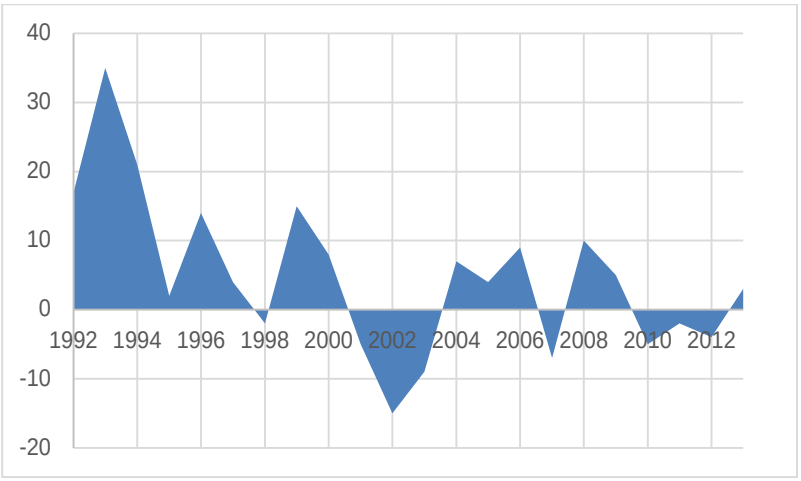


Figure 12: Net change in the number of unique PFAS in active products registered in the Products Register. Calculated as the number of new unique PFAS that are added through new registration (Figure 11a) minus the number of unique PFAS that disappear through deregistration (Figure 11b).

7.4.2 *PFAS in active chemical products*

There are 124 PFAS registered in active products. The most frequently encountered type of highly fluorinated substances in the Products Register is polymers. The most common fluoropolymer group is acrylate-based. Fluoropolymers are often combined in a complex manner with various types of monomers. This makes categorization of polymer type more difficult.

Many of the PFAS found in the Products Register are used or have been used in a number of product groups. Those PFAS that are present in products on the Swedish market (2013) are listed below in Table 14.

- **Impregnating substances for textiles and leather:** (meth)acrylate polymers (C4-20), urethane polymers (C8-14), other polymers (C2), N-alkyl sulfonamides (C4-8), alkyl alcohols (C3).

- **Paints, Adhesives, (including raw materials):** (meth)acrylate polymers (C4-20), PTFE polymers, silicone/siloxane polymers (C8-14), N-alkyl sulfonamides (C4-8), sulfonamides (C4-8), silicones/siloxanes (C6), alkyl phosphates (C6), alkyl alcohols (C8-14), etc.

- **Substances in Polish:** PTFE polymers, (meth)acrylate polymers (C6-20), other polymers (C6), alkyl phosphorus compounds (C6-12), alkyl phosphates (C6-12), N-alkyl sulfonamides (C8), alkyl ethers (C<5), silicones/siloxanes (C6), alkanes (C5) etc.

- **Metal surface treatment and surface coating substances:** alkyl sulfonic acids/amides (C6-8), PTFE, alkyl phosphates (C6-12), alkyl alcohols (C8-14), alkyl ethers (C<5), alkyl sulfonyl chlorides (C6), alkanes/alkenes (C6).

- **Printing ink substances:** (meth)acrylate polymers (C4-16), silicone polymers (C8-14), alkyl sulfonamides (C4-8), alkyl sulfonic/sulfinic acids (C4-8), silicones/siloxanes (C6), N-alkyl sulfonamides (C4-8), PTFE-polymers, alkyl alcohols (C8-14).

- **Raw materials for electronics:** alkyl sulfonic acids (C8), ethers (C<5), PTFE, alkanes (C5-7), alkyl alcohols (C3), N-alkyl sulfonamides (C4), alkyl amines (C5-18).

- **Fire-fighting foam substances:** alkyl sulfonamides (C6-20), alkyl thiols, N-alkyl sulfonamides (C6), polymers[32].

- **Raw materials for optics:** ethers (C<5), esters, alkanes.

- **Biocide substances (insecticides/herbicides):** esters, phosphorus compounds.

- **Hydraulic oil substances:** alkyl sulfonic acids (C7).

[32] The identity of the substances may be confidential.

Table 14: Number of PFAS in active product in the Swedish Products Register (2013, source: Swedish Products Register, SPR, 2015).

Number of PFAS	**Fluoro group**	**Number of years in SPR** (average value)
23	N-alkyl perfluoroalkyl sulfonamides	10
22	fluorinated (meth)acrylate polymers	6
15	poly/perfluorinated sulfonic/sulfinic acids	9
8	poly/perfluorinated copolymers	7
7	poly/perfluorinated carboxylic acids	5
7	poly/perfluorinated polymers	6
6	poly/perfluorinated alkanes/alkenes	9
5	poly/perfluorinated ethers	12
4	poly/perfluorinated amines	4
4	poly/perfluorinated (meth)acrylates	9
4	fluorinated urethanes polymers	9
3	poly/perfluorinated esters	10
3	poly/perfluorinated thiols	9
3	polytetrafluoroethylene (PTFE)	11
3	poly/perfluorinated ammonium organics	9
2	poly/perfluorinated phosphoorganics	8
2	poly/perfluorinated sulfonamides	6
1	poly/perfluorinated iodides	3
1	poly/perfluorinated siloxanes/silicones/silanes/silicates	2
1	poly/perfluorinated alcohols	10

7.4.3 *In expired chemical products (0-100 kg marketed each year in Sweden)*

103 of the PFAS named in the Products Register were only found in expired products (do not fulfil the extended requirements for registration). However, the usage patterns for these are still relevant, particularly from an international perspective. These have therefore been compiled and used as surrogate data for those PFAS for which usage information is otherwise lacking. As these uses may be relevant we have listed them below and in Table 15.

- **Impregnating substances for textiles and leather:** (meth)acrylate polymers (C2-18), N-alkyl sulfonamides (C5-9), other polymers, e.g. urethane-based (C4-18), (meth)acrylates (C6-12), alkyl ammonium compounds (C4-7), alkyl sulfonic/sulfinic acids (C8), alkanes/alkenes (C6), alkyl thiols (C8-20), alkyl esters (C8-14).

- **Paint raw material substances:** N-alkyl sulfonamides (C4-9), alkyl ammonium compounds (C4-7), siloxanes/silicones (C4-6), siloxanes/silicones (C2-6), (meth)acrylate polymers (C4-8), fluorinated alkyl iodides (C11).

- **Impregnating substances for paper:** (meth)acrylate polymers (C4-20), (meth)acrylates (C6), alkyl thiols (C4-20), N-alkyl sulfonamides (C8-16), alkyl sulfonamides (C8-16), alkyl phosphates (C8), alkyl esters (C8-14).

- **Metal surface treatment-/surface coating-substances:** (meth)acrylate polymers (C10-20), other polymers (C8), (meth)acrylates (C6) and alkyl sulfonic acids (C6-12), alkyl sulfonamides (C8).

- **Substances in Polish:** (meth)acrylate polymers (C4-14), alkyl sulfonic/sulfinic acids (C8-10), alkyl sulfonamides (C6).

Table 15: Number of PFAS in expired product in the Swedish Products Register (1992-2012, source: Swedish Products Register, SPR, 2015).

Number of PFAS	**Fluoro group**	**Number of years in SPR** (average value)
26	fluorinated (meth)acrylate polymers	9
14	polytetrafluoroethylene (PTFE)	15
11	poly/perfluorinated polymers	11
7	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	15
6	poly/perfluorinated alkanes/alkenes	9
5	poly/perfluorinated sulfonic/sulfinic acids	18
4	poly/perfluorinated sulfonamides	4
4	poly/perfluorinated siloxanes/silicones/silanes/silicates	11
4	poly/perfluorinated phosphororganics	12
4	fluorinated urethanes polymers	15
3	poly/perfluorinated ethers	10
3	poly/perfluorinated esters	11
3	polyfluoro siloxane and silicone polymers	14
3	other poly/perfluorinated organics	8
2	poly/perfluorinated alcohols	16
1	poly/perfluorinated alkanoyl/sulfonyl chlorides or fluorides	2
1	poly/perfluorinated copolymers	18
1	poly/perfluorinated thiols	14
1	poly/perfluorinated amines	22

7.5 The European chemicals data base IUCLID

58 PFAS can be found in the IUCLID database (see Table 16). Of these, 14 are said to be used only as raw materials for synthesis, mainly polymers. Information on the use of the majority of these substances is confidential and in most cases very brief.

There are 551 PFAS in the list of substances which industry may consider registering in the future (”pre-registration”, REACH pre-registration database 2008). There is no use information to be found here. Unlike the Swedish Products Register, in which the largest group is polymers, the largest group in IUCLID is N-alkyl perfluoralkyl sulfonamides (see Table 16). The difference is that there is no requirement for polymers to be registered under REACH (with certain exceptions), but they should be registered with the Products Register.

Table 16: Registered and pre-registered substances under REACH – number in poly/perfluoro groups.

Fluoro group	Registered	Pre-registered
N-alkyl perfluoroalkyl sulfonamides	3	139
poly/perfluorinated phosphororganics	2	67
poly/perfluorinated sulfonic/sulfinic acids	2	45
poly/perfluorinated carboxylic acids		44
poly/perfluorinated alkanoyl/sulfonyl chlorides or fluorides	3	27
poly/perfluorinated alcohols	2	23
poly/perfluorinated amines	1	23
poly/perfluorinated (meth)acrylates	2	22
poly/perfluorinated esters	1	21
poly/perfluorinated sulfonamides		18
other poly/perfluorinated organics	15	17
poly/perfluorinated ethers	10	17
poly/perfluorinated alkanes/alkenes	7	17
poly/perfluorinated iodides	3	17
poly/perfluorinated siloxanes/silicones/silanes/silicates	2	15
poly/perfluorinated oxiranes		10
poly/perfluorinated thiols	2	9
poly/perfluorinated copolymers		6
poly/perfluorinated ethoxylates		5
poly/perfluorinated urethanes		5
polytetrafluoroethylene (PTFE)		2
poly/perfluorinated polymers	3	1
poly/perfluorinated naphthalenes		1
Total number	**58**	**551**

8 Alternative substances, materials and technologies

Summary of Alternative substances, materials and technologies

- The alternatives may be fluorine-free substances, or they may be other materials or technologies.
- Alternatives are primarily found for textiles and fire-fighting foams.
- It is difficult to find alternatives that have the same desirable properties as PFAS.

The alternatives to highly fluorinated substances can be fluorine-free substances which offer similar properties. Entirely different technologies may also be used which do not have the same requirement for chemicals (for example in textiles and fire-fighting foams). As previously described in this report (see section 3.3), highly fluorinated substances have a number of desirable functions. Their unique properties make them to a large degree "irreplaceable" in many applications (Buck et al. 2012). This is probably one reason why very little information can be found on alternatives.

8.1.1 *Fluorine-free substances*

According to the trade association FluoroCouncil (Holt 2011) fluorine-free alternatives are available for certain applications but they are not always as effective. It can be difficult to find a fluorine-free alternative when it comes to achieving a very low surface tension or where durable water- or grease-repellent properties are required. Table 17 below presents fluorine-free alternatives that are used in various areas of application. In section 8.1.3 we look at identified alternatives for specific areas of application.

Table 17: Fluorine-free alternatives (UNEP/POPS/POPRC.9/INF/11/Rev.1 2013, OECD 2013, MST 2005).

Group	Uses
Propylated aromatics (naphthalenes/biphenyls)	Water-repellent agents for rust prevention systems, marine paints, surface treatments, etc.
Fatty alcohol polyglycol ether sulfonates	Levelling and wetting agents
Sulfosuccinates	Levelling and wetting agents Wetting agents and dispersants in paints and the surface treatment industry
Surface-active hydrocarbons	Photographic industry
Siloxane and silicone polymers	Impregnation of textiles, leather and carpets or surface treatment Wetting agents in the paint and ink industries Cleaning agents, polish and car wax Anti-foaming agents
Stearamidomethyl pyridine chloride	Impregnation of all-weather textiles, leather and carpets
Polypropylene glycol ether, amines, sulfates	Levelling and wetting agents Decorative chrome plating, etc.

8.1.2 *Non-chemical technologies*

For some applications alternative technologies can be introduced and replace highly fluorinated substances without any need for other chemicals. In the area of plant protection agents this can, for example, involve biological, physiological or natural control methods for dealing with pests. Another example is foam blankets and other barriers which can be used instead of PFAS as mist suppressants for surface treatment of metals (OECD 2013).

8.1.3 *Alternatives for specific areas of application*

This section describes alternatives to PFAS in specific areas of application. However, an alternative described for one particular use could possibly have other uses. Most information on conceivable alternatives has been found for textiles and fire-fighting foam, but even here the information is scanty. For other uses, for example decorative chrome plating, there is no longer the same need for highly fluorinated substances.

8.1.3.1 Textiles and leather

With regard to water-repellent properties there are a number of substances that can be used instead of highly fluorinated substances. It is more difficult to find alternatives for grease- and dirt-repellent agents. Those substances most discussed as water-repellent alternatives to fluorine are:

- Silicone-based agents, for example, high molecular weight polydimethylsiloxanes (PDMS). Silicones (or polymerized siloxanes or polysiloxanes) is the general name for inorganic polymers based on chains of oxygen and silicon. Hydrocarbon compounds are bound to these chains. They are resistant to the action of chemicals, are not water soluble and do not conduct electricity.
  In the manufacture of PDMS can be found various cyclic and linear siloxanes such as cyclic octamethylcyclotetrasiloxane (D4, CAS number 556-67-2), decamethylcyclopentasiloxane (D5, CAS number 541-02-6) and dodecamethylcyclohexasiloxane (D6, CAS number 540-97-6). Fluorinated siloxanes (fluoroalkyl siloxanes) are also found in this group.
- Mixtures of silicones and stearamidomethyl pyridine chloride, sometimes together with carbamide (urea) and melamine resins.
- Waxes and paraffins, which usually consist of modified melamine-based resins.
- Particular structures, so-called dendrimers, that were developed to imitate the ability of the lotus blossom to repel water. These structures often occur in nanosize (1 to 100 nm) and generally comprise hydrophobic, modified, highly branched polymers, including polyurethane.
  According to industry dendrimers confer superhydrophobic properties, which means large contact angles (larger than 150°), that can be used in coatings for textiles, leather, etc. The literature contains a large variety of dendrimers for which a range of different areas of application are described; some of these are fluorinated and some are cationic.

One conceivable alternative non-chemical technology is tightly woven fabrics. Another is the so-called reverse osmosis membrane. The membrane comprises extremely thin films made of polymer materials and is constructed in such a manner that it is highly impermeable to water in liquid form but permeable to water vapour (breathable fabric). An alternative to PTFE is a composite of a hydrophobic polyester and a hydrophilic polymer which forms a microstructure that allows the fabric to "breathe". The reverse osmosis membrane lets the user

feel dry but does not stop the outside of the garment becoming wet. There are commercially available alternatives to PTFE for this application on the international market (Posner 2015).

One example of an international initiative to find fluorine-free alternatives is Huntsman Textile Effects (global supplier of dyes and other chemicals for the textile industry) which started a collaboration with DuPont to develop a new product with water-repellent properties. According to the companies this is the sector's first water-repellent treatment that consists totally of renewable material, 63 percent of which is obtained from plant-based, non-GMO raw materials (Ecotextile News 2015).

In Sweden researchers and industry are working in collaboration in the FORMAS-funded project SUPFES (2015) to find an alternative that can replace harmful fluorinated chemicals in textile. The aim of the research is to assess the risks associated with various chemicals and to ensure that the alternatives do have the desired functions.

8.1.3.2 Paper- and food-packaging

Use of grease-resistant paper started before the introduction of PFOS technology and there are technologies that do not require fluorochemicals. At least one manufacturer has developed a fluorine-free alternative, the Norwegian firm Nordic Paper. It uses a high density paper which prevents the passage of grease through it.

8.1.3.3 Fire-fighting foam

Fire-fighting foam is, as described in section 6.2.3, divided into different classes according to what fire they are intended for: class A foam for fibrous materials and class B foam (in which PFAS are found) for fires involving liquids. According to the Swedish Civil Contingencies Agency various alternative solutions should replace the majority of all uses of foams for fire extinguishing as these can involve negative effects for both humans and the environment (Swedish Civil Contingencies Agency 2015).

Nowadays Class A foam or water is used as the extinguishing agent for fires in buildings. If water is used at high pressure (200-300 Bar) it creates a mist of many small water droplets which has an effective extinguishing effect. It both cools smoke gases and reduces oxygen levels. To prevent any re-ignition and protect neighbouring buildings an agent is added which comprises inorganic salts (such as ammonium, phosphates, sulfates and chlorides). According to studies these salts reduce the size of water droplets by a factor of at least four, thereby making the mist more effective. Additives also have a cooling effect.

As stated by the Swedish Civil Contingencies Agency it is important for the incident commander at a fire to assess whether or not to try to extinguish the fire. Extinguishing can cause major environmental damage and it may be better to allow the fire to burn in a controlled manner.

For example, petroleum fires are tackled by using Class B foam to "put a lid on" the fire. Most foam products for Class B fires contain highly fluorinated substance and according to the Swedish Civil Contingencies Agency fire-fighting foam products need to be developed. One possible approach is to develop mist fire-suppression systems with additives, even for liquid fires. Another way is to develop an entirely new technology, such as expanded glass (Pyrobubbles), which is currently being studied.
There are various fluorine-free Class B foams on the Swedish market. An example is protein-based or detergent-based fire-fighting foam (Swedish Chemicals Agency 2015a). In 2011 the new fire-fighting foam Moussol-FF 3/6 was introduced at Swedavia's airports (Arlanda,

Landvetter, etc.). It is used in both training and emergency call outs. According to Swedavia the product is broken down to carbon dioxide and water in the environment. It is also effective in the sort of fire suppression required at airports where high safety standards have to be maintained (Fridlund 2014).

According to manufacturers and some users, fluorine-free fire-fighting foams do not have as good an extinguishing effect as foams with fluorosurfactants (Fomtec 2015). Compared with fluorine-based fire-fighting foams (AFFF foams) around twice as much water and foam concentrate are required when extinguishing liquid fires. According to some analyses fluorine-free fire-fighting foams may give less protection against re-ignition which means that the fire may flare up without warning (Fomtec 2015). There are operations whose standards are such that current fluorine-free fire-fighting foams are not acceptable alternatives. One example is the Swedish Armed Forces which, in the event of a fire, allows 90 seconds to reach the location and a maximum of 90 seconds to cool down the cockpit (Borgh 2014). According to the Swedish Armed Forces it is difficult to find fluorine-free alternatives which meet these safety requirements. However, fluorine-free detergent foam is used in training.

The fire-fighting foams manufacturer Solberg distributes fire-fighting foams in a number of countries in the EU, but not in Sweden (Swedish Chemicals Agency 2015a). The company has developed a fluorine-free foam concentrate, RE-HEALING^{TM}, which is a mixture of hydrocarbon surfactant, water, solvent, sugar, preservative and a corrosion inhibitor. This is produced for use at concentrations of 1, 3 or 6 percent to control Class B fires. According to the manufacturer the presence of complex carbohydrates gives the foam a much greater capacity to absorb heat than fluorine-based foams (Solberg 2015).

Various fluorine-free alternatives have also been recorded in several reports in the Stockholm Convention. The fire-fighting foams mentioned are silicone- and hydrocarbon-based surfactants, synthetic detergent foams and protein-based foams. However, these fluorine-free fire-fighting foams are often used in combination with fluorosurfactants (UNEP/POPS/POPRC.8/INF/17/Rev.1 2012).

8.1.3.4 Surface coating of metal (hard- and decorative-chrome plating)

There are fluorine-free alternatives (aminoethanol, CAS number 141-43-5 and alkyl sulfonates which are marketed under the name TIB Suract CR-H) but they do not appear to be as effective and currently have only a small market share. One problem is that fluorine-free alternatives are broken down in a chrome bath and therefore need to be constantly replenished.

There are also alternative technologies such as foam blankets and other barriers that can be used to inhibit misting. Combined with increased ventilation these alternative technologies reduce mist formation so much that there should be no need to use PFOS and PFAS to reduce mist formation. A closed system or increased ventilation combined with extraction of chromium (VI) have been proposed as alternative solutions where chromium (III) technology not yet functions (European Commission 2015a).

8.1.3.5 Hydraulic systems in the aviation industry

There are some hydraulic fluids which do not contain fluorochemicals. However, according to reports produced within the framework of the work with the Stockholm Convention (UNEP/POPS/POPRC.9/INF/11 2013), they can damage metal components in hydraulic systems. The degree of acidity needs to be constantly monitored as this determines the lifetime of the fluid. It is said that the search for alternatives has been going on for 30 years

but because of confidential business information it is difficult to discover whether fluorinated compounds are involved and, if so, exactly what they are.

8.1.3.6 Photographic & Electronic equipment and components

According to reports from the work with the Stockholm Convention (UNEP/POPS/POPRC.9/INF/11 2013) alternatives are being developed in this area.

Because of the development of digital technologies the use of photographic film has decreased markedly. Those alternatives identified under the Stockholm Convention (UNEP/POPS/POPRC.9/INF/11/Rev.1 2013) are:

- Hydrocarbon-based surface-active substances
- Silicone chemicals

9 Discussion and Conclusions

Summary of Discussion and Conclusions

- There is a wide range of substances as well as substantial development of new substances and areas of application.
- A significant lack of available information means that this survey does not give a complete picture.
- The Swedish Chemicals Agency therefore intends to look at an expanded requirement for reporting to the Swedish Products Register. We also intend to examine how this can be managed at an EU level.
- Existing knowledge indicates to us that the use of PFAS in fire-fighting foam is what most urgently needs to be addressed and we are therefore reviewing the regulations and other measures relating to fire-fighting foam.
- The survey has identified many lesser known uses, such as cosmetics, dental restorative materials and smudge-repellent surface treatment for smartphones. The Swedish Chemicals Agency intends to monitor developments in these areas.
- The pattern of usage shows that the flow of used PFAS into the waste management stage is substantial which means it should be ensured that waste management is properly implemented.
- The lack of alternatives to PFAS shows a need for technological development. Alternatives have mainly been found for fire-fighting foams and textiles.

The range of different PFAS available on the world market was much greater than expected. This meant that a deeper analysis of the use of various substances was not possible. Instead of focusing only on a limited number of substances with more or less known applications, the focus was extended to obtain an overview of the previously unknown diversity of substances on the market.

This assignment is aimed at end uses, i.e. the end use of PFAS in articles and chemical products. The survey shows that highly fluorinated substances have a very extensive range of uses and can be used in many different applications. Some areas of application are already well known, for example textiles and fire-fighting foams. Other areas are less well known. Amongst the "new" areas mentioned are:

- cosmetics additives,
- dental restorative material and
- use in electronics (e.g., coolants and dirt-repellent agents for smartphones and solar cells).

The technological potential of these highly fluorinated substances has probably not yet been fully exploited on the international market. It is therefore likely that they will appear in new areas of application in the future. Surveys of how highly fluorinated substances are used can therefore quickly become out of date.

It is evident from current knowledge and from concentrations measured in the environment that the most problematic use is in fire-fighting foam. The Swedish Chemicals Agency is therefore examining the need for regulation and other measures and will present proposals to the government in spring 2016. We will also continue to monitor how PFAS are used in other areas and, where necessary to add to and analyse this information. Some areas of application

are in part the responsibility of other authorities and therefore our existing collaboration with other relevant authorities (the Swedish Environmental Protection Agency, the National Food Agency, the Geological Survey of Sweden, the Swedish Geotechnical Institute, the Swedish Agency for Marine and Water Management and the Swedish Civil Contingencies Agency) is important.

There are a large number of PFAS on the world market (>3000). There is only a limited amount of information on total quantities and the extent of usage in various areas of application. This does not come as a surprise as many highly fluorinated substances enter the EU and Sweden through the import of articles (for example, textiles) and for the most part these are not monitored. Less than 2 percent of the 3000 highly fluorinated substances are registered under Reach. Forecasts of future registrations (the latest round of registrations will be completed in 2018) indicate that a substantial proportion of all PFAS will still be unregistered (>80 percent). Even though the Swedish Products Register includes more PFAS, it covers at most 4 percent of internationally available PFAS. An important reason for the low representation of PFAS in the EU and Swedish registers is that these substances are very potent which means that they are normally used at low concentrations. This can mean that they do not need to be registered under REACH or in the Swedish Products Register. Additive substances at below 5 percent do not normally need to be recorded in the Swedish Products Register[33]; this is usually well above the effective concentration for a highly fluorinated substance. The low level of usage means that the majority of PFAS on the market have an annual tonnage in the EU which is below the registration threshold under REACH (>1 tonne per company per year, from and including June 2018). The Swedish Chemicals Agency intends to examine the possibility of an expanded requirement for reporting to the Products Register for the group PFAS. An expanded requirement should make it easier to find information on which highly fluorinated substances are used in Sweden. The Swedish Chemicals Agency will work further to get an EU strategy in place for PFAS which will take into account problems with low volumes of use.

There are almost endless possibilities for designing polymers that contain perfluorinated chains and this is therefore difficult to monitor and regulate. Over time the first generations of PFAS with 7-8 perfluorinated carbon chains have been complemented with more complex PFAS molecules. Moreover, it has been observed that straight chain PFAS can also to a greater or lesser degree be contaminated with branched variants. PFAS with mostly branched chains are also available on the world market. A large number of PFAS in polymer form have been identified in this report, above all in material surface treatment. It is expected that many of these are broken down to other PFAS over time.

There is a relatively large group of perfluorinated substances which lack functional groups[34]. In many cases these are probably end products and are used in many sectors of the community. They can include, for example, solvents, emulsion stabilizers in cosmetics, freons and coolants for electronics. It is expected that, like other perfluorinated substances, substances in this group are extremely persistent. The lack of a functional group will probably affect their surface-active properties.

[33] The threshold for reporting to the Swedish Products Register is 100 kg per product per year. Those highly fluorinated substances that are not classified as hazardous only need to be reported to the Register if the concentration is more than 5 percent.

[34] Circa 58 are found on the market. By functional group we mean a group of atoms which has a major effect on the molecule's properties. Examples of functional groups are an -OH bound to a hydrocarbon chain (this gives an alcohol) and the carboxyl group -COOH which gives a carboxylic acid.

Another identified group is PFAS with extra-long perfluorinated carbon chains (C>15). As well as being very persistent, their hazard characteristics are to a greater or lesser degree unknown.

The identity of a PFAS is often difficult to determine. Many contain isomer mixtures. Sometimes this is indicated in the name of the substance as this includes the range of perfluorinated chain lengths (around 14 percent of the substances found). There are ranges of up to 1-24 carbons (C1-24). The reason for giving intervals could be that fewer raw materials and/or imprecise synthesis methods are used. The large ranges create difficulties in work to regulate the use of PFAS, etc., as REACH legislation mainly deals with individual substances.

Our calculations indicate that at present less than 5 percent[35] of the identified substances are covered by some form of EU regulation. The REACH candidate list includes six long-chain carboxylic acids and the POPs regulation governs PFOS and substances that can be broken down to PFOS. If PFOA and substances that can be broken down to PFOA are restricted in the EU[36] and expected perfluorinated substances appear on the candidate list, there will be a further 3 percent. This means that less than 8 percent of the highly fluorinated substances are regulated or are about to be regulated within the EU.

An analysis of trends over time for how PFAS are introduced onto the market shows a complex picture. From their international identity numbers (CAS number) it appears that most PFAS that are available on the market were allocated their identity number before the year 2000. The number of PFAS with new identity numbers has fallen to nearly zero over the period 2000-2014. There could be a number of reasons for this. It could be that there is now almost no production of new PFAS. However, statistics for international patents indicate a steady influx of new patents for the development of new PFAS technologies (i.e., the development of new PFAS or the modification of existing PFAS). Another explanation could be that, once a substance group becomes associated with undesirable environmental properties, it is more likely that manufacturers will decide not to request CAS numbers for its substances. If companies decided against CAS numbers this might be due to a desire, at least in the first instance, to maintain a low profile with regard to competing manufacturers. It would appear from, amongst other things, statistics based on regulatory registers for industrial chemicals and cosmetics additives in the EU, that a substantial portion of existing PFAS (about half) are not marketed with CAS numbers.

The fact that many PFAS lack CAS numbers causes problems of identification, as the naming of substances in this group is very variable. It is often difficult to identify and categorize substances such as PFAS from the name only.

This survey has confirmed that industry (leastways in North America, Europe and Japan[37]) has switched from highly fluorinated substances with carbon chains containing at least seven or eight perfluorinated carbons (for example PFOS, PFOA and 8:2 FTOH) to shorter carbon chains (mainly based on six perfluorinated carbons, such as 6:2 FTOH) and perfluoro ethers, such as perfluoropolyethers, PFPE). A switch to shorter carbon chains probably means increased volumes of PFAS on the market, as higher concentrations of substances with shorter carbon chains are required to achieve the same effect as produced by substances with longer carbon chains. If PFOS and PFOA (and substances that can be broken down to these), whose

[35] Based on a total of 3000 substances, which is assumed to be an underestimate.
[36] The REACH restriction proposal that is under discussion. By PFOA here we mean PFOA, its ammonium salt and identified telomers that can be broken down to PFOA.
[37] As a result of regulations and the voluntary American Stewardship Program the majority of large manufacturers in North America, Europe and Japan have switched to substances with shorter chain lengths.

volumes of use are recorded in this report (see section 6.1.4), are replaced by other highly fluorinated substances, this will presumably mean higher volumes.

The lack of information on how and where PFAS are used makes it difficult to assess how the market is developing. Certain trends can be deduced from patent databases. Patent information indicates a strong growth in recent times in patents for using existing PFAS in more or less new areas of application (see section 7.3). However, patent proposals for new and modified PFAS show a more uniform development (circa 150 PFAS patents per year).

In the Swedish Products Register it is possible to see changes in chemicals management in Sweden (≥1992). This is most apparent for industrial intermediates (concentrates), primarily in the surface treatment of textiles. This register information shows a clear reduction in usage. The reasons are probably both regulatory and structural (e.g., the closure of the Swedish textile industry). However, the Products Register only includes chemical products (such as fire-fighting foam and impregnating agents) and not articles (such as textiles and paper packaging); PFAS-treated articles enter the Swedish market through imports. Fewer register entries for PFAS in the Products Register therefore does not indicate that the amount of PFAS on the Swedish market is decreasing.

As described in section 6 there are many examples of studies that have analysed PFAS in various chemical products and articles. As generally only a few PFAS are analysed there is a risk that the results do not give a complete picture. To obtain a fuller picture one needs more comprehensive analyses of screening character or analyses of the total content of organic fluorine.

This assignment focuses on end uses, i.e., the end use of PFAS in articles and chemical products where the next stage in the chain of use is waste management. Because of the wide-ranging use of these extremely persistent substances, we perceive that the management of material waste produced is important. Incineration at high temperatures (at least 1100°C) generally breaks down PFAS to carbon dioxide and hydrogen fluoride. However, within the scope of this survey we have come no closer to determining the best manner in which to handle the waste.

This survey shows that there is substantial development potential for alternatives to highly fluorinated substances. For some applications there are neither fluorine-free alternatives nor alternative methods. This is probably due to the unique properties of highly fluorinated substances which are therefore regarded as irreplaceable in many applications. One question that can be asked is whether these properties are really required for all applications. For example, use in textiles could be limited to clothing for occupational and protective purposes.

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Appendix 1: Abbreviations and explanations

Highly fluorinated substances	Includes both fully and partially fluorinated carbon chains.
PFAS	Perfluorinated and polyfluorinated alkyl substances (PFAS)
Perfluorinated substances	Fully fluorinated organic substances, i.e., consisting of a carbon chain in which each hydrogen atom has been replaced by a fluorine atom. They are extremely persistent.
Polyfluorinated substances	Partially fluorinated organic substances, i.e., the carbon chain still contains some hydrogen atoms. They are not as stable as perfluorinated substances but can be broken down to perfluorinated substances.
Telomer	Partially fluorinated substances: part of the carbon chain is fully fluorinated, another part is a hydrocarbon. Can be broken down to perfluorinated substances.
End use	The final use of a chemical before it enters the waste management stage of the usage chain.
Precursors (to a perfluorinated substance, X)	Other highly fluorinated substances that can be converted to substance X.
Electrochemical fluorination, ECF	Manufacturing process for highly fluorinated substances
Telomerization	Manufacturing process for highly fluorinated substances
Telogen	Perfluorinated molecule which reacts with a taxogen in the first step in telomerization
Taxogen	Unsaturated molecule which reacts with a telogen in the first step in telomerization
Emulsion polymerization	Polymerization which normally begins with an emulsion that contains water, monomer and surface-active substance
PASF	Perfluoroalkyl sulfonyl fluoride which is a raw material in the production of perfluoroalkyl sulfonic acids (PFSA)
PFCA	Perfluoroalkyl carboxylic acids
PFBA	Perfluorobutanoic acid
PFPeA	Perfluoropentanoic acid
PFHxA	Perfluorohexanoic acid
PFHpA	Perfluoroheptanoic acid
PFOA	Perfluorooctanoic acid
PFOA-related substances	All substances that can be broken down to PFOA
APFO	Ammonium pentadecafluorooctanoate (ammonium salt of PFOA)
PFNA	Perfluorononanoic acid
PFDA	Perfluorodecanoic acid
PFUnDA	Perfluoroundecanoic acid (Heneicosafluoroundecanoic acid)
PFDoDA	Perfluorododecanoic acid (Tricosafluorododecanoic acid)
PFTrDA	Perfluorotridecanoic acid (Pentacosafluorotridecanoic acid)
PFTeDA	Perfluorotetradecanoic acid (Heptacosafluorotetradecanoic acid)
PFSA	Perfluoroalkyl sulfonic acids
PFBS	Perfluorobutane sulfonate
PBSF	Perfluorbutane sulfonyl fluoride
PFHxS	Perfluorohexane sulfonate
PHxSF	Perfluorohexane sulfonyl fluoride
PFOS	Perfluorooctane sulfonate

POSF	Perfluorooctane sulfonyl fluoride (starting material in PFOS manufacture)
PFOS-related substances	All substances that can be broken down to PFOS
FEP	Fluorinated ethylene propylene (fluoropolymer)
FTA	Fluorotelomer acrylates: intermediates in polymer production. Can be broken down to PFCA.
FTOH	Fluorotelomer alcohols: components in commercial products that can be broken down to PFCA
FTS	Fluorotelomer sulfonates: precursors to 6:2 FTS are used as alternatives to PFOS in fire-fighting foam. Can be broken down to PFCA.
PFA	Perfluoroalkoxyl polymer (fluoropolymer)
PFPE	Perfluoropolyethers
PTFE	Polytetrafluoroethylene (fluoropolymer)
PVDF	Polyvinylidene fluoride (fluoropolymer)
PAPs	Polyfluoroalkyl phosphate esters
diPAPs	Polyfluoroalkyl phosphate diesters
S-diPAPs	Sulfur-based polyfluoroalkyl phosphate diesters
CX	PFAS with X number of perfluorinated carbons (at least two fluorine atoms bonded to one carbon atom), e.g., 6:2 FTOH = C6, PFBS = C4.
CX-Y	Range of lengths for perfluorinated carbon chains, e.g., C4-8
CMR	Carcinogenic, mutagenic, reprotoxic (CMR) substances
CSR	The chemical safety report (CSR) records the chemical safety assessment and is a part of the REACH registration process in which the registrant demonstrates that risks from exposure to a substance are controlled.

Appendix 2: Highly fluorinated substances found on the world market 2014-2015

CAS-number	EC-number	Name	Per/polyfluoro group	Perfluoro chain length Min.	Perfluoro chain length Max.
923298-12-8		-	poly/perfluorinated POLYMERS	4	4
940891-99-6		-	poly/perfluorinated POLYMERS	4	4
949581-65-1		-	poly/perfluorinated POLYMERS	4	4
207574-77-4		(1-Propanamine, 2-(trimethoxysilyl)-, reaction products with reduced methanol-peroxidized poly(tetrafluoroethylene)	poly/perfluorinated POLYMERS		
3-00-8		(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) phosphates, ammonium salts, reaction mass of, mixed	poly/perfluorinated PHOSPHOORGANICS	6	6
		(3-[dialkyl(3[[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)sulfonyl]amino}propyl)ammonio]-1,2-disubstituted propane)	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
75888-49-2		.alpha.-(Heptafluoromethylethyl)-.omega.-[1,2,2,2-tetrafluoro-1-[[(2-hydroxyethyl)amino]carbonyl]ethoxy]poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]]-	poly/perfluorinated POLYMERS	4	4
110-39-5		.alpha.-Fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]-poly(difluoromethylene), polymer with 2-hydroxy-N-substituted-3-[(2-methyl-1-oxo-2-propenyl)oxy]-1-propenammonium chloride	poly/perfluorinated POLYMERS		
110-37-3		.alpha.-Fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]-poly(difluoromethylene), polymer with 2-propenitrile, 2-methyl-2-propenoic acid 3,6,9,12,15,18,21,24,27-nonaoxaoctacos-1-yl ester and .alpha.-(2- ethyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-	poly/perfluorinated POLYMERS		
110-38-4		.alpha.-Fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]-poly(difluoromethylene), polymer with 2-propenoic acid octadecyl ester, 2-propenoic acid 2-hydroxyethyl ester and poly(oxyalkylene)-mono(2-methyl 2-propenoate)	Fluorinated (meth)acrylate polymers		
110-36-2		.alpha.-Fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]-poly(difluoromethylene), polymer with chloroethene, (Z)-2-butenedioic acid bis(2-ethylhexyl)ester and N-(substituted methyl)-2-propenamide	poly/perfluorinated POLYMERS		
114-97-4		¡-Fluoro-¶-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), polymer with 2-methyl-2-propenoic acid phenylmethyl ester, (Ù)-2-butenedioic acid bis(2-ethylhexyl) ester and 2-methyl-2-propenoic acid 2-(heteromonocycle)ethyl ester	poly/perfluorinated POLYMERS	1	99
115-04-2		¡-Fluoro-¶-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), polymer with 2-methyl-2-propenoic acid 1,1-dimethylethyl ester and 2-methyl-2-propenoic acid 2-(heteromonocycle)ethyl ester	poly/perfluorinated POLYMERS	1	99
114-98-5		¡-Fluoro-¶-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), polymer with 2-methyl-2-propenoic acid octadecyl ester and 2-methyl-2-propenoic acid 2-(heteromonocycle)ethyl ester	poly/perfluorinated POLYMERS	1	99
691358-66-4		1-(9H-Fluoren-2-yl)-2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro-1-heptanone O-[(nonafluorobutyl)sulfonyl]oxime	OTHER poly/perfluorinated ORGANICS	4	6
	430-250-1	1,1,1,3,3-pentafluorobutane	poly/perfluorinated ALKANES/ALKENES	2	2
	442-390-9	1,1,2,2,3,3-hexafluoro-1-trifluoromethoxy-3-trifluorovinyloxypropane	poly/perfluorinated ETHERS	1	3
28501-21-5		1,1,3-Trihydroperfluoropropyl acrylate-Styrene copolymer	Fluorinated (meth)acrylate polymers	3	3
105462-77-9		1,1'-Bicyclohexyl, 1,1',2,2,2',3,3,3',3',4,4,4',4',5,5',6,6,6',6'-eicosafluoro-5,5'-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	7	7
214334-16-4		1,2,3-Propanetricarboxylic acid, 2-hydroxy-, 1,2-bis(2-octyldodecyl) 3-(3,3,4,4,5,5,6,6,7,7,7-undecafluoroheptyl) ester ("Dioctyldodecyl Fluoroheptyl Citrate")	poly/perfluorinated ESTERS	5	5
125304-20-3		1,2,4,5-Benzenetetracarboxylic acid, 1,4-dimethyl ester, polymer with 1,5-dimethyl dihydrogen 1,2,4,5-benzenetetracarboxylate and 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[benzenamine]	poly/perfluorinated POLYMERS		
68954-01-8		1,2,4,5-Benzenetetracarboxylic acid, mixed 3-chloro-2-hydroxypropyl and .gamma.-.omega.-perfluoro-C8-10-alkyl esters	poly/perfluorinated ESTERS	8	10
119478-92-1		1,2-Benzenedicarboxylic acid, 4,4'-carbonylbis-, ar,ar'-dimethyl ester, polymer with 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[benzenamine]	poly/perfluorinated POLYMERS		
54009-74-4		1,2-Dodecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-nonadecafluoro-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	9	9
68515-70-8		1,2-Ethanediol, reaction products with .alpha.-fluoro-.omega.-(2-hydroxyethyl)poly(difluoromethylene), hexakis(methoxymethyl)melamine and polyethylene glycol	poly/perfluorinated POLYMERS		
94200-43-8		1,2-Heptadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,17-nonacosafluoro-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	14	14
94200-48-3		1,2-Heptadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,17-nonacosafluoro-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	14	14
63295-29-4		1,2-Heptadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,17,17,17-octacosafluoro-16-(trifluoromethyl)-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	15	15
94200-52-9		1,2-Heptadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,17,17,17-octacosafluoro-16-(trifluoromethyl)-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	15	15
94200-44-9		1,2-Nonadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,19-tritriacontafluoro-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	16	16
94200-49-4		1,2-Nonadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,19-tritriacontafluoro-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	16	16
94200-53-0		1,2-Nonadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,19,19,19-dotriacontafluoro-18-(trifluoromethyl)-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	17	17
105416-14-6		1,2-Nonanediol, 4,4,5,5,6,6,7,7,8,9,9,9-dodecafluoro-8-(trifluoromethyl)-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	6	6
94200-42-7		1,2-Pentadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafluoro-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	12	12
94200-47-2		1,2-Pentadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafluoro-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	12	12
63295-28-3		1,2-Pentadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-tetracosafluoro-14-(trifluoromethyl)-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	13	13
94200-51-8		1,2-Pentadecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-tetracosafluoro-14-(trifluoromethyl)-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	13	13
94158-70-0		1,2-Tridecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-heneicosafluoro-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	10	10
94200-46-1		1,2-Tridecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-heneicosafluoro-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	10	10
63295-27-2		1,2-Tridecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-eicosafluoro-12-(trifluoromethyl)-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	11	11
94200-50-7		1,2-Tridecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-eicosafluoro-12-(trifluoromethyl)-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	11	11
94159-84-9	303-265-3	1,2-Undecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-	poly/perfluorinated ALKOHOLS	8	8
94200-45-0		1,2-Undecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	8	8
170004-70-3		1,2-Undecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-, 1,1'-(hydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	8	8
67824-44-6		1,2-Undecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-hexadecafluoro-10-(trifluoromethyl)-	poly/perfluorinated ALKOHOLS	9	9
63295-18-1		1,2-Undecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-hexadecafluoro-10-(trifluoromethyl)-, 1-(dihydrogen phosphate), diammonium salt	poly/perfluorinated PHOSPHOORGANICS	9	9
63295-20-5		1,2-Undecanediol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-hexadecafluoro-10(trifluoromethyl)-, 1,1'-(hydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	9	9
94158-69-7		1,2-Undecanediol,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	8	8
54009-73-3		1,2-Undecanediol,4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-10-(trifluoromethyl)-, 1-(dihydrogen phosphate)	poly/perfluorinated PHOSPHOORGANICS	9	9
106796-59-2		1,3,5,2,4,6-Triazatriphosphorine, 2,2,4,4,6,6-hexahydrotris[(2,2,3,3,4,4,5,5-octafluoropentyl)oxy]tris(2,2,3,3,3-pentafluoropropoxy)-	poly/perfluorinated ETHERS	2	4
57101-59-4	260-560-9	1,3,5-Triazine, 2,4,6-tris(nonadecafluorononyl)-	poly/perfluorinated AMINES	9	9
21674-38-4	244-521-3	1,3,5-Triazine, 2,4,6-tris(pentadecafluoroheptyl)-	poly/perfluorinated AMINES	7	7
73019-20-2		1,3-Benzenedicarboxamide, N3-[2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl]-N1-[2-[[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl]-4-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
96210-37-6		1,3-Benzenedicarboxylic acid, 5-[(heptadecafluorononenyl)oxy]-	poly/perfluorinated ETHERS	8	8
90194-06-2	290-613-1	1,3-Benzenedimethanamine, reaction products with [(1,1,2,2-tetrafluoroethoxy)methyl]oxirane	poly/perfluorinated POLYMERS		
119275-54-6		1,3-Benzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 3,3'-[1,3-phenylenebis(oxy)]bis[benzenamine], 3-ethenylbenzenamine-terminated	poly/perfluorinated POLYMERS		
384-04-3		1,3-Butadiene, 1,1,2,4,4-pentafluoro-3-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	4	4
644965-83-3		1,3-Butanediol, polymer with 1,3-diisocyanatomethylbenzene and 2-ethyl-2-(hydroxy-methyl)-1,3-propanediol,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanol- and Me Et ketoneoxime-blocked	Fluorinated (meth)acrylate polymers	10	10
80879-54-5		1,3-Dioxolane, 2-(difluoromethylene)-4,4,5-trifluoro-5-(trifluoromethyl)-, polymer with 1,1-difluoroethene	poly/perfluorinated POLYMERS		
94159-88-3		1,3-Dioxolane, 4-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluorononyl)-2,2-dimethyl-	OTHER poly/perfluorinated ORGANICS	8	8

94159-90-7		1,3-Dioxolane, 4-[2,2,3,3,4,4,5,5,6,6,7,7,8,9,9,9-hexadecafluoro-8-(trifluoromethyl)nonyl]-2,2-dimethyl-	OTHER poly/perfluorinated ORGANICS	9	9
161611-79-6		1,3-Dioxole, 2,2,4-trifluoro-5-(trifluoromethoxy) polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
559-94-4		1,3-Hexanedione, 4,4,5,5,6,6,6-heptafluoro-1-(2-thienyl)-	OTHER poly/perfluorinated ORGANICS	3	3
68738-83-0		1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 1,3-benzenediamine and 1,4-benzenediamine	poly/perfluorinated POLYMERS		
69531-41-5		1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 1,4-benzenediamine and 4,4'-oxybis[benzenamine]	poly/perfluorinated POLYMERS		
87182-96-5		1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[benzenamine]	poly/perfluorinated POLYMERS		
32240-73-6		1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-oxybis[benzenamine]	poly/perfluorinated POLYMERS		
103443-55-6		1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-oxybis[benzenamine] and 4,4'-sulfonylbis[benzenamine]	poly/perfluorinated POLYMERS		
69577-65-7		1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[benzenamine]	poly/perfluorinated POLYMERS		
183733-69-9		1,3-Isobenzofurandione,5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-,polymer with α-[(3-aminopropyl)dimethylsilyl]-ω-[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 4,4'-diamino[1,1'-biphenyl]-3,3'-diol and 4,4'-[(1-methylethylidene...	poly/perfluorinated POLYMERS		
65530-78-1		1,3-Propanediamine, N,N-dimethyl-, compd. with .alpha.,.alpha.'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[.omega.-fluoropoly(difluoromethylene)] (1:1)	poly/perfluorinated POLYMERS		
65530-80-5		1,3-Propanediamine, N,N-dimethyl-, compd. with .alpha.-fluoro-.omega.-[2-(phosphonooxy)ethyl]poly(difluoromethylene) (1:1)	poly/perfluorinated POLYMERS		
65530-79-2		1,3-Propanediamine, N,N-dimethyl-, compd. with .alpha.-fluoro-.omega.-[2-(phosphonooxy)ethyl]poly(difluoromethylene) (2:1)	poly/perfluorinated POLYMERS		
144468-31-5		1,3-Propanediol, 2,2-bis(bromomethyl)-, reaction products with ethanethiol-tetrafluoroethylene telomer	poly/perfluorinated POLYMERS		
144468-32-6		1,3-Propanediol, 2,2-bis(bromomethyl)-, reaction products with ethanethiol-tetrafluoroethylene telomer, polymers with 1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane, 2-heptyl-3,4-bis(9-isocyanatononyl)-1-pentylcyclohexane and 2,2'-(methylimino)bis[ethan	poly/perfluorinated COOPOLYMERS		
1-74-5		1,3-Propanediol, 2,2-bis[(.gamma.-.omega.-perfluoro-C4-20-alkylthio)methyl-	poly/perfluorinated TIOLS	4	20
148240-88-4		1,3-Propanediol, 2,2-bis[[(.gamma.-.omega.-perfluoro-C10-20-alkyl)thio]methyl] derivs., phosphates	poly/perfluorinated PHOSPHOORGANICS	10	20
148240-84-0		1,3-Propanediol, 2,2-bis[[(.gamma.-.omega.-perfluoro-C4-10-alkyl)thio]methyl] derivs., phosphates	poly/perfluorinated PHOSPHOORGANICS	4	10
148240-86-2		1,3-Propanediol, 2,2-bis[[(.gamma.-.omega.-perfluoro-C6-12-alkyl)thio]methyl] derivs., phosphates	poly/perfluorinated PHOSPHOORGANICS	6	12
1078142-10-5		1,3-Propanediol, 2,2-bis[[(.gamma.-.omega.-perfluoro-C6-12-alkyl)thio]methyl] derivs., polymers with 2,2-bis[[(.gamma.-.omega.-perfluoro-C10-20-alkyl)thio]methyl]-1,3-propanediol, 1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane, 2-heptyl-3,4-bis(9-isocya	Fluorinated urethanes polymers	6	12
148240-89-5		1,3-Propanediol, 2,2-bis[[(gamma-omega-perfluoro-C10-20-alkyl)thio]methyl] derivs., phosphates, ammonium salts	poly/perfluorinated PHOSPHOORGANICS	10	20
148240-85-1		1,3-Propanediol, 2,2-bis[[(gamma-omega-perfluoro-C4-10-alkyl)thio]methyl], derivs., phosphates, ammonium salts	poly/perfluorinated PHOSPHOORGANICS	4	10
148240-87-3		1,3-Propanediol, 2,2-bis[[(gamma-omega-perfluoro-C6-12-alkyl)thio]methyl] derivs., phosphates, ammonium salts	poly/perfluorinated PHOSPHOORGANICS	6	12
86960-56-7		1,4(or 1,5)-Bis(3-chloro-2-hydroxypropyl) 2,5(or 2,4)-bis[2-[[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl] 1,2,4,5-benzenetetracarboxylate	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
68735-91-1		1,4-Benzenedicarboxylic acid, polymer with N,N-bis(2-hydroxyethyl)-4-[(nonadecafluorodecyl)oxy]benzenesulfonamide didehydro deriv., 1,2-ethanediol, .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatobenzene]	poly/perfluorinated POLYMERS	9	9
68515-62-8		1,4-Benzenedicarboxylic acid, reaction products with bis(2-hydroxyethyl) terephthalate, ethylene glycol, .alpha.-fluoro-.omega.-(2-hydroxyethyl)poly(difluoromethylene), hexakis(methoxymethyl)melamine and polyethylene glycol	poly/perfluorinated POLYMERS		
68988-25-0		1,4-Butanediol, 2,3-bis(.gamma.-.omega.-perfluoro-C4-18-alkyl) derivs., polymers with 1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane and polyethylene-polypropylene glycol bis(2-aminomethylethyl) ether	Fluorinated urethanes polymers	4	18
68187-24-6		1,4-Butanediol, 2,3-bis[(.gamma.-.omega.-perfluoro-C6-20-alkyl)thio] derivs.	poly/perfluorinated TIOLS	6	20
68037-23-0		1,4-Butanediol, 2,3-bis[(.gamma.-.omega.-perfluoro-C6-20-alkyl)thio]-, polymer with 1,6-diisocyanatotrimethylhexane and 2,2'-(methylimino)bis[ethanol]	Fluorinated urethanes polymers	6	22
71205-28-2		1,4-Butanediol, 2,3-bis[(.gamma.-.omega.-perfluoro-C6-20-alkyl)thio]-1,4-butanediol, C36-alkylene diisocyanate and 1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane	poly/perfluorinated TIOLS	6	20
399026-30-3		1,4-Butanediol, polymer with 1,6-diisocyanatohexane, 2-ethyl-1-hexanol-, and .alpha.-.omega.-perfluoro-C8-14-alc.-blocked	Fluorinated urethanes polymers	8	14
	415-580-4	1,4-dichloro-2-(1,1,2,3,3,3-hexafluoropropoxy)-5-nitrobenzene	OTHER poly/perfluorinated ORGANICS	3	3
	921-909-7	1,4-dichloro-2-(1,1,2,3,3,3-hexafluoropropoxy)benzene	poly/perfluorinated ETHERS	3	3
7309-84-4	230-766-3	1,4-Dioxan-2-one, 3,5,5,6-tetrafluoro-3,6-bis(trifluoromethyl)-	poly/perfluorinated ESTERS	1	3
84041-66-7	281-847-5	1,4-Dioxane, 2,2,3,5,6-pentafluoro-5-(pentafluoroethoxy)-3,6-bis(trifluoromethyl)-	poly/perfluorinated ESTERS	1	3
61097-79-8	262-603-7	1,4-Dioxane, 2,2,3,5,6-pentafluoro-5-[(trifluoroethenyl)oxy]-3,6-bis(trifluoromethyl)-	poly/perfluorinated ESTERS	1	5
61097-98-1	262-605-8	1,4-Dioxane, 2,2'-[1,2-difluoro-1,2-bis(trifluoromethyl)-1,2-ethanediyl]bis(oxy)]bis[2,3,5,5,6-pentafluoro-3,6-bis(trifluoromethyl)-	poly/perfluorinated ESTERS	1	3
94333-56-9	305-035-8	1,4-Dioxepane, 5-fluoro-5,7,7-tris(trifluoromethyl)-6-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-	poly/perfluorinated ESTERS	1	3
84100-12-9	282-094-5	1,4-Heptadiene, 5,6,6,7,7,7-hexafluoro-4-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	1	3
143356-32-5		1,6-Hexanediamine, 1,1,2,2,3,3,4,4,5,5,6,6-dodecafluoro-N,N,N',N'-tetrakis(heptafluoropropyl)-	poly/perfluorinated AMINES	6	6
678-65-9	211-650-1	1,7-Octadiene, 3,3,4,4,5,5,6,6-octafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
1800-91-5	217-288-0	1,9-Decadiene, 3,3,4,4,5,5,6,6,7,7,8,8-dodecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
	411-750-7	1-[4-chloro-3-((2,2,3,3,3-pentafluoropropoxy)methyl)phenyl]-5-phenyl-1H-1,2,4-triazole-3-carboxamide	OTHER poly/perfluorinated ORGANICS	2	2
84029-54-9		10,13,16,19-Tetraoxaoctacosadiene, tetratriacontafluoro-	poly/perfluorinated ETHERS	2	9
94159-85-0		1-Aziridineethanol, .alpha.-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluorononyl)-	OTHER poly/perfluorinated ORGANICS	8	8
		1-Bromo-3,3,4,4,4-pentafluorobutan-2-one	poly/perfluorinated IODIDES	2	2
	422-850-5	1-bromo-9-(4,4,5,5,5-pentafluoropentylthio)nonane	poly/perfluorinated TIOLS	2	2
311-89-7	206-223-1	1-Butanamine, 1,1,2,2,3,3,4,4,4-nonafluoro-N,N-bis(nonafluorobutyl)-	poly/perfluorinated AMINES	4	4
102061-82-5	422-100-7	1-Butanesulfinic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, sodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
30334-69-1		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
34454-99-4		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
484022-20-0		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, cmpd. with 2,2'-iminobis[ethanol] (1:1)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
484024-67-1		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
34454-97-2	252-043-1	1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
147545-41-3		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-N-methyl-, phosphate (ester)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
812-94-2		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(4-hydroxybutyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68298-07-7		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(phenylmethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
34455-00-0	252-044-7	1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N,N-bis(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
39847-39-7		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-[(nonafluorobutyl)sulfonyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
39847-37-5		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-[(trifluoromethyl)sulfonyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
176719-69-0		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-[(trifluoromethyl)sulfonyl]-, sodium salt.	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
40630-65-7		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-2-propenyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68298-12-4		1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4

93894-53-2		1-Butanesulfonamide, 1,1,2,2,3,3,4,4-octafluoro-N-(2-hydroxyethyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
93894-54-3		1-Butanesulfonamide, 1,1,2,2,3,3,4,4-octafluoro-N,N-bis(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
120945-47-3		1-Butanesulfonamide, N,N'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[1,1,2,2,3,3,4,4,4-nonafluoro-N-methyl-	poly/perfluorinated PHOSPHOORGANICS	4	4
67939-91-7		1-Butanesulfonamide, N,N'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[N-ethyl-1,1,2,2,3,3,4,4,4-nonafluoro-	poly/perfluorinated PHOSPHOORGANICS	4	4
68555-77-1		1-Butanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,4-nonafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68957-59-5		1-Butanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,4-nonafluoro-, monohydrochloride	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
178094-76-3		1-Butanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,4-nonafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
178094-73-0		1-Butanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,4-nonafluoro-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
34449-89-3		1-Butanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
375-73-5	206-793-1	1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
68259-10-9	269-513-7	1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, ammonium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
36913-91-4	253-270-9	1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, anhydride	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
70225-18-2		1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
209482-18-8		1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, ion(1-), 1-(4-butoxy-1-naphthalenyl)tetrahydrothiophenium	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
29420-49-3	249-616-3	1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
220689-12-3	444-440-5	1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, salt with phosphonium, tetrabutyl- (1:1) ; ("Phosphonium, tetrabutyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1)")	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
220133-51-7		1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, salt with sulfonium, dimethylphenyl- (1:1) ; ("Sulfonium, dimethylphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1)")	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
68734-62-3		1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, trimethylsilane- ("Trimethylsilyl nonafluoro-1-butanesulfonate")	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
70259-86-8		1-Butanesulfonic acid, 1,1,2,2,3,3,4,4-octafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
93894-55-4		1-Butanesulfonic acid, 1,1,2,2,3,3,4,4-octafluoro-, anhydride	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
70259-85-7		1-Butanesulfonic acid, 1,1,2,2,3,3,4,4-octafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
484023-69-0		1-Butanesulfonic acid, 4-(nonafluorobutoxy)-, ammonium salt	OTHER poly/perfluorinated ORGANICS	4	4
375-72-4	206-792-6	1-Butanesulfonyl fluoride, 1,1,2,2,3,3,4,4,4-nonafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	4	4
375-01-9	206-782-1	1-Butanol, 2,2,3,3,4,4,4-heptafluoro-	poly/perfluorinated ALKOHOLS	3	3
98728-78-0		1-Butanol, 4-(ethenyloxy)-, polymer with 1-chloro-1,2,2-trifluoroethene and ethoxyethene	poly/perfluorinated POLYMERS		
207691-69-8		1-Butanol, 4-(ethenyloxy)-, polymer with chlorotrifluoroethene and ethoxyethene, hydrogen butanedioate	poly/perfluorinated POLYMERS		
88795-12-4		1-Butanol, 4-(ethenyloxy)-, polymer with chlorotrifluoroethene, (ethenyloxy)cyclohexane and ethoxyethene	poly/perfluorinated POLYMERS		
25120-52-9		1-Butanol, 4-(ethenyloxy)-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
357-26-6		1-Butene, 1,1,2,3,3,4,4,4-octafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
101182-89-2		1-Butene, 1,1,2,3,3,4,4-heptafluoro-4-[(trifluoroethenyl)oxy]-, homopolymer	poly/perfluorinated POLYMERS	4	4
21581-82-8		1-Butene, 1,1,2,3,4,4,4-heptafluoro-3-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	5	5
33831-83-3	439-500-2	1-Butene, 3,3,4,4-tetrafluoro-4-iodo-	poly/perfluorinated IODIDES	4	4
18599-22-9	242-440-8	1-Butene, 4-bromo-3,3,4,4-tetrafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
74398-72-4		1-Butene, 4-bromo-3,3,4,4-tetrafluoro-, polymer with 1,1-difluoroethene, 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
65059-79-2		1-Butene, 4-bromo-3,3,4,4-tetrafluoro-, polymer with 1,1-difluoroethene, tetrafluoroethene and trifluoro(trifluoromethoxy)ethene	Polytetrafluoroethylene (PTFE)		
31841-41-5		1-Decanaminium, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-N,N-bis(2-hydroxyethyl)-N-methyl-, iodide	poly/perfluorinated AMMONIUM ORGANICS	8	8
251099-16-8		1-Decanaminium, N-decyl-N,N-dimethyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic acid (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
335-77-3		1-Decanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heneicosafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	10	10
67906-42-7	267-709-7	1-Decanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heneicosafluoro-, ammonium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	10	10
2806-16-8		1-Decanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heneicosafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	10	10
39108-34-4	254-295-8	1-Decanesulfonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
149724-40-3		1-Decanesulfonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-, ammonium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
27619-90-5	248-578-5	1-Decanesulfonyl chloride, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
307-51-7		1-Decanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heneicosafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	10	10
34143-74-3		1-Decanethiol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-	poly/perfluorinated TIOLS	8	8
78974-42-2		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	9	9
93857-49-9		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	9	9
78974-41-1		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	9	9
93776-24-0		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	9	9
94291-77-7		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)-, hydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	9	9
678-39-7	211-648-0	1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
57678-03-2		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	8	8
93857-44-4		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	8	8
678-41-1		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	8	8
93776-20-6		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	8	8
161981-38-0		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	8	8
57677-97-1		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-, hydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	8	8
149790-22-7		1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-, phosphate (3:1)	poly/perfluorinated PHOSPHOORGANICS	8	8
35328-43-9		1-Decene, 1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-eicosafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	10	10
21652-58-4	244-503-5	1-Decene, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
94158-60-8		1-Dodecanaminium, N,N,N-trimethyl-, salt with 2,2,3,3-tetrafluoropropanoic acid (1:1)	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	4	4
79780-39-5		1-Dodecanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-pentacosafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	12	12
85187-17-3		1-Dodecanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-pentacosafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	12	12
27619-91-6	248-579-0	1-Dodecanesulfonyl chloride, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	10	10
865-86-1	212-748-7	1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	10	10
57678-05-4		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	10	10

1895-26-7		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	10	10
93776-21-7		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	10	10
57677-98-2		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-, hydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	10	10
106554-16-9		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-, phosphate (3:1)	poly/perfluorinated PHOSPHOORGANICS	10	10
94200-56-3		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluoromethyl)-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	11	11
93857-50-2		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluoromethyl)-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	11	11
93857-55-7		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluoromethyl)-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	11	11
93776-25-1		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluoromethyl)-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	11	11
94291-78-8		1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluoromethyl)-, hydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	11	11
93857-45-5		1-Dodecanol, 3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-, 1-(dihydrogen phosphate), ammonium salt	poly/perfluorinated PHOSPHOORGANICS	10	10
30389-25-4		1-Dodecene, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-	poly/perfluorinated ALKANES/ALKENES	10	10
65104-65-6		1-Eicosanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20,20-heptatriacontafluoro-	poly/perfluorinated ALKOHOLS	18	18
		1-Ethanesulfonic acid, 1,1,2,2,2-heptafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	3	3
84789-95-7		1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)bis[benzenamine]	poly/perfluorinated POLYMERS		
68555-66-8		1-Heptanesulfinic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, sodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	7	7
68555-76-0		1-Heptanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(2-hydroxyethyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68298-89-5		1-Heptanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(4-hydroxybutyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68298-10-2		1-Heptanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(phenylmethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67584-49-0		1-Heptanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-2-propenyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68259-14-3		1-Heptanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67939-94-0		1-Heptanesulfonamide, N,N',N''-[phosphinylidynetris(oxy-2,1-ethanediyl)]tris[N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-	poly/perfluorinated PHOSPHOORGANICS	7	7
67939-93-9		1-Heptanesulfonamide, N,N'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-	poly/perfluorinated PHOSPHOORGANICS	7	7
67939-97-3		1-Heptanesulfonamide, N,N'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	7	7
67584-54-7		1-Heptanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67940-02-7		1-Heptanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, monohydrochloride	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
178094-74-1		1-Heptanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
178094-70-7		1-Heptanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68310-02-1		1-Heptanesulfonamide, N-butyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67939-98-4		1-Heptanesulfonamide, N-ethyl-1,1,2,2, 3, 3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-[2-(phosphonooxy)ethyl]-, diammonium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68957-62-0		1-Heptanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68555-73-7		1-Heptanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67923-61-9		1-Heptanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-[2-(phosphonooxy)ethyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67584-50-3		1-Heptanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-[3-(trichlorosilyl)propyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67906-41-6		1-Heptanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-2-propenyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
375-92-8		1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	7	7
68259-07-4	269-510-0	1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, ammonium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	7	7
70225-15-9		1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	7	7
117806-54-9		1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, lithium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	7	7
60270-55-5	262-135-3	1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	7	7
65702-23-0		1-Heptanesulfonyl chloride, 3,3,4,4,5,5,6,6,7,7,7-undecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	5	5
335-71-7		1-Heptanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	7	7
7098-02-4		1-Heptanol, 1,1,2,2,3,3,4,4,5,5,6,6,7,7-tetradecafluoro-	poly/perfluorinated ALKOHOLS	7	7
375-82-6	206-796-8	1-Heptanol, 2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro-	poly/perfluorinated ALKOHOLS	7	7
335-99-9	206-406-6	1-Heptanol, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro-	poly/perfluorinated ALKOHOLS	6	6
691358-66-4		1-Heptanone, 1-(9H-fluoren-2-yl)-2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro-,O-[(nonafluorobutyl)sulfonyl]oxime	OTHER poly/perfluorinated ORGANICS	4	6
355-63-5		1-Heptene, 1,1,2,3,3,4,4,5,5,6,6,7,7,7-tetradecafluoro-	poly/perfluorinated ALKANES/ALKENES	7	7
84100-13-0		1-Heptene, 3,3,4,4,5,5,6,6,7,7,7-undecafluoro-	poly/perfluorinated ALKANES/ALKENES	5	5
306976-25-0		1-Hexadecanaminium, N,N-dimethyl-N-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl], bromide, polymers with Bu acrylate, Bu methacrylate and 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl acrylate	Fluorinated (meth)acrylate polymers	4	8
393098-44-7		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15, 16,16,16-nonacosafluoro-, phosphate (3:1)	poly/perfluorinated PHOSPHOORGANICS	14	14
60699-51-6		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluoro-	poly/perfluorinated ALKOHOLS	14	14
94200-54-1		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluoro-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	14	14
93857-47-7		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluoro-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	14	14
93857-53-5		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluoro-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	14	14
93777-13-0		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluoro-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	14	14
94291-75-5		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluoro-, hydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	14	14
93857-42-2		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,16,16,16-octacosafluoro-15-(trifluoromethyl)-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	15	15
93857-52-4		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,16,16,16-octacosafluoro-15-(trifluoromethyl)-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	15	15
93776-29-5		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,16,16,16-octacosafluoro-15-(trifluoromethyl)-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	15	15
93776-27-3		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,16,16,16-octacosafluoro-15-(trifluoromethyl)-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	15	15
93776-30-8		1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,16,16,16-octacosafluoro-15-(trifluoromethyl)-, hydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	15	15
432-08-6		1-Hexanamine, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N,N-bis(tridecafluorohexyl)-	poly/perfluorinated AMINES	6	6
89987-98-4		1-Hexanesulfenyl chloride, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
68555-75-9		1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
85665-64-1		1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-N-propyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68239-74-7		1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(4-hydroxybutyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68298-09-9		1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(phenylmethyl)-	poly/perfluorinated SULFONAMIDES	6	6

67584-48-9		1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-2-propenyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68259-15-4		1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
67939-92-8		1-Hexanesulfonamide, N,N'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	poly/perfluorinated PHOSPHOORGANICS	6	6
50598-28-2		1-Hexanesulfonamide, N-[3-(dimethylamino)-propyl]-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
73772-33-5		1-Hexanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, monoacetate	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68957-61-9		1-Hexanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, monohydrochloride	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
73772-34-6		1-Hexanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-[2-[2-(2-hydroxyethoxy)ethoxy]ethyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
30295-56-8		1-Hexanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
178094-71-8		1-Hexanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
34455-03-3		1-Hexanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
67969-65-7		1-Hexanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-[2-(phosphonooxy)ethyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68239-75-8		1-Hexanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-[3-(trimethoxysilyl)propyl]-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	7	7
355-46-4		1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
68259-08-5	269-511-6	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, ammonium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
70225-16-0		1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
55120-77-9		1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
3871-99-6	223-393-2	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
82382-12-5		1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, sodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
55591-23-6		1-Hexanesulfonyl chloride, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
27619-88-1		1-Hexanesulfonyl chloride, 3,3,4,4,5,5,6,6,6-nonafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	4	4
423-50-7	207-026-3	1-Hexanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
423-46-1		1-Hexanol, 2,2,3,3,4,4,5,5,6,6,6-undecafluoro-("1H,1H-Perfluorohexan-1-ol")	poly/perfluorinated ALKOHOLS	5	5
2043-47-2	218-050-9	1-Hexanol, 3,3,4,4,5,5,6,6,6-nonafluoro-	poly/perfluorinated ALKOHOLS	4	4
34839-44-6		1-Hexanol, 3,3,4,4,5,5,6,6,6-nonafluoro-, nitrate	poly/perfluorinated ALKOHOLS	6	6
755-25-9	212-047-6	1-Hexene, 1,1,2,3,3,4,4,5,5,6,6,6-dodecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
19430-93-4	243-053-7	1-Hexene, 3,3,4,4,5,5,6,6,6-nonafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
68258-85-5		1-Hexene, 3,3,4,4,5,5,6,6,6-nonafluoro-, polymer with ethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)	2	4
32477-35-3	251-063-8	1H-Imidazole, 1-(2,2,3,3,4,4,4-heptafluoro-1-oxobutyl)-	OTHER poly/perfluorinated ORGANICS	3	3
68259-12-1		1-Nonanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-nonadecafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	9	9
17202-41-4		1-Nonanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-nonadecafluoro-, ammonium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	9	9
29359-39-5		1-Nonanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-nonadecafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	9	9
98789-57-2		1-Nonanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-nonadecafluoro-, sodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	9	9
27607-61-0		1-Nonanesulfonyl chloride, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-pentadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	7	7
68259-06-3		1-Nonanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-nonadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	9	9
423-56-3		1-Nonanol, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro- Shanghai Sunway Pharmaceutical Technology Co.,Ltd.	poly/perfluorinated ALKOHOLS	8	8
376-18-1	206-806-0	1-Nonanol, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluoro-	poly/perfluorinated ALKOHOLS	8	8
37013-72-2		1-Nonanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-pentadecafluoro-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	7	7
63439-39-4		1-Nonanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-pentadecafluoro-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	7	7
376-22-7		1-Nonene, 1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-octadecafluoro-	poly/perfluorinated ALKANES/ALKENES	9	9
25431-45-2		1-Nonene, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-pentadecafluoro-	poly/perfluorinated ALKANES/ALKENES	7	7
220207-10-3		1-Octadecanamine, reaction products with Et esters of reduced polymd. oxidized tetrafluoroethylene	poly/perfluorinated POLYMERS		
65104-67-8	265-439-4	1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluoro-	poly/perfluorinated ALKOHOLS	16	16
94200-55-2		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluoro-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	16	16
93857-48-8		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluoro-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	6	6
93857-54-6		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluoro-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	16	16
93776-23-9		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluoro-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	16	16
94291-76-6		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluoro-, hydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	16	16
94231-59-1		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,18,18,18-dotriacontafluoro-17-(trifluoromethyl)-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	17	17
93857-43-3		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,18,18,18-dotriacontafluoro-17-(trifluoromethyl)-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	17	17
93776-19-3		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,18,18,18-dotriacontafluoro-17-(trifluoromethyl)-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	17	17
93776-28-4		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,18,18,18-dotriacontafluoro-17-(trifluoromethyl)-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	17	17
93776-31-9		1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,18,18,18-dotriacontafluoro-17-(trifluoromethyl)-, hydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	17	17
307-29-9		1-Octanamine, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-	poly/perfluorinated AMINES	7	7
68555-67-9		1-Octanesulfinic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, sodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
754-91-6	212-046-0	1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	poly/perfluorinated SULFONAMIDES	8	8
76752-82-4	278-541-9	1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, compd. with N,N-diethylethanamine (1:1)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
24448-09-7		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-N-methyl- (N-MeFOSE)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
4236-15-1		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-N-propyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
68239-73-6		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(4-hydroxybutyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
50598-29-3		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(phenylmethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
40630-61-3		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N,N-bis(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
64264-44-4		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-[2-(phosphonooxy)ethyl]-N-propyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
423-86-9		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-2-propenyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
31506-32-8		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
348144-85-4		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-methyl-N-[(3-octadecyl-2-oxo-4-oxazolidinyl)methyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
138704-55-9		1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-methyl-N-[(3-octadecyl-2-oxo-5-oxazolidinyl)methyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8

51619-73-9		1-Octanesulfonamide, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-N-(2-hydroxyethyl)-N-methyl-	poly/perfluorinated SULFONAMIDES	6	6
30381-98-7		1-Octanesulfonamide, N,N'-(phosphinicobis(oxy-2,1-ethanediyl))bis(N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, ammonium salt (1:1)	poly/perfluorinated PHOSPHOORGANICS	8	8
2250-98-8		1-Octanesulfonamide, N,N',N''-[phosphinylidynetris(oxy-2,1-ethanediyl)]tris[N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	poly/perfluorinated PHOSPHOORGANICS	8	8
2965-52-8		1-Octanesulfonamide, N,N'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	poly/perfluorinated PHOSPHOORGANICS	8	8
13417-01-1		1-Octanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-fluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
67939-88-2		1-Octanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, monohydrochloride	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
34455-22-6	608-993-8	1-Octanesulfonamide, N-[3-(dimethylamino)propyl]-3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-	poly/perfluorinated SULFONAMIDES	6	6
80475-32-7	279-481-6	1-Octanesulfonamide, N-[3-(dimethylamino)propyl]-3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-, N-oxide	poly/perfluorinated SULFONAMIDES	6	6
30295-51-3		1-Octanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
178094-69-4		1-Octanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
24924-36-5		1-Octanesulfonamide, N-allyl-N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
2263-09-4		1-Octanesulfonamide, N-butyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
68649-26-3		1-Octanesulfonamide, N-ethyl-1,1,2,2, 3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-, reaction products with N-ethyl-1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-1-butanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	8
67969-69-1		1-Octanesulfonamide, N-ethyl-1,1,2,2, 3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-[2-(phosphonooxy)ethyl]-, diammonium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
4151-50-2	223-980-3	1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
1691-99-2		1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
1-53-2		1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-, polymer with acrylic acid, azodiosobutyronitrile, isobutyl methacrylate, TDI, triethylamine and trimethylolpropane	Fluorinated (meth)acrylate polymers	8	8
3820-83-5		1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-[2-(phosphonooxy)ethyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
67939-42-8		1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-[3-(trichlorosilyl)propyl]-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
61660-12-6		1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-[3-(trimethoxysilyl)propyl]-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
1763-23-1	217-179-8	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
56773-42-3	260-375-3	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro- salt with ethanaminium, N,N,N-triethyl- (1:1) ; ("Ethanaminium, N,N,N-triethyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic acid (1:1)")	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
29081-56-9	249-415-0	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, ammonium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
90480-49-2		1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, branched, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
70225-14-8	274-460-8	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
71463-74-6		1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, compd. with piperidine (1:1)	poly/perfluorinated SULFONAMIDES	8	8
29457-72-5	249-644-6	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, lithium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
91036-71-4		1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, magnesium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
64202-77-3		1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, monoamide with N,N'-bis(2-aminoethyl)-1,2-ethanediamine	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
2795-39-3	220-527-1	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
71500-44-2		1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,8,8,8-hexadecafluoro-7(trifluoromethyl)-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	9	9
40365-28-4		1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,8,8,8-hexadecafluoro-7(trifluoromethyl)-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	9	9
27619-97-2	248-580-6	1-Octanesulfonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-	poly/perfluorinated SULFONAMIDES	6	6
		1-Octanesulfonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro- ("1H,1H,2H,2H-perfluorooctanesulfonic acid")	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
59587-39-2		1-Octanesulfonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-, ammonium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
59587-38-1	261-818-3	1-Octanesulfonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
27619-89-2	248-576-4	1-Octanesulfonyl chloride, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
307-35-7	206-200-6	1-Octanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
90480-50-5		1-Octanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, branched	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
34451-26-8		1-Octanethiol, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-	poly/perfluorinated TIOLS	6	6
3-03-2		1-Octanol, 1H,1H,2H,2H- perfluoro-, reaction product with phosphorus pentoxide, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	6	6
307-30-2	206-197-1	1-Octanol, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-	poly/perfluorinated ALKOHOLS	7	7
647-42-7	211-477-1	1-Octanol, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-	poly/perfluorinated ALKOHOLS	6	6
57678-02-1		1-Octanol, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-, dihydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	6	6
57678-01-0		1-Octanol, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-, dihydrogenphosphate	poly/perfluorinated PHOSPHOORGANICS	6	6
1224952-82-2		1-Octanol, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-, reaction products with phosphorus oxide (P2O5), potassium salts	poly/perfluorinated PHOSPHOORGANICS	6	6
1427-89-0		1-Octanone, 2,2,3,3,4,4,5,5,6,6,7,7,8,8-tetradecafluoro-1-phenyl-	OTHER poly/perfluorinated ORGANICS	7	7
559-14-8		1-Octene, 1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,8-hexadecafluoro-	OTHER poly/perfluorinated ORGANICS	8	8
25291-17-2	246-791-8	1-Octene, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
93776-16-0		1-Pentadecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafluoro-2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-, iodide	poly/perfluorinated AMMONIUM ORGANICS	12	12
94159-76-9		1-Pentadecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-tetracosafluoro-2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-14-(trifluoromethyl)-, iodide	poly/perfluorinated AMMONIUM ORGANICS	13	13
338-84-1	206-421-8	1-Pentanamine, 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-N,N-bis(undecafluoropentyl)-	poly/perfluorinated AMINES	5	5
68555-74-8		1-Pentanesulfonamide, 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-N-(2-hydroxyethyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
68239-72-5		1-Pentanesulfonamide, 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-N-(4-hydroxybutyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
68298-08-8		1-Pentanesulfonamide, 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-N-(phenylmethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
68298-13-5		1-Pentanesulfonamide, 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
68555-78-2		1-Pentanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,5,5,5-undecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
68957-60-8		1-Pentanesulfonamide, N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,5,5,5-undecafluoro-, monohydrochloride	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
178094-75-2		1-Pentanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,5,5,5-undecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
178094-72-9		1-Pentanesulfonamide, N-[3-(dimethyloxidoamino)propyl]-1,1,2,2,3,3,4,4,5,5,5-undecafluoro-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
335-97-7		1-Pentanesulfonamide, N-allyl-1,1,2,2,3,3,4,4,5,5,5-undecafluoro-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
68555-72-6		1-Pentanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,5-undecafluoro-N-(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
67939-90-6		1-Pentanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,5-undecafluoro-N-[2-(phosphonooxy)ethyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
3872-25-1	223-394-8	1-Pentanesulfonic acid, 1,1,2,2,3,3,4,4,5, 5,5-undecafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	5	5
2706-91-4		1-Pentanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	5	5

68259-09-6	269-512-1	1-Pentanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-, ammonium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	5	5
70225-17-1		1-Pentanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	5	5
375-81-5		1-Pentanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,5-undecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	5	5
355-80-6	206-593-4	1-Pentanol, 2,2,3,3,4,4,5,5-octafluoro-	poly/perfluorinated ALKOHOLS	5	5
355-86-2	206-595-5	1-Pentanol, 2,2,3,3,4,4,5,5-octafluoro-, phosphate (3:1)	poly/perfluorinated PHOSPHOORGANICS	5	5
376-87-4		1-Pentene, 1,1,2,3,3,4,4,5,5,5-decafluoro-	poly/perfluorinated ALKANES/ALKENES	5	5
1547-26-8		1-Pentene, 2,3,3,4,4,5,5-heptafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
15453-08-4		1-Pentene, 4,5-epoxy-1,1,2,3,3,4,5,5-octafluoro-	OTHER poly/perfluorinated ORGANICS	5	5
338-83-0	206-420-2	1-Propanamine, 1,1,2,2,3,3,3-heptafluoro-N,N-bis(1,1,2,2,3,3,3-heptafluoropropyl)-	poly/perfluorinated AMMONIUM ORGANICS	3	3
223557-70-8		1-Propanamine, 3-(triethoxysilyl)-, reaction products with Et esters of reduced polymd. oxidized poly(tetrafluoroethylene)	poly/perfluorinated POLYMERS		
75033-26-0		1-Propanaminium, 2-[[(heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, iodide	poly/perfluorinated SULFONAMIDES	8	8
70983-60-7	275-091-5	1-Propanaminium, 2-hydroxy-N,N,N-trimethyl-, 3-[(.gamma.-.omega.-perfluoro-C6-20-alkyl)thio] derivs., chlorides	poly/perfluorinated SULFONAMIDES	6	20
65605-62-1		1-Propanaminium, 2-hydroxy-N,N,N-trimethyl-3-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride, polymer with .alpha.-fluoro-.omega.-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate, N-(hydroxymethyl)-2-prope	poly/perfluorinated POLYMERS		
68318-36-5		1-Propanaminium, 3-[(carboxymethyl)(heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, hydroxide, inner salt	poly/perfluorinated SULFONAMIDES	8	8
38850-52-1		1-Propanaminium, 3-[(carboxymethyl)((tridecafluorohexyl)sulfonyl]amino]-N,N,N-trimethyl-, hydroxide, inner salt	poly/perfluorinated SULFONAMIDES	6	6
438237-77-5		1-Propanaminium, 3-[[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)sulfonyl]amino]-N,N,N-trimethyl-, salt with 4-methylbenzenesulfonic acid (1:1)	poly/perfluorinated SULFONAMIDES	8	8
94133-91-2		1-Propanaminium, 3-[[(heptadecafluorooctyl)sulfonyl](2-hydroxy-3-sulfopropyl)amino]-N-(2-hydroxyethyl)-N,N-dimethyl-, hydroxide, monosodium salt	poly/perfluorinated SULFONAMIDES	8	8
68298-11-3		1-Propanaminium, 3-[[(heptadecafluorooctyl)sulfonyl](3-sulfopropyl)amino]-N-(2-hydroxyethyl)-N,N-dimethyl-, inner salt	poly/perfluorinated SULFONAMIDES	8	8
73149-44-7		1-Propanaminium, 3-[[(heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, bromide	poly/perfluorinated SULFONAMIDES	8	8
38006-74-5		1-Propanaminium, 3-[[(heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, chloride	poly/perfluorinated SULFONAMIDES	8	8
85665-67-4		1-Propanaminium, 3-[[(heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, hydroxide	poly/perfluorinated SULFONAMIDES	8	8
1652-63-7	216-716-3	1-Propanaminium, 3-[[(heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, iodide	poly/perfluorinated SULFONAMIDES	8	8
68310-75-8		1-Propanaminium, 3-[[(heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, iodide, ammonium salt	poly/perfluorinated SULFONAMIDES	8	8
70225-26-2		1-Propanaminium, 3-[[(heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, sulfate (2:1)	poly/perfluorinated SULFONAMIDES	8	8
59493-70-8		1-Propanaminium, 3-[[[4-[(heptadecafluorononenyl)oxy]phenyl]sulfonyl]amino]-N,N,N-trimethyl-, iodide	poly/perfluorinated SULFONAMIDES	8	8
59493-72-0	407-400-8	1-Propanaminium, 3-[[4-[(heptadecafluorononenyl)oxy]benzoyl]amino-N,N,N-trimethyl, iodide]	poly/perfluorinated AMINES	9	9
1078715-61-3		1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-[2-[(.gamma.-.omega.-perfluoro-C4-20-alkyl)thio]acetyl] derivs., inner salts	poly/perfluorinated TIOLS	4	20
119131-05-4		1-Propanaminium, N-(2-carboxyethyl)-3-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-1-oxononyl)amino]-N,N-dimethyl-, inner salt	poly/perfluorinated AMINES	8	8
93776-14-8		1-Propanaminium, N-(2-carboxyethyl)-3-[(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-2-hydroxyundecyl)amino]-N,N-dimethyl-, hydroxide, inner salt	poly/perfluorinated AMINES	8	8
93776-13-7		1-Propanaminium, N-(2-carboxyethyl)-3-[(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-heneicosafluoro-2-hydroxytridecyl)amino]-N,N-dimethyl-, hydroxide, inner salt	poly/perfluorinated AMINES	10	10
93777-12-9		1-Propanaminium, N-(2-carboxyethyl)-3-[[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-eicosafluoro-2-hydroxy-12-(trifluoromethyl)tridecyl]amino]-N,N-dimethyl-, hydroxide, inner salt	poly/perfluorinated AMINES	11	11
73353-25-0		1-Propanaminium, N-(2-carboxyethyl)-3-[[4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-2-hydroxy-10-(trifluoromethyl)undecyl]amino]-N,N-dimethyl-, hydroxide, inner salt	poly/perfluorinated AMINES	9	9
39186-68-0		1-Propanaminium, N-(2-carboxyethyl)-N,N-bis(2-hydroxyethyl)-3-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1-oxooctyl)amino]-, hydroxide, inner salt	poly/perfluorinated AMINES	7	7
5158-52-1		1-Propanaminium, N-(2-carboxyethyl)-N,N-dimethyl-3-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1-oxooctyl)amino]-, innersalt	poly/perfluorinated AMINES	7	7
113933-98-5		1-Propanaminium, N-(2-carboxyethyl)-N,N-dimethyl-3-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro-1-oxodecyl)amino]-, inner salt	poly/perfluorinated AMINES	9	9
93776-12-6		1-Propanaminium, N-(2-carboxyethyl)-N,N-dimethyl-3-[(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafluoro-2-hydroxypentadecyl)amino]-, hydroxide, inner salt	poly/perfluorinated AMINES	12	12
61798-69-4		1-Propanaminium, N-(2-carboxyethyl)-N,N-dimethyl-3-[[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)C]-, hydroxide, inner salt	poly/perfluorinated SULFONAMIDES	6	6
93776-15-9		1-Propanaminium, N-(2-carboxyethyl)-N,N-dimethyl-3-[(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafluoro-2-hydroxy-14-(trifluoromethyl)pentadecyl]amino)-, hydroxide, inner salt	poly/perfluorinated ALKOHOLS	13	13
66008-72-8		1-Propanaminium, N-(2-carboxyethyl)-N,N-dimethyl-3-[methyl[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)sulfonyl]amino]-, hydroxide, inner salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
81190-38-7		1-Propanaminium, N-(2-hydroxyethyl)-3-[(2-hydroxy-3-sulfopropyl) [(tridecafluorohexyl)sulfonyl]amino]-N,N-dimethyl-, hydroxide, monosodium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
38850-58-7		1-Propanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-3-[(3-sulfopropyl) [(tridecafluorohexyl)sulfonyl]amino]-, inner salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
77958-18-0		1-Propanaminium, N-(carboxymethyl)-3-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-1-oxononyl)amino]-N,N-dimethyl-, inner salt	poly/perfluorinated AMINES	8	8
34455-21-5		1-Propanaminium, N-(carboxymethyl)-3-[[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)sulfonyl]amino]-N,N-dimethyl-, inner salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
34455-35-1		1-Propanaminium, N-(carboxymethyl)-3-[[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl)sulfonyl]amino]-N,N-dimethyl-, inner salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	10	10
75046-16-1		1-Propanaminium, N-(carboxymethyl)-3-[[(heptadecafluorooctyl)sulfonyl]amino]-N,N-dimethyl-, inner salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
130114-31-7		1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[(2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro-1-oxoheptyl)amino]-, inner salt	poly/perfluorinated AMINES	6	6
90179-39-8		1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1-oxooctyl)amino]-, inner salt	poly/perfluorinated AMMONIUM ORGANICS	7	7
70674-74-7		1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro-1-oxodecyl)amino]-, inner salt	poly/perfluorinated AMINES	9	9
34455-29-3	252-046-8	1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[[(3,3,4,4,5,5,6,6,7,7,8,8,+C339458-tridecafluorooctyl)sulfonyl]amino]-, inner salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
66008-71-7		1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[methyl[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)sulfonyl]amino]-, hydroxide, inner salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
109669-84-3		1-Propanaminium, N-(carboxymethyl)-N-[3-[[(heptadecafluorooctyl)sulfonyl]amino]propyl]-2-hydroxy-N-(2-hydroxy-3-sulfopropyl)-3-sulfo-, chloride, trisodium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
93951-33-8		1-Propanaminium, N,N,N-trimethyl-2(or 3)-[[[4-[[4,4,5,5,5-pentafluoro-3-(pentafluoroethyl)-1,2,3-tris(trifluoromethyl)-1-pentenyl]oxy]phenyl]sulfonyl]amino]-, methyl sulfate	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	1	6
53517-98-9		1-Propanaminium, N,N,N-trimethyl-3-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1-oxooctyl)amino]-, chloride	poly/perfluorinated CARBOXYLIC ACIDS	7	7
94088-80-9		1-Propanaminium, N,N,N-trimethyl-3-[[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)sulfonyl]amino]-, iodide	poly/perfluorinated SULFONAMIDES	6	6
69091-20-9		1-Propanaminium, N,N,N-trimethyl-3-[[(nonadecafluorononyl)sulfonyl]amino]-, iodide	poly/perfluorinated IODIDES	9	9
53518-00-6		1-Propanaminium, N,N,N-trimethyl-3-[[(nonafluorobutyl)sulfonyl]amino]-, chloride	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
67939-95-1		1-Propanaminium, N,N,N-trimethyl-3-[[(nonafluorobutyl)sulfonyl]amino]-, iodide	poly/perfluorinated AMMONIUM ORGANICS	4	4
70225-22-8		1-Propanaminium, N,N,N-trimethyl-3-[[(nonafluorobutyl)sulfonyl]amino]-, sulfate (2:1)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68555-81-7		1-Propanaminium, N,N,N-trimethyl-3-[[(pentadecafluoroheptyl)sulfonyl]amino]-, chloride	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67584-58-1		1-Propanaminium, N,N,N-trimethyl-3-[[(pentadecafluoroheptyl)sulfonyl]amino]-, iodide	poly/perfluorinated AMMONIUM ORGANICS	7	7
70225-20-6		1-Propanaminium, N,N,N-trimethyl-3-[[(pentadecafluoroheptyl)sulfonyl]amino]-, sulfate (2:1)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
52166-82-2		1-Propanaminium, N,N,N-trimethyl-3-[[(tridecafluorohexyl)sulfonyl]amino]-, chloride	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68957-58-4		1-Propanaminium, N,N,N-trimethyl-3-[[(tridecafluorohexyl)sulfonyl]amino]-, iodide	poly/perfluorinated AMMONIUM ORGANICS	6	6
70248-52-1		1-Propanaminium, N,N,N-trimethyl-3-[[(tridecafluorohexyl)sulfonyl]amino]-, sulfate (2:1)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68957-55-1		1-Propanaminium, N,N,N-trimethyl-3-[[(undecafluoropentyl)sulfonyl]amino]-, chloride	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5

68957-57-3		1-Propanaminium, N,N,N-trimethyl-3-[[(undecafluoropentyl)sulfonyl]amino]-, iodide	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
70225-24-0		1-Propanaminium, N,N,N-trimethyl-3-[[(undecafluoropentyl)sulfonyl]amino]-, sulfate (2:1)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
93894-72-5		1-Propanaminium, N,N-diethyl-3-[[(heptadecafluoroisooctyl)sulfonyl]amino]-N-methyl-, iodide	poly/perfluorinated IODIDES	8	8
93803-06-6		1-Propanaminium, N,N-diethyl-3-[[(heptadecafluorooctyl)sulfonyl]amino]-N-methyl-, iodide	poly/perfluorinated IODIDES	8	8
93762-11-9		1-Propanesulfonamide, 1,1,2,3,3,3-hexafluoro-N-(2-hydroxyethyl)-N-methyl-2-(trifluoromethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
93762-12-0		1-Propanesulfonamide, 1,1,2,3,3,3-hexafluoro-N,N-bis(2-hydroxyethyl)-2-(trifluoromethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
		1-Propanesulfonic acid, 1,1,2,2,3,3,3-heptafluoro-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	2	2
93762-09-5		1-Propanesulfonic acid, 1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
93894-52-1		1-Propanesulfonic acid, 1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)-, anhydride	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
93762-10-8		1-Propanesulfonic acid, 1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
484023-82-7		1-Propanesulfonic acid, 2-hydroxy-3-[(2-hydroxyethyl)[(nonafluorobutyl)sulfonyl]amino]-, monoammonium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
484023-83-8		1-Propanesulfonic acid, 2-hydroxy-3-[ethyl[(nonafluorobutyl)sulfonyl]amino]-, monoammonium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68187-47-3	269-100-1	1-Propanesulfonic acid, 2-methyl-, 2-[[1-oxo-3-[(.gamma.-.omega.-perfluoro-C4-16-alkyl)thio]propyl]amino]derivs., sodium salts	poly/perfluorinated TIOLS	4	16
72785-08-1		1-Propanesulfonic acid, 3-[[3-(dimethylamino)propyl][(heptadecafluorooctyl)sulfonyl]amino]-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
94133-90-1		1-Propanesulfonic acid, 3-[[3-(dimethylamino)propyl][(heptadecafluorooctyl)sulfonyl]amino]-2-hydroxy-, monosodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
38850-60-1		1-Propanesulfonic acid, 3-[[3-(dimethylamino)propyl][(tridecafluorohexyl)sulfonyl]amino]-	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
73772-32-4		1-Propanesulfonic acid, 3-[[3-(dimethylamino)propyl][(tridecafluorohexyl)sulfonyl]amino]-2-hydroxy-, monosodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
85665-65-2		1-Propanesulfonic acid, 3-[[3-[(heptadecafluorooctyl)sulfonyl]amino]propyl]methylamino]-, monosodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
89685-61-0		1-Propanesulfonic acid, 3-[ethyl(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1oxooctyl)amino]-, sodium salt	OTHER poly/perfluorinated ORGANICS	7	7
75032-81-4		1-Propanesulfonic acid, 3-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]-, sodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
192575-94-3		1-Propanol, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[(1,1,2-trifluoro-2-propen-1-yl)oxy]propoxy]-, polymer with 1,1,1,2,2,3,3-heptafluoro-3-[(1,2,2-trifluoroethenyl)oxy]propane and 1,1,2,2-tetrafluoroethene	Polytetrafluoroethylene (PTFE)	2	3
70983-61-8		1-Propanol, 2,3-bis[(.gamma.-.omega.-perfluoro-C6-20-alkyl)thio] derivs.	poly/perfluorinated TIOLS	6	20
25212-05-9		1-Propen-2-ol, 3,3,3-trifluoro-, acetate, polymers	poly/perfluorinated POLYMERS		
116-15-4		1-Propene, 1,1,2,3,3,3-hexafluoro-	poly/perfluorinated ALKANES/ALKENES	3	3
		1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. ("1,1,2,3,3,3-Hexafluoro-1-propene, oxidized, polymd.")	poly/perfluorinated POLYMERS		1
108144-05-4		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with (2-bromo-1,1,2,2-tetrafluoroethoxy)trifluoroethene, 1,1-difluoroethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
63654-41-1		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]propane and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
878545-84-7		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1,2,2-tetrafluoroethene, 1,1,2-trifluoro-2-(1,1,2,2,2-pentafluoroethoxy)ethene and 1,1,2-trifluoro-2-(trifluoromethoxy)ethene	Polytetrafluoroethylene (PTFE)		
25190-89-0		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene and 1,1,2,2-tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
68182-34-3		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]propane and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
57570-64-6		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene, 1,1,2,2-tetrafluoroethene and 1,1,2-trifluoro-2-(trifluoromethoxy)ethene	Polytetrafluoroethylene (PTFE)		
149935-01-3		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene, ethene, 1,1,2,2-tetrafluoroethene and 1,1,2-trifluoro-2-(trifluoromethoxy)ethene	Polytetrafluoroethylene (PTFE)		
60918-85-6		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with bromotrifluoroethene, 1,1-difluoroethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
64155-70-0		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
95325-75-0		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene, 1,1-difluoroethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
35560-16-8		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with ethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
74499-71-1		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with ethene, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]propane and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
74499-69-7		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with ethene, tetrafluoroethene and 3-(1,1,2,2-tetrafluoroethoxy)-1-propene	Polytetrafluoroethylene (PTFE)		
158706-63-9		1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with tetrafluoroethene, oxidized	Polytetrafluoroethylene (PTFE)		
74499-70-0		1-Propene, 3-(1,1,2,2-tetrafluoroethoxy)-, polymer with ethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
63391-86-6		1-Propene, polymer with 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]propane and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
60918-86-7		1-Propene, polymer with bromotrifluoroethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
27029-05-6		1-Propene, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
68758-57-6	272-148-6	1-Tetradecanesulfonyl chloride, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	12	12
39239-77-5		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-	poly/perfluorinated ALKOHOLS	12	12
57678-07-6		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	12	12
93857-46-6		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	12	12
57677-99-3		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	12	12
93776-22-8		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	12	12
57678-00-9		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-, hydrogen phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	12	12
393098-42-5		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-, phosphate (3:1)	poly/perfluorinated PHOSPHOORGANICS	14	14
94200-57-4		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,14,14,14-tetracosafluoro-13-(trifluoromethyl)-, dihydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	13	13
93857-51-3		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,14,14,14-tetracosafluoro-13-(trifluoromethyl)-, dihydrogen phosphate, diammonium salt	poly/perfluorinated PHOSPHOORGANICS	13	13
93857-56-8		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,14,14,14-tetracosafluoro-13-(trifluoromethyl)-, hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	13	13
93776-26-2		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,14,14,14-tetracosafluoro-13-(trifluoromethyl)-, hydrogen phosphate, ammonium salt	poly/perfluorinated PHOSPHOORGANICS	13	13
94231-56-8		1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,14,14,14-tetracosafluoro-13-(trifluoromethyl)-, hydrogen phosphate, compd. 2,2'-iminobis[ethanol] (1:1)	poly/perfluorinated PHOSPHOORGANICS	13	13
93776-17-1		1-Tridecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-heneicosafluoro-2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-, iodide	poly/perfluorinated AMMONIUM ORGANICS	10	10
94159-77-0		1-Tridecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-eicosafluoro-2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-12-(trifluoromethyl)-, iodide	poly/perfluorinated AMMONIUM ORGANICS	11	11
92071-84-6		1-Undecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-2-hydroxy-N,N,N-trimethyl-, iodide	poly/perfluorinated IODIDES	8	8
93776-18-2		1-Undecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-, iodide	poly/perfluorinated IODIDES	8	8
80909-29-1		1-Undecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-2-hydroxy-N,N,N-trimethyl-10-(trifluoromethyl)-, iodide	poly/perfluorinated AMMONIUM ORGANICS	9	9
94159-78-1		1-Undecanaminium, 4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-10-(trifluoromethyl)-, iodide	poly/perfluorinated AMMONIUM ORGANICS	9	9
65702-24-1		1-Undecanesulfonyl chloride, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-nonadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	9	9
307-70-0	206-209-5	1-Undecanol, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-eicosafluoro-	poly/perfluorinated ALKOHOLS	10	10
161075-35-0		2-(1-Oxopropenylamino)-2,2-dimethylethanoic acid ω-[perfluoroalkyloxy(C1-8)] perfluoroalkyl (C3-12) ester	poly/perfluorinated CARBOXYLIC ACIDS	3	12
117844-18-5		2-(o-Cyanophenoxy)-3'-hydroxy-4'-(perfluorobutyrylamino)tetradecananilide	poly/perfluorinated AMINES	4	4

94404-04-0		2,15-Dioxa-3,14-disilanhexadecane, 6,6,7,7,8,8,9,9,10,10,11,11-dodecafluoro-3,3,14,14-tetramethyl…	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
	938-105-7	2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl N-[6-({[(2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl)oxy]carbonyl}amino)-3,3,5-trimethylhexyl]carbamate 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl N-[6-({[(2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl)oxy]carbonyl}amino)-3,5,5-trimethylhexyl]carbamate	OTHER poly/perfluorinated ORGANICS	6	6
	443-050-2	2,2,3,3,4,4,5,5,6,6-decafluoro-6-trifluorovinyloxyhexanenitrile	OTHER poly/perfluorinated ORGANICS	3	5
80153-82-8		2,2,4,4,5,5,7,7,8,8,8-Undecafluoro-3,6-dioxaoctanoic acid	poly/perfluorinated SULFONAMIDES	5	5
147076-07-1		2,2-bis[4-(4-Aminophenoxy)phenyl] hexafluoropropane, polymer with 3,3'-(1,1,3,3-tetramethyldisiloxane-1,3-diyl)bispropylamine and benzophenone-3,3',4,4'-tetracarboxylic dianhydride	poly/perfluorinated POLYMERS		
185701-88-6		2,3,3,3-Tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]propanoyl fluoride, polymer with trifluoro(trifluoromethyl)oxirane reaction products with 3-(ethenyldimethylsilyl), N-methylbenzeneamine	poly/perfluorinated POLYMERS		?
93776-07-9		2,5,8,11,14,17,20,23,26,29-Decaoxadotetracontan-31-ol, 33,33,34,34,35,35,36,36,37,37,38,38,39,39,40,40,41,41,42,42,42-heneicosafluoro-	poly/perfluorinated ETHOXYLATES	10	10
93776-10-4		2,5,8,11,14,17,20,23,26,29-Decaoxadotetracontan-31-ol, 33,33,34,34,35,35,36,36,37,37,38,38,39,39,40,40,41,42,42,42-eicosafluoro-41-(trifluoromethyl)-	poly/perfluorinated ETHOXYLATES	11	11
93776-08-0		2,5,8,11,14,17,20,23,26,29-Decaoxatetracontan-31-ol, 33,33,34,34,35,35,36,36,37,37,38,38,39,39,40,40,40-heptadecafluoro-	poly/perfluorinated ETHOXYLATES	1	8
93776-11-5		2,5,8,11,14,17,20,23,26,29-Decaoxatetracontan-31-ol, 33,33,34,34,35,35,36,36,37,37,38,38,39,40,40,40-hexadecafluoro-39-(trifluoromethyl)-	poly/perfluorinated ETHOXYLATES	9	9
93776-06-8		2,5,8,11,14,17,20,23,26,29-Decaoxatetratetracontan-31-ol, 33,33,34,34,35,35,36,36,37,37,38,38,39,39,40,40,41,41,42,42,43,43,44,44-pentacosafluoro-	poly/perfluorinated ETHOXYLATES	12	12
93776-09-1		2,5,8,11,14,17,20,23,26,29-Decaoxatetratetracontan-31-ol, 33,33,34,34,35,35,36,36,37,37,38,38,39,39,40,40,41,41,42,42,43,44,44,44-tetracosafluoro-43-(trifluoromethyl)-	poly/perfluorinated ETHOXYLATES	13	13
88987-13-7		2,5,8,11,14,17,20,23-Octaoxaheptacos-24-ene, 26,27,27,27,27-tetrafluoro-25-[1,2,2,2,-tetrafluoro-1-(trifluoromethyl)ethyl]-24,26-bis(trifluoromethyl)-	poly/perfluorinated ETHOXYLATES	8	9
253682-96-1		2,5-Furandione, dihydro-, monopolyisobutylene derivatives reaction products with N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecaflouro-1-octanesulfonamide	poly/perfluorinated POLYMERS	7	7
253682-98-3		2,5-Furandione, dihydro-, monopolyisobutylene derivatives, reaction products with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-1dodecanol (AICS)	poly/perfluorinated POLYMERS	10	10
253682-97-2		2,5-Furandione, dihydro-, monopolyisobutylene derivatives, reaction products with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14pentacosafluoro-1-tetradecanol	poly/perfluorinated POLYMERS	12	12
146915-43-7		2,5-Furandione, dihydro-, polymer with chlorotrifluoroethene, 4-(ethenyloxy)-1-butanol, (ethenyloxy)cyclohexane and ethoxyethene	poly/perfluorinated POLYMERS		
99908-28-8		2-[[(Heptadecafluorooctyl)sulfonyl]propylamino]ethyl [3-[[[2-[[(heptecafluorooctyl)sulfonyl]methylamino]ethoxy]carbonyl]amino]-4-methylphenyl]carbamate	poly/perfluorinated AMINES	8	8
110570-90-6		2-[[3-[(Heptadecafluorooctyl)sulfonyl]propyl]amino]ethyl 2-propenoate	poly/perfluorinated SULFONAMIDES	8	8
116265-66-8		2-[Difluoro(undecafluorocyclohexyl)methyl]-1,1,2,3,3,4,4,4a,5,5,6,6,7,7,8,8,8a-heptadecafluorodecahydronaphtalene	poly/perfluorinated ALKANES/ALKENES	6	17
819069-74-4		2-[Methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate polymer with 1,1-dichloroethene and octadecyl 2-methyl-2-propenoate	poly/perfluorinated SULFONAMIDES	4	4
94158-20-0		2-Butanone, O,O',O''-[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silylidyne]oxime	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
360-89-4	206-640-9	2-Butene, 1,1,1,2,3,4,4,4-octafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
1516-64-9		2-Butene, 1,1,1,2,3,4,4,4-octafluoro-, (E)-	poly/perfluorinated ALKANES/ALKENES	4	4
360-86-1		2-Butene, 1,3-dichloro-1,1,2,4,4,4-hexafluoro-	poly/perfluorinated ALKANES/ALKENES	1	1
360-88-3		2-Butene, 1,4-dichloro-1,1,2,3,4,4-hexafluoro-	poly/perfluorinated ALKANES/ALKENES	1	1
20972-44-5		2-Butene, 1,4-dichloro-1,1,2,3,4,4-hexafluoro-, (2E)-	poly/perfluorinated ALKANES/ALKENES	1	1
152286-16-3		2-Butenedioic acid (2Z)-, bis(2-ethylhexyl) ester, polymer with chloroethene, .alpha.-fluoro-.omega.-[2-[(1-oxo-2- propenyl)oxy]ethyl]poly(difluoromethylene) and N-(hydroxymethyl)-2- propenamide	poly/perfluorinated POLYMERS		
152521-12-5		2-Butenedioic acid (2Z)-, bis(2-ethylhexyl) ester, polymer withchloroethene and .alpha.-fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)	poly/perfluorinated POLYMERS		
152286-22-1		2-Butenedioic acid (2Z)-, bis(2-ethylhexyl) ester, polymer withchloroethene, N,N-dimethyl-2-propenamide, .alpha.-fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl2-propenoate and 2-[[[[[1,3,3-trimethyl-5-[[[[(1-methylp	poly/perfluorinated POLYMERS		
221455-64-7		2-Butenedioic acid (2Z)-, bis(2-ethylhexyl) ester, polymers with 2-hydroxyethylmethacrylate-5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane-Me Et ketone oxime reaction product,.gamma.-.omega.-perfluoro-C8-20-alkyl acrylate and vinyl chloride	Fluorinated (meth)acrylate polymers	8	20
221455-71-6		2-Butenedioic acid (2Z)-, bis(2-ethylhexyl) ester, polymers with N-(hydroxymethyl)-2-propenamide,.gamma.-.omega.-perfluoro-C8-20-alkyl acrylate and vinyl chloride	Fluorinated (meth)acrylate polymers	8	20
221455-67-0		2-Butenedioic acid (2Z)-, bis(2-ethylhexyl) ester, polymers with N,N-dimethyl-2-propenamide, .gamma.-.omega.-perfluoro-C8-20-alkyl acrylate and vinyl chloride	Fluorinated (meth)acrylate polymers	8	20
502135-45-7		2-Butenedioic acid (2Z)-, bis(2-ethylhexyl) esters, polymers with N-(hydroxymethyl)-2-propenamide, .gamma.-.omega.-perfluoro-C8-18-alkyl acrylate and vinyl chloride	Fluorinated (meth)acrylate polymers	8	18
169797-36-8		2-Butenedioic acid (2Z)-, sodium salt, polymer with ethenylbenzene and 2,2,3,3-tetrafluoropropyl hydrogen (2Z)-2-butenedioate	poly/perfluorinated POLYMERS	2	2
68037-22-9		2-Butenedioic acid (E)-, bis(.gamma.-.omega.-perfluoro-C4-20-alkyl) ester, polymer with ethene, 1-(ethenyloxy)butanol, 1,4-hexadiene and 1-propene	poly/perfluorinated POLYMERS	4	20
86130-60-1		2-Butenedioic acid (E)-, mono(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl) ester	poly/perfluorinated ESTERS	8	8
182700-82-9		2-Butenedioic acid (Z)-, di-C1-20-alkyl esters, polymer with acrylamide N-[(C1-10-alkyloxy)methyl]derivs.,α-fluoro-ω-[2-[(1-oxo-2-propenyl)oxy]ethyl] poly (difluoromethylene) and vinylchloride	poly/perfluorinated POLYMERS		
54950-04-8		2-Butenedioic acid (Z)-, mono(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl) ester	poly/perfluorinated ESTERS	8	8
182700-83-0		2-Butenedioic acid(Z)-, di-C1-20-alkyl ester, polymer with .alpha.-fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl acrylate and vinyl chloride	Fluorinated (meth)acrylate polymers	1	20
51343-70-5		2-Butenedioic acid(Z)-, mono(2,2,3,3-tetrafluoropropyl)ester, sodium salt, polymer with ethenylbenzene	poly/perfluorinated POLYMERS		
72845-29-5		2-Butenedioic acid, mono(2,2,3,3-tetrafluoropropyl) ester, sodium salt, polymer with ethenylbenzene and disodium 2-butenedioate	poly/perfluorinated POLYMERS		
97259-81-9		2-Butenoic acid, 4-oxo-4-[(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-2-hydroxyundecyl)amino]-, (Z)-	poly/perfluorinated ALKOHOLS	8	8
149868-74-6		2-Dodecanol, 5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heptadecafluoro-	poly/perfluorinated ALKOHOLS	8	8
223586-53-6		2-Ethyl-2-(hydroxymethyl)-1,3-propanediol, polymer with 1,6-diisocyanatohexane, .gamma.-.omega.-perfluoro-C8-14 alcohols, poly(oxycarbonyloxy-1,6-hexanediyl), 5-amino-1,3,3-trimethyl-cyclohexanemethanamine and 1,1'-methylenebis[4-isocyanatocyclohexane]	Fluorinated urethanes polymers	8	14
160709-33-1		2-Ethylhexyl methacrylate-(N-alkyl(C1-3)-perfluorooctanesulfoneamido)ethyl methacrylate copolymer	poly/perfluorinated SULFONAMIDES	8	8
335-35-3		2H-Pyran, 2,2,3,3,4,4,5,5,6-nonafluoro-6-(heptafluoropropyl)tetrahydro-	poly/perfluorinated ETHERS	3	4
68155-54-4		2H-Pyran, 2,2,3,3,4,4,5,5,6-nonafluorotetrahydro-6-(nonadecafluorononyl)-	poly/perfluorinated ETHERS	5	9
356-47-8		2H-Pyran, 2,2,3,3,4,4,5,5,6-nonafluorotetrahydro-6-(trifluoromethyl)-	poly/perfluorinated ESTERS	5	5
801-26-3		2H-Pyran, 2,2,3,3,4,4,5,6,6-nonafluoro-5-(heptafluoropropyl)tetrahydro-	poly/perfluorinated ESTERS	3	8
26570-69-4		2-Hydroxy-3-perfluoroalkylpropyl acrylate-2-Ethylhexyl methacrylatecopolymer	Fluorinated (meth)acrylate polymers	3	3
58180-21-5		2-Hydroxy-3-perfluoroalkylpropyl acrylate-2-Ethylhexyl methacrylate-Glycidyl methacrylate copolymer	Fluorinated (meth)acrylate polymers	3	3
247047-61-6		2-Methyl-2-propenoic acid 2-(diethylamino)ethyl ester polymers with glycidyl methacrylate and γ-ω-perfluoro-(C6-20)-alkyl acrylate, acetates(salts)	Fluorinated (meth)acrylate polymers	6	20
154965-63-6		2-Methyl-2-propenoic acid butyl ester polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, 2-hydroxyethyl-2-methyl-2-propenoate and methyl-2-methyl-2-propenoate, block	Fluorinated (meth)acrylate polymers	8	8
65605-58-5		2-methyl-2-propenoic acid dodecyl ester polymer with 10-15% a-fluoro-w-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl poly(difluoromethylene)	poly/perfluorinated POLYMERS		
142033-27-0		2-Methyl-2-propenoic acid methyl ester, 2,2,3,3,3-pentafluoropropyl 2-methyl-2-propenoate-2,2,3,3-tetrafluoropropyl 2-methyl-2-propenoate copolymer	poly/perfluorinated POLYMERS		
332076-33-2		2-Oxepanone, homopolymer, decyl perfluoro-C8-14-alkyl esters, reaction products with 1H-imidazole-1-propanamine and TDI homopolymer (AICS)	Fluorinated urethanes polymers	8	14
332076-34-3		2-Oxepanone, homopolymer, decyl perfluoro-C8-14-alkyl esters, reaction products with 1H-imidazole-1-propanamine, polyethylene glycol and TDI homopolymer (AICS,)	Fluorinated urethanes polymers	8	14
332076-28-5		2-Oxepanone, homopolymer, decyl perfluoro-C8-14-alkyl esters, reaction products with 1H-imidazole-1-propanamine, polyethylene-polypropylene glycol and TDI homopolymer (AICS,)	Fluorinated urethanes polymers	8	14
156559-18-1		2-Oxiranemethanol, polymers with reduced Me esters of reduced polymd. oxidized tetrafluoroethylene	poly/perfluorinated POLYMERS		
93776-00-2		2-Pentadecanol, 1,1'-[oxybis[(1-methyl-2,1-ethanediyl)oxy]]bis[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafluoro-	poly/perfluorinated ETHERS	12	12
93776-03-5		2-Pentadecanol, 1,1'-[oxybis[(1-methyl-2,1-ethanediyl)oxy]]bis[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-tetracosafluoro-14-(trifluoromethyl)-	poly/perfluorinated ESTERS	13	13
94159-79-2		2-Pentadecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafluoro-	poly/perfluorinated AMINES	12	12
94159-82-7		2-Pentadecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafluoro-14-(trifluoromethyl)-	poly/perfluorinated AMINES	13	13

73041-05-1		2-Pentanone, 1,1,1,3,3,4,5,5,5-nonafluoro-4-(trifluoromethyl)-	OTHER poly/perfluorinated ORGANICS	5	5
93830-92-3		2-Pentanone, 1,1,1,3,4,4,5,5,5-nonafluoro-3-(trifluoromethyl)-	OTHER poly/perfluorinated ORGANICS	5	5
72804-49-0		2-Pentene, 1,1,1,2,3,4,4,5,5,5-decafluoro-	poly/perfluorinated ALKANES/ALKENES	5	5
84650-68-0	283-527-0	2-Pentene, 1,1,1,2,3,4,5,5,5(or1,1,1,3,4,4,5,5,5)-nonafluoro-4(or 2)-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	6	6
30320-27-5		2-Pentene, 1,1,1,2,4,5,5,5-octafluoro-3-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-4-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	2	5
1584-03-8	216-436-1	2-Pentene, 1,1,1,3,4,4,5,5,5-nonafluoro-2-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	6	6
30320-26-4		2-Pentene, 1,1,1,4,5,5,5-heptafluoro-3-(pentafluoroethyl)-2,4-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	9	9
1009332-58-9		2-Perfluoroalkyl(C4-14)ethyl acrylate- benzyl methacrylate copolymer	Fluorinated (meth)acrylate polymers	4	14
122304-67-0		2-Perfluoroalkyl(C4-C14)ethyl acrylate-ethyl methacrylate-polyethylene glycol mono methacrylate copolymer	Fluorinated (meth)acrylate polymers	4	14
105656-07-3		2-Perfluoroalkyl(C6-C12)ethyl acrylate homopolymer	Fluorinated (meth)acrylate polymers	6	12
105681-94-5		2-Perfluoroalkyl(C6-C12)ethyl methacrylate homopolymer	Fluorinated (meth)acrylate polymers	6	12
161075-39-4		2-Perfluoroalkyl(C9-23)-1-methylethyl polyoxyethylene ether	poly/perfluorinated ETHERS	9	23
287391-07-5		2-Perfluorooctyl ethyl acrylate homopolymer	Fluorinated (meth)acrylate polymers	8	8
247109-50-8		2-Popenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester, polymer with N-(butoxymethyl)-2-methyl-2-propenamide, dodecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-methyl-2-prop	poly/perfluorinated POLYMERS	8	10
61119-62-8		2-Propanol, 1,3-bis[(2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl)oxy]-, hydrogen sulfate, sodium salt	poly/perfluorinated ALKOHOLS	6	6
51023-51-9		2-Propanone, 1,1,1,3,3,3-hexafluoro-, polymer with ethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
464178-94-7		2-Propen-1-ol, reaction products with 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-6-iodohexane, dehydroiodinated, reaction products with epichlorohydrin-triethylenetetramine polymer	poly/perfluorinated POLYMERS	8	8
464178-90-3		2-Propen-1-ol, reaction products with pentafluoroiodoethane-tetrafluoroethylene telomer, dehydroiodinated, reaction products with epichlorohydrin and triethylenetetramine	poly/perfluorinated POLYMERS		
105960-50-7		2-Propenamide, telomer with 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-6-iodohexane	poly/perfluorinated IODIDES	6	6
182700-85-2		2-Propenamide,N-[(C1-20-alkyloxy)metyl]derivs., polymers with acryonitrile,,alpha.-fluoro-.omega.-[2-[(1-oxo-propenyl)oxy]ethyl] poly(difluoromethylene) and polyethylene-polypropylene glycol acrylate C1-20-alkyl ethers	poly/perfluorinated POLYMERS		
28506-33-4		2-Propenethioic acid, 2-methyl-, S-[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)decyl] ester	poly/perfluorinated TIOLS	9(8+1)	9
30769-88-1		2-Propenethioic acid, 2-methyl-, S-[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluoromethyl)dodecyl] ester	poly/perfluorinated TIOLS	11	11
30769-91-6		2-Propenethioic acid, 2-methyl-, S-[3,3,4,4,5,5,6,6,7,8,8,8-dodecafluoro-7-(trifluoromethyl)octyl] ester	poly/perfluorinated TIOLS	6	6
91648-32-7		2-Propenoic acid, .epsilon.-.omega.-perfluoro-C8-22-alkyl esters, .gamma.-.delta.-fluoro derivs.	poly/perfluorinated ESTERS	8	22
85631-54-5	288-003-5	2-Propenoic acid, .gamma.-.omega.-perfluoro-C8-14-alkyl esters	poly/perfluorinated ESTERS	8	14
2-41-3		2-Propenoic acid, .gamma.-.omega.-perfluoro-C8-14-alkyl esters, copolymer with 2-propenoic acid, octadecyl ester and 2-propenamide	Fluorinated (meth)acrylate polymers	8	14
2-52-0		2-Propenoic acid, .gamma.-.omega.-perfluoro-C8-14-alkyl esters, polymer with 2-propenoic acid, .delta.-.omega.-perfluoro-C9-15-alkyl esters	Fluorinated (meth)acrylate polymers	8	15
2-03-8		2-Propenoic acid, .gamma.-.omega.-perfluoro-C8-14-alkyl esters, polymers with 2-ethylhexyl acrylate, N-hydroxymethyl methacrylamide and stearyl acrylate	Fluorinated (meth)acrylate polymers	8	14
2-03-7		2-Propenoic acid, .gamma.-.omega.-perfluoro-C8-14-alkyl esters, polymers with glycidyl methacrylate, N-(butoxymethyl) methacrylamide, N-hydroxymethyl methacrylamide and stearyl acrylate	Fluorinated (meth)acrylate polymers	8	14
212013-58-6		2-Propenoic acid, .gamma.-.omega.-perfluoro-C8-20-alkyl esters	poly/perfluorinated ESTERS	8	20
221455-61-4		2-Propenoic acid, .gamma.-.omega.-perfluoro-C8-20-alkyl esters, polymer with acrylonitrile, polyethylene glycol dimethacrylate and polyethylene glycol methacrylate Me ether	Fluorinated (meth)acrylate polymers	8	20
224790-97-0		2-Propenoic acid, .gamma.-.omega.-perfluoro-C8-20-alkyl esters, polymer with polyethylene glycol monomethacrylate and polypropylene glycol monomethacrylate	Fluorinated (meth)acrylate polymers	8	14
13057-08-4	235-943-9	2-Propenoic acid, 1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl ester	poly/perfluorinated (METH)ACRYLATES	1	3
2160-89-6	218-479-1	2-Propenoic acid, 2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester	poly/perfluorinated (METH)ACRYLATES	1	3
424-64-6	207-036-8	2-Propenoic acid, 2,2,3,3,4,4,4-heptafluorobutyl ester	poly/perfluorinated (METH)ACRYLATES	3	3
308-26-9	206-214-2	2-Propenoic acid, 2,2,3,3,4,4,5,5,5-nonafluoropentyl ester	poly/perfluorinated (METH)ACRYLATES	4	4
559-11-5		2-Propenoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoroheptyl ester	poly/perfluorinated ESTERS	6	6
307-98-2	206-212-1	2-Propenoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl ester	poly/perfluorinated ESTERS	7	7
94231-57-9		2-Propenoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heneicosafluoroundecyl ester	poly/perfluorinated ESTERS	10	10
4998-38-3	225-659-3	2-Propenoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-eicosafluoroundecyl ester	poly/perfluorinated ESTERS	10	10
307-87-9		2-Propenoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluorononyl ester	poly/perfluorinated ESTERS	8	8
4180-26-1	224-053-6	2-Propenoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluorononyl ester	poly/perfluorinated ESTERS	8	8
2993-85-3	221-064-8	2-Propenoic acid, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl ester	poly/perfluorinated ESTERS	6	6
376-84-1	206-816-5	2-Propenoic acid, 2,2,3,3,4,4,5,5-octafluoropentyl ester	poly/perfluorinated (METH)ACRYLATES	4	4
66008-68-2		2-Propenoic acid, 2-[[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-eicosafluoroundecyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	11	11
66008-69-3		2-Propenoic acid, 2-[[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluorononyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
48077-95-8		2-Propenoic acid, 2-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
72276-05-2		2-Propenoic acid, 2-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	12	12
60194-47-0		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
383-07-3		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]butylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
25268-77-3		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
68227-94-1		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester, polymer with 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,2-ethanediyl), .alpha RESTEN= 350	Fluorinated (meth)acrylate polymers	4	8
68586-14-1		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester, telomer with 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-2	Fluorinated (meth)acrylate polymers	4	8
2357-60-0		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
73275-59-9		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl ester, polymer with .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-butoxypoly[oxy(methyl-1,2-ethanediyl)]	Fluorinated (meth)acrylate polymers	8	8
73019-28-0		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl ester, polymer with .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl)	Fluorinated (meth)acrylate polymers	8	8
73038-33-2		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl ester, polymer with methyloxirane polymer with oxirane mono(2-methyl-2-propenoate)	Fluorinated (meth)acrylate polymers	8	8
104242-02-6		2-Propenoic acid, 2-[(heptadecafluorooctyl)sulfonyl]propylamino]ethylester, copolymer with methyloxirane and oxiranemono-2-propenoate	Fluorinated (meth)acrylate polymers	8	8
67584-55-8	266-733-5	2-Propenoic acid, 2-[(nonafluorobutyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68298-60-2		2-Propenoic acid, 2-[(pentadecafluoroheptyl)sulfonyl]butylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68084-62-8		2-Propenoic acid, 2-[(pentadecafluoroheptyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67584-57-0		2-Propenoic acid, 2-[(tridecafluorohexyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
67584-56-9		2-Propenoic acid, 2-[(undecafluoropentyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5

94237-13-5		2-Propenoic acid, 2-[[[bis[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]propoxy](3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silyl]oxy]methyl]-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
94237-11-3		2-Propenoic acid, 2-[[[dimethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silyl]oxy]methyl]-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
94237-12-4		2-Propenoic acid, 2-[[[methyl[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]propoxy](3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silyl]oxy]methyl]-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
110570-91-7		2-Propenoic acid, 2-[[3-[(heptadecafluorooctyl)sulfonyl]propyl]amino]ethyl ester polymer with α-(2-methyl-1-oxo-2-propenyl)-ω-hydroxypoly(oxy-1,2-ethanediyl)	Fluorinated (meth)acrylate polymers	8	8
110570-92-8		2-Propenoic acid, 2-[[3-[(heptadecafluorooctyl)sulfonyl]propyl]amino]ethyl ester polymer with α-(2-methyl-1-oxo-2-propenyl)-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)]	Fluorinated (meth)acrylate polymers	8	8
68298-62-4		2-Propenoic acid, 2-[butyl [(heptadecafluorooctyl)sulfonyl]amino]ethyl ester, telomer with 2-[butyl [(pentadecafluoroheptyl)sulfonyl]amino]ethyl-2-propenoate, methyloxirane polymer with oxiranedi-2-propenoate, methyloxirane polymer with oxirane mono-2-pro	Fluorinated (meth)acrylate polymers	7	8
423-82-5	207-031-0	2-Propenoic acid, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
17329-79-2		2-Propenoic acid, 2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
1893-52-3		2-Propenoic acid, 2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68298-06-6		2-Propenoic acid, 2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
59071-10-2		2-Propenoic acid, 2-[ethyl[pentadecafluoroheptyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
425664-29-5		2-Propenoic acid, 2-[methyl[(1,1,2,2,3,3,4,4,4-nonafluorobutyl)sulfonyl]amino]ethyl ester, polymer with octadecyl 2-propenoate	Fluorinated (meth)acrylate polymers	4	4
1017237-78-3		2-Propenoic acid, 2-[methyl[(1,1,2,2,3,3,4,4,4-nonafluorobutyl)sulfonyl]amino]ethyl ester, telomer with 3-mercapto-1,2-propanediol, 2-methyloxirane polymer with oxirane di-2-propenoate, and 2-methyloxirane polymer with oxirane mono-2-propenoate, tert-Bu 2	Fluorinated (meth)acrylate polymers	4	4
66008-70-6		2-Propenoic acid, 2-[methyl[(2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoroheptyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
66008-67-1		2-Propenoic acid, 2-[methyl[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-pentacosafluorotridecyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	13	13
68758-55-4		2-Propenoic acid, 2-[methyl[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-nonacosafluoropentadecyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	14	14
68758-56-5		2-Propenoic acid, 2-[methyl[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,17-tritriacontafluoroheptadecyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	17	17
49859-70-3	256-503-2	2-Propenoic acid, 2-[methyl[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
2-07-9		2-Propenoic acid, 2-[methyl[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)sulfonyl]amino]ethyl ester polymer with 2-methyl-butyl ester 2-propenoic acid, 2-methyl-heptyl ester 2-propenoic acid and N-(hydroxymethyl)-2-propenamide	Fluorinated (meth)acrylate polymers	6	6
72276-06-3		2-Propenoic acid, 2-[methyl[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluorotetradecyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	14	14
72276-07-4		2-Propenoic acid, 2-[methyl[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluorohexadecyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	14	14
72276-08-5		2-Propenoic acid, 2-[methyl[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluorooctadecyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	10	10
68867-60-7		2-Propenoic acid, 2-[methyl(heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester, polymer with 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl-2-propenoate, 2-[methyl[(tridecafluorohexy	Fluorinated (meth)acrylate polymers	4	8
2-49-2		2-Propenoic acid, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl ester, telomer with methyloxirane, polymer with oxirane di-2-propenoate and methyloxirane, polymer with oxirane mono-2-propenoate	Fluorinated (meth)acrylate polymers	4	4
1-87-1		2-Propenoic acid, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl ester, polymer with 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]etyl 2-propenoate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(nonafluorobutyl)sulfony	Fluorinated (meth)acrylate polymers	6	7
1-91-6		2-Propenoic acid, 2-[methyl[(perfluoro(C8-C14)alkyl)sulfonyl]amino]ethyl ester, polymer with 2-ethylhexyl methacrylate and methacrylic acid	Fluorinated (meth)acrylate polymers	8	14
1-91-5		2-Propenoic acid, 2-[methyl[(perfluoro(C8-C14)alkyl)sulfonyl]amino]ethyl ester, polymer with butyl methacrylate, meptyl methacrylate and methylolacrylamide	Fluorinated (meth)acrylate polymers	8	14
74359-03-8		2-Propenoic acid, 2-chloro-, 2,2,2-trifluoroethyl ester, homopolymer	Fluorinated (meth)acrylate polymers		
163440-88-8		2-Propenoic acid, 2-ethylhexyl ester, polymer with 1,1-dichloroethene and .alpha.-fluoro-.omega.-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]pol y(difluoromethylene)	Fluorinated (meth)acrylate polymers		
218448-99-8		2-Propenoic acid, 2-ethylhexyl ester, polymer with 2-[[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl, 2-propenoate and .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,2-ethanediyl)	Fluorinated (meth)acrylate polymers	8	8
421595-49-5		2-Propenoic acid, 2-hydroxyethyl ester, adduct with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (1:1), reaction products with ethoxylated reduced Me esters of reduced polymd. oxidized tetrafluoroethylene	poly/perfluorinated COOPOLYMERS		
221455-63-6		2-Propenoic acid, 2-hydroxyethyl ester, polymers with .gamma.-.omega.-perfluoro-C8-20-alkyl acrylate and stearyl acrylate	Fluorinated (meth)acrylate polymers	8	20
90062-89-8		2-Propenoic acid, 2-methyl-, 2-(acetyloxy)-4,4,5,5,6,6,7,7,8,8,9,9,10,10, 11,12,12,12-octadecafluoro-11-(trifluoromethyl)dodecyl ester, homopolymer	Fluorinated (meth)acrylate polymers	10	10
65605-53-0		2-Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester, N-oxide, polymer with .alpha.-fluoro-.omega.-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-(nonylphenoxy)poly(oxy-1,2-ethanediyl)	Fluorinated (meth)acrylate polymers		
174125-96-3		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with .delta.-.omega.-perfluoro-C10-16-alkyl acrylate and vinyl acetate	Fluorinated (meth)acrylate polymers	10	20
479029-28-2		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with .gamma.-,.omega.-perfluoro-C8-14-alkyl acrylate, acetates, N-oxides	Fluorinated (meth)acrylate polymers	8	14
186397-57-9		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with .gamma.-.omega.-perfluoro-C10-16-alkyl acrylate and vinyl acetate	Fluorinated (meth)acrylate polymers	10	16
196316-34-4		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with .gamma.-.omega.-perfluoro-C10-16-alkyl acrylate and vinylacetate, acetates	Fluorinated (meth)acrylate polymers	10	16
150409-18-0		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with acrylonitrile, .gamma.-.omega.-perfluoro-c8-14-alkyl acrylate, polyethylene glycol monomethacrylate and styrene	Fluorinated (meth)acrylate polymers	8	14
150409-17-9		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with Bu acrylate, .gamma.-.omega.-perfluoro-c8-14-alkyl acrylate and polyethylene glycol monomethacrylate	Fluorinated (meth)acrylate polymers	8	14
150135-57-2		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with Bu acrylate, .gamma.-.omega.-perfluoro-C8-14-alkyl acrylate and polyethylene glycol monomethacrylate, 2,2'-azobis[2,4-dimethylpentanenitrile]-initiated	Fluorinated (meth)acrylate polymers	8	14
150409-19-1		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymers with Me methacrylate, .gamma.-.omega.-perfluoro-c8-14-alkyl acrylate, polyethylene glycol monomethacrylate and stearyl methacrylate	Fluorinated (meth)acrylate polymers	8	14
306977-10-6		2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, telomer with 2-[ethyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl methacrylate and 1-octanethiol, N-oxides	Fluorinated (meth)acrylate polymers	4	8
72480-32-1		2-Propenoic acid, 2-methyl-, 2-(methylamino)ethyl ester, N-[(.gamma.-.omega.-perfluoro-C8-14-alkyl)sulfonyl] derivs., reaction products with polyethylene glycol bis(thioglycolate)	Fluorinated (meth)acrylate polymers	8	14
3063-94-3	221-309-9	2-Propenoic acid, 2-methyl-, 2,2,2-trifluoro-1-(trifluoromethyl)ethyl ester	poly/perfluorinated (METH)ACRYLATES	1	3
101061-04-5		2-Propenoic acid, 2-methyl-, 2,2,3,3,3-pentafluoro-1-(pentafluoroethyl)-1-(trifluoromethyl)propyl ester, homopolymer	Fluorinated (meth)acrylate polymers		2
59006-65-4		2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,5-nonafluoropentyl ester	poly/perfluorinated (METH)ACRYLATES	5	5
48076-44-4		2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoroheptyl ester	poly/perfluorinated (METH)ACRYLATES	6	6
3934-23-4	223-509-1	2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl ester	poly/perfluorinated (METH)ACRYLATES	7	7
53515-73-4		2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl ester, polymer with 2-propenoic acid	Fluorinated (meth)acrylate polymers	7	7
48077-86-7		2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heneicosafluoroundecyl ester	poly/perfluorinated (METH)ACRYLATES	10	10
41123-44-8	255-230-6	2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-eicosafluoroundecyl ester	poly/perfluorinated (METH)ACRYLATES	10	10
48077-33-4		2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluorononyl ester	poly/perfluorinated (METH)ACRYLATES	8	8
1841-46-9	217-419-1	2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluorononyl ester	poly/perfluorinated (METH)ACRYLATES	9	9
2261-99-6	218-863-9	2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl ester	poly/perfluorinated (METH)ACRYLATES	7	7
355-93-1	206-596-0	2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5-octafluoropentylester	poly/perfluorinated (METH)ACRYLATES	5	5
45102-52-1	256-189-7	2-Propenoic acid, 2-methyl-, 2,2,3,3-tetrafluoropropyl ester	poly/perfluorinated (METH)ACRYLATES	4	4
36405-47-7		2-Propenoic acid, 2-methyl-, 2,2,3,4,4,4-hexafluorobuthyl ester	poly/perfluorinated (METH)ACRYLATES	3	3
64376-86-9		2-Propenoic acid, 2-methyl-, 2,2,3,4,4,4-hexafluorobuthyl ester, homopolymer	Fluorinated (meth)acrylate polymers	3	3
746622-86-6		2-Propenoic acid, 2-methyl-, 2-[[(3,5-dimethyl-1H-pyrazol-1-yl)carbonyl]amino]ethyl ester, polymer with chloroethene, octadecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	6	6

14650-24-9		2-Propenoic acid, 2-methyl-, 2-[[(heptadeca-fluorooctyl)sulfonyl]methylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
1-70-4		2-Propenoic acid, 2-methyl-, 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester, polymer with 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[me	Fluorinated (meth)acrylate polymers	4	8
68855-92-0		2-Propenoic acid, 2-methyl-, 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester, polymer with 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[me	Fluorinated (meth)acrylate polymers	4	8
13285-40-0		2-Propenoic acid, 2-methyl-, 2-[[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
70900-38-8		2-Propenoic acid, 2-methyl-, 2-[[[2-methyl-5-[[[4-[methyl[(nonafluorobutyl)sulfonyl]amino]butoxy]carbonyl]amino]phenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
70900-35-5		2-Propenoic acid, 2-methyl-, 2-[[[2-methyl-5-[[[4-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]butoxy]carbonyl]amino]phenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
70900-36-6		2-Propenoic acid, 2-methyl-, 2-[[[2-methyl-5-[[[4-[methyl[(tridecafluorohexyl)sulfonyl]amino]butoxy]carbonyl]amino]phenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
70900-37-7		2-Propenoic acid, 2-methyl-, 2-[[[2-methyl-5-[[[4-[methyl[(undecafluoropentyl)sulfonyl]amino]butoxy]carbonyl]amino]phenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	11	11
68298-78-2		2-Propenoic acid, 2-methyl-, 2-[[[[5-[[[2-[ethyl[(heptadecafluorooctyl) sulfonyl]amino]ethoxy]carbonyl]amino]-2-methylphenyl]amino]carbonyl]oxy]propyl ester, telomer with butyl 2-propenoate,2-[[[[[5-[[[2-[ethyl [(nonafluorobutyl)sulfonyl]amino]ethoxy] carb	Fluorinated (meth)acrylate polymers	8	8
68298-72-6		2-Propenoic acid, 2-methyl-, 2-[[[[5-[[[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethoxy]carbonyl]amino]-2-methylphenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
68298-76-0	269-581-8	2-Propenoic acid, 2-methyl-, 2-[[[[5-[[[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethoxy]carbonyl]amino]-2-methylphenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68298-73-7		2-Propenoic acid, 2-methyl-, 2-[[[[5-[[[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethoxy]carbonyl]amino]-2-methylphenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68298-74-8	269-579-7	2-Propenoic acid, 2-methyl-, 2-[[[[5-[[[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethoxy]carbonyl]amino]-2-methylphenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68298-75-9		2-Propenoic acid, 2-methyl-, 2-[[[[5-[[[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethoxy]carbonyl]amino]-2-methylphenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
70900-34-4		2-Propenoic acid, 2-methyl-, 2-[[[[5-[[[4-[(heptadecafluorooctyl)sulfonyl]methylamino]butoxy]carbonyl]amino]-2-methylphenyl]amino]carbonyl]oxy]propyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
70900-40-2		2-Propenoic acid, 2-methyl-, 2-[[[[5-[[[4-[(heptadecafluorooctyl)sulfonyl]methylamino]butoxy]carbonyl]amino]-2-methylphenyl]amino]carbonyl]oxy]propyl ester, telomer with butyl 2-propenoate, 2-[[(heptadecafluorooctyl)sulfonyl]methylamin RESTEN= 858	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
68555-91-9		2-Propenoic acid, 2-methyl-, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino] ethyl ester, polymer with 2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl, 2-methyl-2-propenoate, 2-[eth	Fluorinated (meth)acrylate polymers	4	8
376-14-7	206-805-5	2-Propenoic acid, 2-methyl-, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
68877-32-7		2-Propenoic acid, 2-methyl-, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester, polymer with 2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl	Fluorinated (meth)acrylate polymers	4	8
68568-77-4		2-Propenoic acid, 2-methyl-, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester, polymer with 2-chloro-1,3-butadiene, 2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(pentadecafluoroheptyl)sulfonyl] RESTEN= 170	Fluorinated (meth)acrylate polymers	4	8
68867-62-9		2-Propenoic acid, 2-methyl-, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester, telomer with 2-[ethyl [(nonafluorobutyl)sulfonyl] amino]ethyl 2-methyl-2-propenoate, 2-ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethy	Fluorinated (meth)acrylate polymers	8	8
68227-87-2		2-Propenoic acid, 2-methyl-, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester, telomer with 2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl	Fluorinated (meth)acrylate polymers	8	8
67939-33-7		2-Propenoic acid, 2-methyl-, 2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
67939-34-8		2-Propenoic acid, 2-methyl-, 2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl ester, polymer with octadecyl 2-propenoate and 2-propenoic acid	Fluorinated (meth)acrylate polymers	4	4
67939-36-0		2-Propenoic acid, 2-methyl-, 2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67939-37-1		2-Propenoic acid, 2-methyl-, 2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl ester, polymer with octadecyl 2-propenoate and 2-propenoic acid	Fluorinated (meth)acrylate polymers	7	7
67906-70-1		2-Propenoic acid, 2-methyl-, 2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
67906-71-2		2-Propenoic acid, 2-methyl-, 2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl ester, polymer with octadecyl 2-propenoate and 2-propenoic acid	Fluorinated (meth)acrylate polymers	6	6
67906-73-4		2-Propenoic acid, 2-methyl-, 2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
67906-74-5		2-Propenoic acid, 2-methyl-, 2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl ester, polymer with octadecyl 2-propenoate and 2-propenoic acid	Fluorinated (meth)acrylate polymers	5	5
68784-73-6		2-Propenoic acid, 2-methyl-, 2-[methyl[(.gamma.-.omega.-perfluoro-C8-14-alkyl)sulfonyl]amino]ethyl esters, reaction products with polyethylene glycol bis(mercaptoacetate)	Fluorinated (meth)acrylate polymers	8	14
68555-92-0		2-Propenoic acid, 2-methyl-, 2-[methyl[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester,polymer with 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl2-methyl-2-propenoate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate,2-	Fluorinated (meth)acrylate polymers	4	8
67584-59-2		2-Propenoic acid, 2-methyl-, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
819069-72-2		2-Propenoic acid, 2-methyl-, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl ester, polymer with octadecyl 2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	4	4
67939-96-2		2-Propenoic acid, 2-methyl-, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67584-61-6		2-Propenoic acid, 2-methyl-, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
67584-60-5		2-Propenoic acid, 2-methyl-, 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
224790-87-8		2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with .gamma.-.omega.-perfluoro-C8-20-alkyl acrylate and polyethylene glycolmonomethacrylate	Fluorinated (meth)acrylate polymers	8	20
73018-93-6		2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl 2-propenoate	Fluorinated (meth)acrylate polymers	8	8
68797-76-2		2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl 2-propenoate, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]ami RESTEN= 178	Fluorinated (meth)acrylate polymers	4	8
200295-54-1		2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymers with N-(hydroxymethyl)-2-methyl-2-propenamide and .gamma.-.omega.-perfluoro-C10-16-alkyl acrylate	Fluorinated (meth)acrylate polymers	10	16
112311-93-0		2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with 1,1-dichloroethene, heneicosafluorododecyl 2-propenoate, heptadecafluorodecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,2-et	Fluorinated (meth)acrylate polymers	8	10
2-33-5		2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with hexadecyl methacrylate, octadecyl methacrylate, 3-(trimethoxysilyl)propyl methacrylate and .gamma.-.omega.-perfluoro-C8-C16-alkyl acrylate	Fluorinated (meth)acrylate polymers	8	16
339163-51-8		2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymers with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanol- and 2-hydroxyethylacrylate-blocked 2,4-TDI-trimethylolpropane polymer, Me methacrylate and octahydro-4,7-methano-1H-indenylacr	Fluorinated (meth)acrylate polymers	8	8
2-78-4		2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymers with hexadecyl 2-methyl-2-propenoate, octadecyl 2-methyl-2-propenoate, 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate and .gamma.-.-.omega.-perfluoro-Cl8-16-alkyl propenoate	Fluorinated (meth)acrylate polymers	8	16
221455-57-8		2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and Me Et ketone oxime, polymer with .gamma.-.omega.-perfluoro-C8-20-alkyl acrylate and stearyl acrylate	Fluorinated (meth)acrylate polymers	8	20
221455-72-7		2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and Me Et ketone oxime, polymers with 2-ethylhexyl acrylate, 2-hydroxyethyl acrylate and g-w-perfluoro-C8-20-alkyl acrylate	Fluorinated (meth)acrylate polymers	8	20
1333523-10-6		2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, telomers with C18-26-alkyl acrylate, 1-dodecanethiol, N-(hydroxymethyl)-2-methyl-2-propenamide and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl methacrylate, 2,2'-[1,2-diazenediylbis(1-methylethylidene)]b	Fluorinated (meth)acrylate polymers	6	6
306976-55-6		2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with 2,4-diisocyanato-1-methylbenzene, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 2-propenoic acid, N-ethyl-N-(hydroxyethyl)perfluoro-C4-8-alkanesulfonamides-blocked	Fluorinated (meth)acrylate polymers	4	8
459415-06-6		2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with butyl 2-propenoate and 2,5-furandione, .gamma.-.omega.-perfluoro-C8-14-alkyl esters, tert-Bu benzenecarboperoxoate-initiated	Fluorinated (meth)acrylate polymers	8	14
68541-79-7		2-Propenoic acid, 2-methyl-, 3-(triethoxysilyl)propyl ester, polymer with ethenylbenzene, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl 2-propenoate and 2-hydroxyethyl 2-propenoate	Fluorinated (meth)acrylate polymers	8	8
95590-48-0		2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with ethenylbenzene, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl 2-propenoate and 2-hydroxyethyl 2-propenoate	Fluorinated (meth)acrylate polymers	8	8
306977-58-2		2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymers with acrylic acid, 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl acrylate and propylene glycol monoacrylate, hydrolyzed, compds. with 2,2'-(methylimino)bis[ethanol]	Fluorinated (meth)acrylate polymers	4	8
1799-84-4		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,6-nonafluorohexyl ester	poly/perfluorinated (METH)ACRYLATES	4	4
2144-53-8	218-407-9	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester	poly/perfluorinated (METH)ACRYLATES	6	6

2-62-9		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester, polymer with 2-methyl-2-hydroxyethyl-2-propenoate, 2-propenoic acid, C18-26-alkyl esters, 1,1-dichloroethene and N-(hydroxymethyl)-2-methyl-2-propenamide	Fluorinated (meth)acrylate polymers	6	6
15166-00-4	239-221-4	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)decyl ester	poly/perfluorinated (METH)ACRYLATES	9	9
96-88-9		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester	poly/perfluorinated (METH)ACRYLATES	8	8
106826-29-3		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with ethenyltriethoxysilane	Fluorinated (meth)acrylate polymers	8	8
93705-98-7		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with methyl 2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	8	8
104242-01-5		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with octadecyl-2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	8	8
2144-54-9	218-408-4	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester	poly/perfluorinated (METH)ACRYLATES	10	10
65104-45-2		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-methyl-2-propenoate, methyl 2-methyl-2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8	Fluorinated (meth)acrylate polymers	6	12
6014-75-1		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluorotetradecyl ester	poly/perfluorinated (METH)ACRYLATES	12	12
4980-53-4		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluorohexadecyl ester	poly/perfluorinated (METH)ACRYLATES	14	14
59778-97-1		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluorooctadecyl ester	poly/perfluorinated (METH)ACRYLATES	16	16
65104-66-7		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20,20-heptatriacontafluoroeicosyl ester	poly/perfluorinated (METH)ACRYLATES	18	18
94158-65-3		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,18,18,18-dotriacontafluoro-17-(trifluoromethyl)octadecyl ester	poly/perfluorinated (METH)ACRYLATES	17	17
94158-64-2		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,16,16,16-octacosafluoro-15-(trifluoromethyl)hexadecyl ester	poly/perfluorinated (METH)ACRYLATES	15	15
74256-15-8		2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,14,14,14-tetracosafluoro-13-(trifluoromethyl)tetradecyl ester	poly/perfluorinated (METH)ACRYLATES	13	13
74256-14-7	277-789-5	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluoromethyl)dodecyl ester	poly/perfluorinated (METH)ACRYLATES	11	11
260794-06-7		2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymer with N-(hydroxymethyl)-2-propenamide,.gamma.-.omega.-perfluoro-C8-16-alkyl acrylate and stearyl acrylate	Fluorinated (meth)acrylate polymers	8	16
260794-09-0		2-Propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl ester, polymers with N-hydroxymethyl-2-propenamide,.gamma.-.omega.-perfluoro-C8-16-alkyl acrylate, stearyl acrylate and vinyl chloride	Fluorinated (meth)acrylate polymers	8	16
61577-14-8		2-Propenoic acid, 2-methyl-, 4-[[(heptadecafluorooctyl)sulfonyl]methylamino]butyl ester	poly/perfluorinated (METH)ACRYLATES	8	8
68299-39-8		2-Propenoic acid, 2-methyl-, 4-[[(heptadecafluorooctyl)sulfonyl]methylamino]butyl ester, telomer with butyl 2-propenoate, 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl 2-propenoate, 4-[methyl[(nonafluorobutyl)sulfonyl]amino]butyl RESTEN= 690	Fluorinated (meth)acrylate polymers	8	8
67906-39-2		2-Propenoic acid, 2-methyl-, 4-[methyl[(nonafluorobutyl)sulfonyl]amino]butyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
67906-38-1		2-Propenoic acid, 2-methyl-, 4-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]butyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67939-61-1		2-Propenoic acid, 2-methyl-, 4-[methyl[(tridecafluorohexyl)sulfonyl]amino]butyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
67906-40-5		2-Propenoic acid, 2-methyl-, 4-[methyl[(undecafluoropentyl)sulfonyl]amino] butyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
2-78-6		2-Propenoic acid, 2-methyl-, butyl ester, polymer with heptyl 2-methyl-2-propenoate and 2-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-N-methyl-1-octanesulfonamido)ethyl ester	Fluorinated (meth)acrylate polymers	8	8
200295-55-2		2-Propenoic acid, 2-methyl-, butyl ester, polymers with 2-ethylhexyl methacrylate, N-(hydroxymethyl)-2-methyl-2-propenamide and .gamma.-.omega.-perfluoro-C10-14-alkyl methacrylate	Fluorinated (meth)acrylate polymers	10	14
129783-45-5		2-propenoic acid, 2-methyl-, C10-16-alkyl esters, polymers with 2-hydroxyethyl methacrylate, Me methacrylate and .gamma.-.omega.-perfluoro-C8-14-alkyl acrylate	Fluorinated (meth)acrylate polymers	8	14
125328-29-2		2-propenoic acid, 2-methyl-, C10-16-alkyl esters, polymers with 2-hydroxyethyl methacrylate, Me methacrylate and perfluoro-C8-14-alkyl acrylate	Fluorinated (meth)acrylate polymers	8	14
148878-17-5		2-Propenoic acid, 2-methyl-, C12-18-alkyl esters, polymer with .alpha.-fluoro-.omega.-[2-[(1-oxy-2-propenyl)oxy]ethyl]poly(difluoromethylene) and vinylidene chloride	Fluorinated (meth)acrylate polymers	2	18
212013-59-7		2-Propenoic acid, 2-methyl-, C18-22-alkyl esters, polymers with cyclohexylmethacrylate, .alpha.-fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and 2-hydroxyethylate-5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane-Me Et	Fluorinated (meth)acrylate polymers	18	22
68988-53-4		2-Propenoic acid, 2-methyl-, C4-18-alkyl esters, polymers with 2-[methyl[(.gamma.-.omega.-perfluoro-C8-14-alkyl)sulfonyl]amino]ethyl acrylate	Fluorinated (meth)acrylate polymers	8	14
68988-52-3		2-Propenoic acid, 2-methyl-, C4-8-alkyl esters, polymer with 2-[methyl[(.gamma.-.omega.-perfluoro-C8-14-alkyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	4	8
68988-55-6		2-Propenoic acid, 2-methyl-, C7-18-alkyl esters, polymer with 2-[methyl[(.gamma.-.omega.-perfluoro-C8-14-alkyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	8	14
68988-54-5		2-Propenoic acid, 2-methyl-, C7-8-alkyl esters, polymer with 2-[methyl[(.gamma.-.omega.-perfluoro-C8-14-alkyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	7	14
518045-14-2		2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymers with maleic anhydride, .gamma., .omega.-perfluoro-C8-20-alkyl acrylate and 2,4,6-tris(2-propenyloxy)-1,3,5-triazine	Fluorinated (meth)acrylate polymers	8	20
306975-62-2		2-Propenoic acid, 2-methyl-, dodecyl ester, polymers with 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl acrylate and vinylidene chloride	Fluorinated (meth)acrylate polymers	4	8
306975-85-9		2-Propenoic acid, 2-methyl-, dodecyl ester, polymers with N-(hydroxymethyl)-2-propenamide, 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl methacrylate, stearyl methacrylate and vinylidene chloride	Fluorinated (meth)acrylate polymers	4	8
134042-87-8		2-Propenoic acid, 2-methyl-, heptafluoropropyl ester, homopolymer	Fluorinated (meth)acrylate polymers		3
203743-03-7		2-Propenoic acid, 2-methyl-, hexadecyl ester, polymers with 2-hydroxyethyl methacrylate, .gamma.-.omega.-perfluoro-C10-16-alkyl acrylate and stearyl methacrylate	Fluorinated (meth)acrylate polymers	10	16
263260-98-6		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 2-ethylhexyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, isooctadecyl 2-propenoate, methyloxirane polymer with oxirane mono-2-propenoate, and .alpha.-(2-meth	Fluorinated (meth)acrylate polymers	8	8
218448-95-4		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 2-ethylhexyl-2-propenoate, 2-[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl-2-propenoate and .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]	Fluorinated (meth)acrylate polymers	8	8
146289-38-5		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, block, peroxidized adipoyl chloride-triethylene glycol polymer-initiated (NDSL)	Fluorinated (meth)acrylate polymers	8	8
256488-93-4		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, isooctadecyl 2-propenoate,.alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-	Fluorinated (meth)acrylate polymers	8	8
193635-71-1		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, peroxidized adipoyl chloride-triethylene glycol polymer-initiated	Fluorinated (meth)acrylate polymers	8	8
200413-68-9		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-pronenoate and methyloxirane polymer with oxiranemono-2-propenoate	Fluorinated (meth)acrylate polymers	8	8
503448-36-0		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-pronenoate, isooctadecyl-2-pronenoate, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl) and rel-(1R,2R,4R)-1,7,7	Fluorinated (meth)acrylate polymers	8	8
88248-34-4		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-propenoate	Fluorinated (meth)acrylate polymers	8	8
214002-95-6		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-propenoate, methyloxirane polymer with oxirane mono-2-propenoate butyl ether, and 2-propenoic acid	Fluorinated (meth)acrylate polymers	8	8
176894-23-8		2-Propenoic acid, 2-methyl-, methyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-propenoate, methyloxirane polymer with oxirane mono-2-propenoate, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl).	Fluorinated (meth)acrylate polymers	8	8
71487-20-2		2-Propenoic acid, 2-methyl-, methyl ester, polymer with ethenylbenzene, 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl 2-propenoate, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl	Fluorinated (meth)acrylate polymers	4	8
1767741-19-8		2-Propenoic acid, 2-methyl-, methyl ester, polymer with2-ethylhexyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-	Fluorinated (meth)acrylate polymers	8	8
221455-73-8		2-Propenoic acid, 2-methyl-, methyl ester, polymers with .gamma.-.omega.-perfluoro-C8-20-alkyl acrylate	Fluorinated (meth)acrylate polymers	8	20
321318-71-2		2-Propenoic acid, 2-methyl-, methyl ester, telomer with 1-dodecanethiol, 2-ethylhexyl-2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-propenoate and .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly[oxy(methyl-1,2-ethanediy	Fluorinated (meth)acrylate polymers	8	8
380843-06-1		2-Propenoic acid, 2-methyl-, methyl ester, telomer with 1-dodecanethiol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-pronenoate, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) and .alph	Fluorinated (meth)acrylate polymers	8	8
70776-36-2		2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with 1,1-dichloroethene, 2-[[(heptadecafluorooctyl)sulfonyl]methylamino] ethyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate,2-[methyl [(pe	Fluorinated (meth)acrylate polymers	4	8
112310-55-1		2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with 1,1-dichloroethene, heneicosafluorododecyl 2-propenoate, heptadecafluorodecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, nonacosafluorohexadecyl 2-propenoate and pentacosafluorotetradecyl 2-pr	Fluorinated (meth)acrylate polymers	8	16
112328-98-0		2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with 1,1-dichloroethene, heneicosafluorododecyl 2-propenoate, heptadecafluorodecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, nonacosafluorohexadecyl 2-propenoate pentacosafluorotetradecyl 2-propen	Fluorinated (meth)acrylate polymers	8	16

142636-88-2		2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,1	Fluorinated (meth)acrylate polymers	8	12
221455-62-5		2-Propenoic acid, 2-methyl-, oxyranylmethyl ester, polymers with acrylic acid-glycidyl ph ether-TDI reaction product,.gamma.-.omega.-perfluoro-C8-20-alkyl acrylate and stearyl acrylate	Fluorinated (meth)acrylate polymers	8	20
88473-49-8		2-Propenoic acid, 2-methyl-, pentafluoroethyl ester, homopolymer	Fluorinated (meth)acrylate polymers		2
142636-91-7		2-Propenoic acid, 2-methyl-, phenylmethyl ester, polymer with 1,1-dichloroethene, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, 2-hydroxyethyl	Fluorinated (meth)acrylate polymers	8	12
1071022-26-8		2-Propenoic acid, 2-methyl-, polymer with 2-(diethylamino)ethyl 2-methyl-2-propenoate, 2-propenoic acid and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-methyl-2-propenoate, acetate	Fluorinated (meth)acrylate polymers	6	6
357924-15-3		2-Propenoic acid, 2-methyl-, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-methyl-2-propenoate, methyl 2-methyl-2-propenoate and 2-methylpropyl-2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	8	8
200513-42-4		2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	8	8
1223402-68-3		2-Propenoic acid, 2-methyl-, polymers with 2-(dimethylamino)ethyl methacrylate, Me methacrylate, .gamma.-.omega.-perfluoro-C8-16-alkyl acrylate and vinylpyrrolidone, 2,2'-(1,2-diazenediyl)bis[2-methylpropanenitrile]-initiated, acetates	Fluorinated (meth)acrylate polymers	8	16
304012-61-1		2-Propenoic acid, 2-methyl-, polymers with 2-ethylhexyl methacrylate,N-(hydroxymethyl)-2-propenamide and 2-[methyl[(.gamma.-.omega.-perfluoro- C8-14-alkyl)sulfonyl]amino]ethyl acrylate	Fluorinated (meth)acrylate polymers	8	14
127133-66-8		2-Propenoic acid, 2-methyl-, polymers with Bu methacrylate, lauryl methacrylate and 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl methacrylate	Fluorinated (meth)acrylate polymers	4	8
89004-77-3		2-Propenoic acid, 2-methyl-, undecafluoropentyl ester	OTHER poly/perfluorinated ORGANICS	5	5
119973-85-2		2-Propenoic acid, 2-perfluoroalkyl (C6,8,10,12,14)ethyl ester, polymer with octadecyl-2-propenoate, N-(hydroxymethyl)-2-propenamide and 2-propenoic acid, 2-methyl-, 3-chloro-2-hydroxypropyl	Fluorinated (meth)acrylate polymers	6	14
52591-27-2		2-Propenoic acid, 3,3,4,4,5,5,6,6,6-nonafluorohexyl ester	poly/perfluorinated (METH)ACRYLATES	4	4
370100-90-6		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester, polymer with .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and .alpha.-(1-oxo-2-propenyl)-.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]	Fluorinated (meth)acrylate polymers	8	8
2-88-9		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester, polymer with docosyl 2-propenoate, eicosyl 2-propenoate and octadecyl 2-propenoate	Fluorinated (meth)acrylate polymers	6	6
370873-97-5		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester, polymer with methyloxirane polymer with oxiranemono-2-propenoate, tert- Bu 2-ethylhexaneperoxoate-initiated	Fluorinated (meth)acrylate polymers	8	8
17527-29-6	241-527-8	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctylester	poly/perfluorinated (METH)ACRYLATES	6	6
15577-26-1	239-633-4	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)decyl ester	poly/perfluorinated (METH)ACRYLATES	9	9
31214-91-2		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)decyl ester, homopolymer	Fluorinated (meth)acrylate polymers	9	9
27905-45-9	248-722-7	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester	poly/perfluorinated (METH)ACRYLATES	8	8
503621-80-5		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,2-ethandiyl), tert- Bu 2-ethylhexaneperoxoate-initiated	Fluorinated (meth)acrylate polymers	8	8
503621-81-6		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly[oxy(methyl-1,2-ethandiyl)], tert- Bu 2-ethylhexaneperoxoate-initiated	Fluorinated (meth)acrylate polymers	8	8
503621-79-2		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethandiyl), di-Me 2,2'-azobis[2-methylpropanoate]-initiated	Fluorinated (meth)acrylate polymers	8	8
503621-60-1		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethandiyl), tert- Bu 2-ethylhexaneperoxoate-initiated	Fluorinated (meth)acrylate polymers	8	8
167229-03-0		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with 1-ethenyl-4-[(undecafluorohexenyl)oxy]benzene, graft	Fluorinated (meth)acrylate polymers	8	8
393582-46-2		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with methyloxirane polymer with oxirane mono-2-propenoate, tert- Bu 2-ethylhexaneperoxoate-initiated	Fluorinated (meth)acrylate polymers	8	8
90718-04-0		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with octadecyl-2-pronenoate	Fluorinated (meth)acrylate polymers	8	8
504395-90-8		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with octahydro-4,7-methano-1H-indenyl 2-propenoate	Fluorinated (meth)acrylate polymers	8	8
118570-85-7		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate	Fluorinated (meth)acrylate polymers	8	8
17741-60-5	241-732-2	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester	poly/perfluorinated (METH)ACRYLATES	10	10
116984-14-6		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9, 10,10,10heptadecafluorodecyl 2-propenoate, α-(2-methyl-1-oxo-2-propenyl)-ω-[(2-methyl1-oxo-2-propenyl)oxy]poly(oxy-1	Fluorinated (meth)acrylate polymers	8	16
142636-90-6		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, 2-hydroxyethyl 2-propenoate, 2-methyloxirane polymer with oxirane mono(2-	Fluorinated (meth)acrylate polymers	8	12
115592-83-1		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-propenoate, hexadecyl-2-propenoate, N-(hydroxymethyl)-2-propenamide, octadecyl-2-prop	Fluorinated (meth)acrylate polymers	6	12
110570-84-8		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-2-propenoate, octadecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,13,13,	Fluorinated (meth)acrylate polymers	8	10
34395-24-9	251-992-9	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluorotetradecyl ester	poly/perfluorinated (METH)ACRYLATES	12	12
34362-49-7	251-963-0	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluorohexadecyl ester	poly/perfluorinated (METH)ACRYLATES	14	14
65150-93-8		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluorooctadecyl ester	poly/perfluorinated (METH)ACRYLATES	16	16
65104-64-5		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20,20-heptatriacontafluoroeicosyl ester	poly/perfluorinated (METH)ACRYLATES	18	18
94158-63-1		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,18,18,18-dotriacontafluoro-17-(trifluoromethyl)octadecyl ester	poly/perfluorinated (METH)ACRYLATES	17	17
91615-22-4		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,16,16,16-octacosafluoro-15-(trifluoromethyl)hexadecyl ester	poly/perfluorinated (METH)ACRYLATES	15	15
52956-82-8		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-tetracosafluoro-13-(trifluoromethyl)tetradecyl ester	poly/perfluorinated (METH)ACRYLATES	13	13
57678-90-7		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-octadecafluorododecyl ester	poly/perfluorinated (METH)ACRYLATES	9	9
52956-81-7		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluoromethyl)dodecyl ester	poly/perfluorinated (METH)ACRYLATES	11	11
1799-55-9		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-pentadecafluorononyl ester	poly/perfluorinated (METH)ACRYLATES	7	7
61915-92-2		2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7-decafluorooctyl ester	poly/perfluorinated (METH)ACRYLATES	5	5
		2-Propenoic acid, 3,3,4,4,5,6,6,6-octafluorohexyl-5-trifluorometyl ester("3,3,4,4,5,6,6,6-octafluoro-5-trifluoro methylhexyl(meth)acrylate")	poly/perfluorinated (METH)ACRYLATES	4	4
2-15-3		2-Propenoic acid, 3-chloro-2-hydroxypropyl ester, polymer with chloroethene, ethyl 2-propenoate perfluoro-C6-14-alkyl, hydroxymethylcarbamoylethylene and stearyl acrylate	Fluorinated (meth)acrylate polymers	6	14
16083-78-6		2-Propenoic acid, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,17,17,17-octacosafluoro-2-hydroxy-16-(trifluoromethyl)heptadecyl ester	poly/perfluorinated (METH)ACRYLATES	17	17
16083-87-7		2-Propenoic acid, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,15,15,15-tetracosafluoro-2-hydroxy-14-(trifluoromethyl)pentadecyl ester	poly/perfluorinated (METH)ACRYLATES	13	13
24407-09-8	246-231-2	2-Propenoic acid, 4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-2-hydroxy-10-(trifluoromethyl)undecyl ester	poly/perfluorinated (METH)ACRYLATES	9	9
58920-31-3		2-Propenoic acid, 4-[[(heptadecafluorooctyl)sulfonyl]methylamino]butyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
1492-87-1		2-Propenoic acid, 4-[methyl[(nonafluorobutyl)sulfonyl]amino]butyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68227-97-4		2-Propenoic acid, 4-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]butyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68227-98-5		2-Propenoic acid, 4-[methyl[(tridecafluorohexyl)sulfonyl]amino]butyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68227-99-6		2-Propenoic acid, 4-[methyl[(undecafluoropentyl)sulfonyl]amino]butyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
2-62-4		2-Propenoic acid, butyl ester, homopolymer, esters with polyethylene glycol mono(.gamma.-.omega.-perfluoro-C4-16-alkyl) ether and polyethylene-polypropylene glycol mono-Bu ether	Fluorinated (meth)acrylate polymers	4	16
594864-11-6		2-Propenoic acid, butyl ester, polymer with 2[butyl[(heptadecafluorooctyl) sulfonyl]amino]ethyl 2-propenoate and 2-methylpropyl 2-propenoate (AICS)	Fluorinated (meth)acrylate polymers	8	8
68555-90-8		2-Propenoic acid, butyl ester, polymer with 2-[methyl[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl 2-propenoate, 2-methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl	Fluorinated (meth)acrylate polymers	4	8
374623-78-6		2-Propenoic acid, butyl ester, polymer with 2-ethylhexyl-2-propenoate, 2-hydroxyethyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl-2-propenoate, 4,4'-azobis[4-cyanopentanoic acid]-initiated	Fluorinated (meth)acrylate polymers	6	6

306978-04-1		2-Propenoic acid, butyl ester, polymers with acrylamide, 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl acrylate and vinylidene chloride	Fluorinated (meth)acrylate polymers	4	8
162568-17-4		2-Propenoic acid, butyl ester, reaction product with poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-hydroxy-, and N-ethyl-N-2-hydroxyethyl perfluorooctane sulfonamide	Fluorinated (meth)acrylate polymers	8	8
68227-96-3		2-Propenoic acid, butyl ester, telomer with2-[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl 2-propenoate, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,4-butanediyl), .alpha	Fluorinated (meth)acrylate polymers	4	8
182700-81-8		2-Propenoic acid, C1-20-alkyl esters, polymers with .alpha.-fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)	Fluorinated (meth)acrylate polymers		
182700-84-1		2-Propenoic acid, C1-20-alkyl esters, polymers with .alpha.-fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and polyethylene-polypropylene glycol monoacrylate	Fluorinated (meth)acrylate polymers	1	20
160336-09-4		2-Propenoic acid, C16-18-alkyl esters, polymers with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heptadecafluorodecyl acrylate	Fluorinated (meth)acrylate polymers	8	8
330809-58-0		2-Propenoic acid, dodecyl ester, polymers with (chloromethyl)ethenylbenzene, N-(hydroxymethyl)-2-propenamide and .gamma.-.omega.-perfluoro-C10-14-alkyl acrylates	Fluorinated (meth)acrylate polymers	10	14
144031-01-6		2-Propenoic acid, dodecyl ester, polymers with Bu (1-oxo-2-propenyl)carbamate and .gamma.-.omega.-perfluoro-C8-14-alkyl acrylate	Fluorinated (meth)acrylate polymers	8	14
68329-56-6		2-Propenoic acid, eicosyl ester, polymer with 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl 2-propenoate, hexadecyl 2-propenoate, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate,2-[methyl [(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-	Fluorinated (meth)acrylate polymers	4	8
68909-15-9		2-Propenoic acid, eicosyl ester, polymers with branched octyl acrylate, 2-methyl[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl acrylate, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl acrylate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl acr	Fluorinated (meth)acrylate polymers	4	8
68228-00-2		2-Propenoic acid, ethyl ester, polymer with 4-[[(heptadecafluorooctyl)sulfonyl]methylamino]butyl 2-propenoate, 4-[methyl[(nonafluorobutyl)sulfonyl]amino]butyl 2-propenoate, .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,4 RESTEN= 482	Fluorinated (meth)acrylate polymers	4	8
152521-13-6		2-Propenoic acid, hexadecyl ester, polymer with .alpha.-fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and octadecyl 2-propenoate	Fluorinated (meth)acrylate polymers		
65605-69-8		2-Propenoic acid, methyl ester, polymer with .alpha.-fluoro-.omega.-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)	Fluorinated (meth)acrylate polymers		
878409-15-5		2-Propenoic acid, mixed hexaesters with dipentaerythritol and 3-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)thio]propanoic acid	poly/perfluorinated (METH)ACRYLATES	8	8
3-03-3		2-Propenoic acid, octadecyl ester, polymer with hexadecyl 2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	6	6
393819-33-5		2-Propenoic acid, octadecyl ester, polymers with .gamma.-.omega.-perfluoro-C6-22-alkyl acrylate	Fluorinated (meth)acrylate polymers	6	22
393582-59-7		2-Propenoic acid, octahydro-4,7-methano-1H-indenyl ester, polymers with .gamma.-.omega.-perfluoro-C6-22-alkyl acrylate and polyethylene glycol methacrylate Me ether, di-Me 2,2'-azobis[2-methylpropanoate]-initiated	Fluorinated (meth)acrylate polymers	6	22
85681-64-7		2-Propenoic acid, perfluoro-C8-16-alkyl esters	poly/perfluorinated (METH)ACRYLATES	8	16
68541-80-0		2-Propenoic acid, polymer with 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate and octadecyl 2-propenoate	Fluorinated (meth)acrylate polymers	8	8
1264198-78-8		2-Propenoic acid, polymer with butyl 2-propenoate and 2,5-furandione, .gamma.-.omega.-perfluoro-C8-14-alkyl esters, tert-Bu 2-ethylhexaneperoxoate-initiated, compds. with 2-(dimethylamino)ethanol	Fluorinated (meth)acrylate polymers	8	14
524729-93-9		2-Propenoic acid, polymer with butyl 2-propenoate and 2,5-furandione, γ,ω-perfluoroalkyl(C8-14) esters, potassium salts, tert-Bu-benzene carboperoxoate initiated	Fluorinated (meth)acrylate polymers	8	14
350672-20-7		2-Propenoic acid, polymer with butyl-2-propenoate, 2-hydroxyethyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl-2-propenoate, compd. with 2-(dimethylamino)ethanol	Fluorinated (meth)acrylate polymers	6	6
350672-19-4		2-Propenoic acid, polymer with butyl-2-propenoate, 2-propenoic acid, 2-hydroxyethyl ester and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl-2-propenoate	Fluorinated (meth)acrylate polymers	6	6
503297-86-7		2-Propenoic acid, polymers with Y-ω-perfluoroalkyl(C8-16) acrylate and stearyl acrylate (Copolymer of acrylic acid, octadecyl acrylate and 2-perfluoro[n-alkyl(C 6,8,10, 12,14)]ethyl acrylate (insoluble in water, acid and alkali also containing 1% or less of component having less than 1,000 of molecular weight))	Fluorinated (meth)acrylate polymers	8	16
212335-64-3		2-Propenoic acid, reaction products with N-[3-(dimethylamino)propyl]-1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonamide	Fluorinated (meth)acrylate polymers	4	4
671756-62-0		2-Propenoic acid, δ-ω-perfluoro-C9-15-alkyl esters	poly/perfluorinated (METH)ACRYLATES	9	15
96383-55-0	801-260-5	2-Propeonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-chloropropenoic acid ester	poly/perfluorinated (METH)ACRYLATES	6	6
479074-93-6		2-Propeonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl-, polymer with 2-methyloxirane, polymer with oxirane bis(2methyl2propenoate) and 2-methyloxirane polymer with oxirane mono(2methyl-2-propenoate)	Fluorinated (meth)acrylate polymers	6	6
113150-11-1		2-Propeonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl-, polymer with 2-methyl-2[(1oxo2propenyl)amino]-1-propanesulfonic acid and 2,2,2-trifluoroethyl-2-propenoate	Fluorinated (meth)acrylate polymers	8	8
831241-91-9		2-Propeonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl-, polymer with ethyloxirane homopolymer monoether with 1,2-propanediol mono(2methyl2propenoate), tertBu -2-ethylhexaneperoxoate, initiated	poly/perfluorinated POLYMERS	8	8
790697-52-8		2-Propeonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl-, polymer with α(1-oxo-2-propenyl)ohydroxypoly[oxy(methyl1,2ethanediyl)]	poly/perfluorinated POLYMERS	8	8
93776-01-3		2-Tridecanol, 1,1'-[oxybis[(1-methyl-2,1-ethanediyl)oxy]]bis[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-heneicosafluoro-	poly/perfluorinated ALKOHOLS	10	10
93776-04-6		2-Tridecanol, 1,1'-[oxybis[(1-methyl-2,1-ethanediyl)oxy]]bis[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-eicosafluoro-12-(trifluoromethyl)-	poly/perfluorinated ALKOHOLS	11	11
94159-80-5		2-Tridecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-heneicosafluoro-	poly/perfluorinated ALKOHOLS	10	10
94159-83-8		2-Tridecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-eicosafluoro-12-(trifluoromethyl)-	poly/perfluorinated ALKOHOLS	11	11
94159-86-1		2-Undecanol, 1-(ethenyloxy)-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-	poly/perfluorinated ALKOHOLS	8	8
93776-02-4		2-Undecanol, 1,1'-[oxybis[(1-methyl-2,1-ethanediyl)oxy]]bis[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-	poly/perfluorinated ALKOHOLS	8	8
93776-05-7		2-Undecanol, 1,1'-[oxybis[(1-methyl-2,1-ethanediyl)oxy]]bis[4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11,11-hexadecafluoro-10-(trifluoromethyl)-	poly/perfluorinated ALKOHOLS	9	9
94159-81-6		2-Undecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-	poly/perfluorinated ALKOHOLS	8	8
73353-26-1		2-Undecanol, 1-[[3-(dimethylamino)propyl]amino]-4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-10-(trifluoromethyl)-	poly/perfluorinated ALKOHOLS	9	9
94158-61-9		2-Undecanol, 1-[2-(2-butoxyethoxy)ethoxy]-4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-	poly/perfluorinated ALKOHOLS	8	8
94158-62-0		2-Undecanol, 1-[2-(2-butoxyethoxy)ethoxy]-4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-10-(trifluoromethyl)-	poly/perfluorinated ALKOHOLS	9	9
94159-91-8		2-Undecanol, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-1-phenoxy-	poly/perfluorinated ALKOHOLS	8	8
94159-92-9		2-Undecanol, 4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-1-phenoxy-10-(trifluoromethyl)-	poly/perfluorinated ALKOHOLS	9	9
	407-810-7	3-(N-(3-dimethylaminopropyl)-(C4-8)perfluoroalkylsulfonamido)propionic acid, reaction mass of N-[dimethyl-3-(C4-8-perfluoroalkylsulfonamido)propylammonium propionate, mixted with 3-(N-(3-dimethylpropylammonium)-(C4-8)perfluoroalkylsulfonamido)propionic acid propionate	Perfluoroalkyl sulfonamides (FASAs)	4	8
477529-30-9		3-(Trimethoxysilyl)propyl 2-methyl-2-propenoate polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl -2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl, 2-propenoate and octadecyl, 2-propenoate	poly/perfluorinated POLYMERS	8	10
701909-41-3		3,3,4,4,5,5,6,6,6-Nonafluoro-hexan-1-yl 2-chloroacrylate	poly/perfluorinated (METH)ACRYLATES	4	4
	402-910-7	3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 3-dibutylaminopropionate	OTHER poly/perfluorinated ORGANICS	6	6
220426-92-6		3,3'-Diamino-N,N'-[perfluoropropane-2,2-diylbis(6-hydroxy-3,1-phenylene)]dibenzamide	OTHER poly/perfluorinated ORGANICS	3	3
	441-190-9	3,5-dichloro-2-fluoro-4-(1,1,2,3,3,3-hexafluoropropoxy)aniline	OTHER poly/perfluorinated ORGANICS	3	3
13252-15-8		3,6,9,12,15-Pentaoxaoctadecanoyl fluoride, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,17,18,18,18-eicosafluoro-2,5,8,11,14-pentakis(trifluoromethyl)-	poly/perfluorinated ETHERS	3	3
26738-51-2		3,6,9,12-Tetraoxapentadecane, 1,1,1,2,4,4,5,7,7,8,10,10,11,13,13,14,14,15,15,15-eicosafluoro-5,8,11-tris(trifluoromethyl)-	poly/perfluorinated ETHERS	2	3
34761-47-2		3,6,9,12-Tetraoxapentadecanoyl fluoride, 2,4,4,5,7,7,8,10,10,11,13,13,14,14,15,15,15-heptadecafluoro-2,5,8,11-tetrakis(trifluoromethyl)-	poly/perfluorinated ETHERS	3	3
96288-56-1		3,7-Decadiene, 1,1,1,3,4,5,5,6,6,7,8,10,10,10,-tetradecafluoro-2,2,9,9-tetrakis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	14	14
104267-74-5		3-[2-(N-Methyl-N-heptadecafluorooctylsulfonylamino)ethyl]-1-[2-(N-propyl-N-heptadecafluorooctylsulfonylamino)ethyl]4-methyl-1,3-phenylenedicarbamate	poly/perfluorinated SULFONAMIDES	8	8
160336-10-7		3-[N-[3-[N'-[[3-perfluoroalkyl(C9-15)-2-hydroxypropyl]]amino]propyl]-N,N-dimethylammonio]propionate	poly/perfluorinated AMINES	9	15
348137-34-8		3-Cyclohexene-1-carboxylic acid, 6-[(di-2-propenylamino)carbonyl]-(1R,6R)-rel-, reaction products with pentafluoroiodoethane tetrafluoroethylene telomer	poly/perfluorinated POLYMERS	2	2
54912-87-7	259-392-9	3-Heptene-2,6-diol, 1,1,1,7,7,7-hexafluoro-2,6-bis(trifluoromethyl)-	poly/perfluorinated ALKOHOLS	3	3
813-45-6		3-Hexanone, 1,1,1,2,4,4,5,5,6,6,6-undecafluoro-2-(trifluoromethyl)-	OTHER poly/perfluorinated ORGANICS	5	5
958445-44-8		3H-perfluoro-3-[(3-methoxypropoxy) propanoic acid], ammonium salt	poly/perfluorinated ETHERS	1	3
6189-00-0		3-Pentanol, 1,1,1,2,2,4,4,5,5,5-decafluoro-3-(pentafluoroethyl)- (SWISS)	poly/perfluorinated ALKOHOLS	7	7
6884-92-0		3-Pentanol, 1,1,1,2,4,5,5,5-octafluoro-2,4-bis(trifluoromethyl)-, compd. with tetrahydrofuran (1:1)	poly/perfluorinated ALKOHOLS	6	6

684-32-2		3-Pentanone, 1,1,1,2,2,4,4,5,5,5-decafluoro-	OTHER poly/perfluorinated ORGANICS	4	4
756-13-8	436-710-6	3-Pentanone, 1,1,1,2,2,4,5,5,5-nonafluoro-4-(trifluoromethyl)-	OTHER poly/perfluorinated ORGANICS	5	5
813-44-5	212-384-9	3-Pentanone, 1,1,1,2,4,5,5,5-octafluoro-2,4-bis(trifluoromethyl)-	OTHER poly/perfluorinated ORGANICS	6	6
61097-96-9	262-604-2	3-Pentanone, 1,1,1,2,4,5,5,5-octafluoro-2,4-bis[2,3,5,5,6-pentafluoro-3,6-bis(trifluoromethyl)-1,4-dioxan-2-yl]oxy]-	poly/perfluorinated ETHERS	3	5
86994-47-0		3-perfluorohexyl-2-hydroxypropyl methacrylate	poly/perfluorinated (METH)ACRYLATES	6	6
288579-85-1		4-(trans-4-Ethylcyclohexyl)-2-fluorobenzoic acid, 4-trifluoromethoxyphenyl ester	poly/perfluorinated ESTERS	4	4
191877-09-5	426-860-0	4,11-TRIPHENODIOXAZINEDISULFONIC ACID, 3,10-BIS[(2-AMINOPROPYL)AMINO]-6,13-DICHLORO-, REACTION PRODUCTS WITH 2-AMINO-1,4-BENZENEDISULFONIC ACID, 2-[(4-AMINOPHENYL)SULFONYL]ETHYL HYDROGEN SULFATE AND 2,4,6-TRIFLUORO-1,3,5-TRIAZINE, SODIUM SALTS	poly/perfluorinated POLYMERS		
101896-21-3		4,6-Dioxa-3,7-diaza-5-phosphanonane-1,9-diol, 3,7-bis(2-hydroxyethyl)-5-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-nonadecafluoroundecyl)oxy]-, 5-oxide	poly/perfluorinated PHOSPHOORGANICS	7	7
101896-22-4		4,6-Dioxa-3-aza-5-phosphaheptadecan-1-ol, 9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,17-nonadecafluoro-3-(2-hydroxyethyl)-5-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-nonadecafluoroundecyl)oxy]-, 5-oxide	poly/perfluorinated PHOSPHOORGANICS	9	9
90431-83-7	291-611-3	4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro-5-methyl-, reaction products with hexahydro-1,3-isobenzofurandione and [(1,1,2,2-tetrafluoroethoxy)methyl]oxirane	poly/perfluorinated POLYMERS		
90431-84-8	291-612-9	4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro-5-methyl-, reaction products with hexahydro-1,3-isobenzofurandione and [(2,2,3,3-tetrafluoropropoxy)methyl]oxirane	poly/perfluorinated POLYMERS		
90431-85-9	291-613-4	4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro-5-methyl-, reaction products with hexahydro-1,3-isobenzofurandione and 2,2,3,3-tetrafluoro-1-propanol	poly/perfluorinated POLYMERS		
71608-58-7		4,7-Methanoisobenzofurandione, hexahydro-, 5-[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio] derivs.	poly/perfluorinated TIOLS	8	20
172398-80-0		4-Heptadecafluorooctanesulfonamidobenzenesulfonic acid sodium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
83846-71-3	281-049-7	4-Pentenoic acid, 2-(heptafluoropropyl)-2-(trifluoromethyl)-, methyl ester	OTHER poly/perfluorinated ORGANICS	1	3
	413-640-4	5-(N-methylperfluorooctylsulfonamido)methyl-3-octadecyl-1,3-oxazolidin-2-one, mixted with 5-(N-methylperfluoroheptylsulfonamido)methyl-3-octadecyl-1,3-oxazolidin-2-one	Perfluoroalkyl sulfonamides (FASAs)	7	8
678-18-2		5-hexanone, 1,1,1,2,2,3,3,4,4-nonafluoro-("Methyl Perfluorobutyl Ketone")	OTHER poly/perfluorinated ORGANICS	4	4
1012783-70-7		6:2 fluorotelemer-based side-chain fluorinated polymer	poly/perfluorinated POLYMERS	6	6
1071022-25-7		6:2 fluorotelemer-based side-chain fluorinated polymer	poly/perfluorinated POLYMERS	6	6
1206450-09-0		6:2 fluorotelemer-based side-chain fluorinated polymer	poly/perfluorinated POLYMERS	6	6
1345817-52-8		6:2 fluorotelemer-based side-chain fluorinated polymer	poly/perfluorinated POLYMERS	6	6
		6-[3-tert-butyl-5-(2,4-disubstituted-3,4-dihydropyrimidin-1(2H)-yl)-2-methoxyphenyl]polycycl-2-yl 1,1,2,2,3,3,4,4,4- nonafluorobutane-1-sulfonate	OTHER poly/perfluorinated ORGANICS	4	4
125768-41-4		9-Octadecenoic acid (Z-), reaction products with 3,3,4,4,5,5,6,6,7,7,8,8,9,9, 10,10,11,11,12,12,12-heneicosafluoro-1-dodecanol (AICS)	poly/perfluorinated ESTERS	10	10
220237-52-5		9-Octadecenoic acid (Z-)-, reaction products with 3,3,4,4,5,5,6,6,7,7,8,8,9,9, 10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-1-tetradecanol (AICS)	poly/perfluorinated ESTERS	12	12
185630-90-4		9-Octadecenoic acid (Z)-, reaction products with N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-1-octanesulfonamide	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
	403-050-5	A 3:1 mixture of: perfluoro(5,8,9,12-tetramethyl-4,7,10,13-tetraoxahexadecane); perfluoro(5,6,9,12-tetramethyl-4,7,10,13-tetraoxahexadecane)	poly/perfluorinated ETHERS	1	3
	423-180-6	A mixture of: 1-(1'H,1'H,2'H,2'H-tridecafluorooctyl) 12-(1"H,1"H,2"H,2"H-tridecafluorooctyl)dodecanedioate; 1-(1'H,1'H,2'H,2'H-tridecafluorooctyl) 12-(1"H,1"H,2"H,2"H-heptdecafluorodecyl)dodecanedioate; 1-(1'H,1'H,2'H,2'H-tridecafluorooctyl) 12-(1	poly/perfluorinated POLYMERS	6	6
283164-62-5		Acetic acid ethenyl ester, polymer with ethene, 3,3,4,4,5,5,6,6,6-nonafluoro-1-hexene and 1,1,2,2-tetrafluoroethene	Polytetrafluoroethylene (PTFE)	2	4
70776-76-0		Acetic acid, [1-[difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]difluoro-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
68805-70-9		Acetic acid, [1-[difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]difluoro-, potassium salt, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
71608-37-2		Acetic acid, bis[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio] derivs.	poly/perfluorinated TIOLS	8	20
71608-38-3		Acetic acid, bis[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio] derivs., compds. with diethanolamine	poly/perfluorinated TIOLS	8	20
71608-39-4		Acetic acid, bis[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio] derivs., Me esters	poly/perfluorinated TIOLS	8	20
71608-40-7		Acetic acid, bis[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio] derivs., sodium salts	poly/perfluorinated TIOLS	8	20
72623-70-2		Acid chlorides, C8-14, .beta.-.omega.-perfluoro	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	14
510734-75-5		Addition compound of octane-1-thiol to one terminal of copolymer of 2[perfluoroalkyl(C 4-14)]ethyl acrylate, ethyl methacrylate and 2-(2hydroxyethoxy)ethyl methacrylate	poly/perfluorinated POLYMERS	4	14
70983-62-9		Alcohols, C3-11, .beta.-.omega.-perfluoro-.omega.-hydro	poly/perfluorinated ALKOHOLS	3	11
68526-97-6		Alcohols, C3-12, .beta.-.omega.-perfluoro-.omega.-hydro, sodium salts	poly/perfluorinated ALKOHOLS	3	12
98561-40-1		Alcohols, C3-7, .beta.-.omega.-perfluoro-.omega.-hydro, reaction products with 3a,4,7,7a-tetrahydro-1,3-isobenzofurandione	poly/perfluorinated ESTERS	3	7
98561-41-2		Alcohols, C3-7, .beta.-.omega.-perfluoro-.omega.-hydro, reaction products with 3a,4,7,7a-tetrahydromethyl-4,7-methanoisobenzofuran-1,3-dione	poly/perfluorinated ESTERS	3	7
91770-94-4		Alcohols, C4-8-tertiary, .omega.-(ethenyloxy), perfluoro	poly/perfluorinated ALKOHOLS	4	8
90622-43-8		Alcohols, C7-22, .epsilon.-.omega.-perfluoro-, .beta.-.delta.-fluoro	poly/perfluorinated ALKOHOLS	7	22
391895-07-1		Alcohols, C8-14, .alpha.-.omega.-perfluoro, ethoxylated, propoxylated	poly/perfluorinated ETHOXYLATES	8	14
68391-08-2	269-927-8	Alcohols, C8-14, .gamma.-.omega.-perfluoro	poly/perfluorinated ALKOHOLS	8	14
374551-53-8		Alcohols, C8-14, .gamma.-.omega.-perfluoro, polymers with 1,3-butanediol, 1,3-diisocyanatomethylbenzene and 2-ethyl-2-(hydroxymethyl)-1,3-propanediol	Fluorinated urethanes polymers	8	14
91745-16-3		Alcohols, C8-14, .gamma.-.omega.-perfluoro, reaction products with 5,5'-carbonylbis[1,3-bisbenzofurandione] and epichlorohydrin	poly/perfluorinated POLYMERS	8	14
118102-37-7		Alcohols, C8-14, .gamma.-.omega.-perfluoro, reaction products with epichlorohydrin, polyethylene glycol monomethyl ether and N,N',2-tris(6-isocyanatohexyl) imidodicarbonic diamide	Fluorinated urethanes polymers	8	14
118102-38-8		Alcohols, C8-14, .gamma.-.omega.-perfluoro, reaction products with epichlorohydrin, tetrahydrofuran homopolymer and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide	Fluorinated urethanes polymers	8	14
376364-33-9		Alcohols, C8-14, γ-ω-perfluoro, polymers with α-fluoro-ω-[2-[(2-methyl-1-oxo-2propenyl)oxy]ethyl]poly(difluoromethylene), methanol, stearyl acrylate, stearyl methacrylate, 2,4-TDI and vinyl chloride (AICS)	Fluorinated (meth)acrylate polymers	6	12
185630-70-0		Alcohols, C8-14, γ-ω-perfluoro, reaction products with epichlorohydrin and propylene oxide, trimethylamine-quaternized (AICS)	poly/perfluorinated POLYMERS	8	14
		Alkanes, C9-10, perfluoro-, sulfonic acid, ammonium salts	poly/perfluorinated SULFONIC/SULFINIC ACIDS	9	10
68155-04-4		Alkenes, C4-20 .alpha.-, .gamma.-.omega.-perfluoro	poly/perfluorinated ALKANES/ALKENES	4	20
210432-72-7		Alkenes, C8-14 .alpha., .gamma.-.omega.-perfluoro	poly/perfluorinated ALKANES/ALKENES	8	14
97659-47-7	307-452-0	Alkenes, C8-14 alpha-,gamma-omega-perfluoro-	poly/perfluorinated ALKANES/ALKENES	8	14
68390-33-0		Alkyl iodides, C10-12, .gamma.-.omega.-perfluoro-	poly/perfluorinated IODIDES	10	12
68390-32-9		Alkyl iodides, C14-18, .gamma.-.omega.-perfluoro-	poly/perfluorinated IODIDES	14	18
68188-12-5		Alkyl iodides, C4-20, .gamma.-.omega.-perfluoro-	poly/perfluorinated IODIDES	4	20
90622-71-2	292-474-2	Alkyl iodides, C6-18, perfluoro	poly/perfluorinated IODIDES	6	18
85995-91-1	289-100-5	Alkyl iodides, C8-14, .gamma.-.omega.-perfluoro	poly/perfluorinated IODIDES	8	14
90622-99-4		Amides, C7-19, .alpha.-.omega.-perfluoro-N,N-bis(hydroxyethyl)	poly/perfluorinated AMINES	7	19
206009-80-5		Amines, C12-14-tert-alkyl, compds. with .gamma.-.omega.-perfluoro-C6-12-alkyl dihydrogen phosphate (1:1)	poly/perfluorinated PHOSPHOORGANICS	6	12
206009-81-6		Amines, C12-14-tert-alkyl, compds. with bis(.gamma.-.omega.-perfluoro-C6-12-alkyl) hydrogen phosphate (1:1)	poly/perfluorinated PHOSPHOORGANICS	6	12
1-87-6		Amines, tris(perfluoro-C10-12-alkyl)-	poly/perfluorinated AMINES	10	12
160994-74-1		Ammonia reaction products with trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)silane	OTHER poly/perfluorinated ORGANICS	8	8

	480-310-4	ammonium 2,2,3-trifluoro-3-(1,1,2,2,3,3-hexafluoro-3-trifluoromethoxypropoxy)propionate	poly/perfluorinated ETHERS	1	3
		Ammonium perfluorohexyl ethylphosphates is the ammonium salt of a complex mixture of esters of perfluorohexylethanol and phosphoric acid	poly/perfluorinated PHOSPHOORGANICS	6	6
		Ammonium slats of mono- and bis[3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl and/or poly (substituted alkene)] phosphate	poly/perfluorinated PHOSPHOORGANICS	6	6
		Behenyl Methacrylate/Perfluorooctylethyl Methacrylate Copolymer is a copolymer of behenyl methacrylate and Perfluorooctylethyl Methacrylate monomers	Fluorinated (meth)acrylate polymers	2	10
73019-19-9		Benzamide, 4-[[4-[[[2-[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl]amino]carbonyl]phenyl]methyl]-N-octadecyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
175449-31-7		Benzene, 1,3-diisocyanatomethyl-, polymers with hydrolyzed Me esters of reduced polymd. oxidized tetrafluoroethylene	poly/perfluorinated POLYMERS		
26658-70-8		Benzene, pentafluoro[1,2,2-trifluoro-2-[(trifluoroethenyl)oxy]-1-(trifluoromethyl)ethoxy]-, polymer with tetrafluoroethene and trifluoro(trifluoromethoxy)ethene	Polytetrafluoroethylene (PTFE)		
109037-75-4		Benzene, reaction products with chlorine and sulfur chloride (S2Cl2), hexafluoroantimonates(1-)	poly/perfluorinated POLYMERS		
68972-29-2		Benzenemethanaminium, N-(carboxymethyl)-4-[(heptadecafluorononenyl)oxy]-N,N-dimethyl-, inner salt	poly/perfluorinated AMMONIUM ORGANICS	8	8
52026-59-2	257-615-4	Benzenesulfonamide, 4-[[4,4,5,5,5-pentafluoro-3-(pentafluoroethyl)-1,2,3-tris(trifluoromethyl)-1-pentenyl]oxy]-N-[3-(triethoxysilyl)propyl]-	poly/perfluorinated ETHERS	1	6
93819-97-7	298-581-0	Benzenesulfonamide, N,N-bis(2-hydroxyethyl)-4-[[4,4,5,5,5-pentafluoro-3-(pentafluoroethyl)-1,2,3-tris(trifluoromethyl)-1-pentenyl]oxy]-	poly/perfluorinated ETHERS	1	8
69013-34-9		Benzenesulfonamide, N-methyl-4-[[4,4,5,5,5-pentafluoro-3-(pentafluoroethyl)-1,2,3-tris(trifluoromethyl)-1-pentenyl]oxy]-N-[2-(phosphonooxy)ethyl]-	poly/perfluorinated ETHERS	1	7
41674-07-1		Benzenesulfonic acid, [(heptadecafluorooctyl)oxy]-, sodium salt	poly/perfluorinated ETHERS	8	8
51032-47-4		Benzenesulfonic acid, [[[(heptadecafluorooctyl)sulfonyl]amino]methyl]-, monosodium salt	poly/perfluorinated SULFONAMIDES	8	8
68299-19-4		Benzenesulfonic acid, [[[(nonafluorobutyl)sulfonyl]amino]methyl]-, monosodium salt	poly/perfluorinated SULFONAMIDES	4	4
68299-21-8		Benzenesulfonic acid, [[[(tridecafluorohexyl)sulfonyl]amino]methyl]-, monosodium salt	poly/perfluorinated SULFONAMIDES	6	6
68299-20-7		Benzenesulfonic acid, [[[(undecafluoropentyl)sulfonyl]amino]methyl]-, monosodium salt	poly/perfluorinated SULFONAMIDES	5	5
59536-17-3		Benzenesulfonic acid, 4-[(heptadecafluorononenyl)oxy]-, sodium salt	poly/perfluorinated ETHERS	8	8
59493-84-4		Benzenesulfonic acid, 4-[(undecafluorohexenyl)oxy]-, sodium salt	poly/perfluorinated ETHERS	5	5
94042-95-2		Benzenesulfonic acid, 4-[[1,3,4,4,5,5,5-heptafluoro-2-[2,2,3,3,3-pentafluoro-1-(pentafluoroethyl)-1-(trifluoromethyl)propyl]-3-(trifluoromethyl)-1-pentenyl]oxy]-, sodium salt	poly/perfluorinated ESTERS	1	5
85284-15-7	286-635-6	Benzenesulfonic acid, 4-[[1,3,4,5,5,5,5-hexafluoro-1-(pentafluoroethyl)-2,4-bis(trifluoromethyl)-2-pentenyl]oxy]-, sodium salt	poly/perfluorinated ESTERS	1	4
94042-94-1		Benzenesulfonic acid, 4-[[1,4,4,5,5,5,5-hexafluoro-1,2,3-tris(trifluoromethyl)-2-pentenyl]oxy]-, sodium salt	poly/perfluorinated ESTERS	3	4
85284-17-9	286-636-1	Benzenesulfonic acid, 4-[[3,3,3-trifluoro-1-(pentafluoroethyl)-2-(trifluoromethyl)-1-propenyl]oxy]-, sodium salt	poly/perfluorinated ESTERS	1	3
70729-63-4		Benzenesulfonic acid, 4-[[4,4,5,5,5-pentafluoro-3-(pentafluoroethyl)-1,2,3-tris(trifluoromethyl)-1-pentenyl]oxy]-, compd. with N,N-dibutyl-1-butanamine (1:1)	poly/perfluorinated ESTERS	1	5
52584-45-9		Benzenesulfonic acid, 4-[[4,4,5,5,5-pentafluoro-3-(pentafluoroethyl)-1,2,3-tris(trifluoromethyl)-1-pentenyl]oxy]-, sodium salt	poly/perfluorinated ESTERS	1	7
68299-29-6		Benzenesulfonic acid, ar-[[[(pentadecafluoroheptyl)sulfonyl]amino]methyl]-, monosodium salt	poly/perfluorinated SULFONAMIDES	7	7
90218-71-6		Benzenesulfonyl chloride, [[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1-oxooctyl)amino]methyl]-, branched and linear	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	7	7
90218-70-5		Benzenesulfonyl chloride, [[[(heptadecafluorooctyl)sulfonyl]amino]methyl]-, branched and linear	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
24216-05-5		Benzenesulfonyl chloride, 3,4-bis[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1-oxooctyl)amino]-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	7	7
25444-35-3		Benzenesulfonyl chloride, 4-(pentadecafluoroheptyl)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	7	7
59536-15-1		Benzenesulfonyl chloride, 4-[(heptadecafluorononenyl)oxy]-	poly/perfluorinated ETHERS	7	7
59493-82-2		Benzenesulfonyl chloride, 4-[(undecafluorohexenyl)oxy]-	poly/perfluorinated ETHERS	5	8
51947-19-4		Benzenesulfonyl chloride, 4-[[4,4,5,5,5-pentafluoro-3-(pentafluoroethyl)-1,2,3-tris(trifluoromethyl)-1-pentenyl]oxy]-	poly/perfluorinated ETHERS	8	8
57589-85-2		Benzoic acid, 2,3,4,5-tetrachloro-6-(((3-(((heptadecafluorooctyl)sulfonyl)oxy)phenyl)amino)carbonyl)-, monopotassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
68568-54-7		Benzoic acid, 2,3,4,5-tetrachloro-6-(((3-(((nonafluorobutyl)sulfonyl)oxy)phenyl)amino)carbonyl)-, monopotassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
68541-01-5		Benzoic acid, 2,3,4,5-tetrachloro-6-(((3-(((pentadecafluoroheptyl)sulfonyl)oxy)phenyl)amino)carbonyl)-, monopotassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	7	7
68815-72-5		Benzoic acid, 2,3,4,5-tetrachloro-6-(((3-(((tridecafluorohexyl)sulfonyl)oxy)phenyl)amino)carbonyl)-, monopotassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
68541-02-6		Benzoic acid, 2,3,4,5-tetrachloro-6-(((3-(((undecafluoropentyl)sulfonyl)oxy)phenyl)amino)carbonyl)-, monopotassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	11	11
29811-19-6		Benzoic acid, 2-sulfo-, 1-(2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl) ester, sodium salt	poly/perfluorinated ESTERS	6	6
406207-51-0		Benzoic acid, 4-(1,1-dimethylethyl)-, ethenyl ester, polymer with ethene, 4-(ethenyloxy)-1-butanol, 1,1,2,3,3,3-hexafluoro-1-propene and 1,1,2,2-tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
503454-47-5		Benzoic acid, 4,4'-oxybis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethlidene]bis[2-amino phenol], bis[hydrogen-rel-(1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3- dicarboxylate]	poly/perfluorinated POLYMERS		
500359-01-3		Benzoic acid, 4,4'-oxybis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol], bis(hydrogen-1,2-cyclohexanedicarboxylate)	poly/perfluorinated POLYMERS		
1202745-43-4		Benzoic acid, 4,4'-oxybis-, polymer with 5,5'-oxybis[1,3-isobenzofurandione], 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine], 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] and N,N'-[[2,2,2-trifluoro-1-(trifluorome	poly/perfluorinated POLYMERS		
1203810-15-4		Benzoic acid, 4,4'-oxybis-, polymer with 5,5'-oxybis[1,3-isobenzofurandione], 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine], 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] and N,N'-[[2,2,2-trifluoro-1-(trifluorome	poly/perfluorinated POLYMERS		
58253-65-9		Benzoic acid, 4-[(heptadecafluorononenyl)oxy]-	poly/perfluorinated ETHERS	8	8
154532-82-8		Benzoic acid, ethenyl ester, polymer with propanoic acid, 2,2-dimethyl-, ethenyl ester, 1-butanol 4-(ethenyloxy)-, 1-propene, 2-methyl- and ethene, tetrafluoro-	poly/perfluorinated POLYMERS		
115340-82-4		Betaines, (hydroxyethyl)methyl(γ-ω-perfluoro-C8-14-β-alkenyl)(2-sulfopropyl)(AICS)	OTHER poly/perfluorinated ORGANICS	8	14
98219-29-5		Betaines, N-(hydroxyethyl)-N-methyl-N-(2-sulfoethyl)-N-(1,1,2-trihydroperfluoro-C8-14-2-alkenyl)	OTHER poly/perfluorinated ORGANICS	8	14
70850-11-2		Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, 2-methyl ester, polymer with 1,4-benzenediamine and 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[1,3-isobenzofurandione]	poly/perfluorinated POLYMERS		
71608-43-0		Bicyclo[2.2.1]heptane-2,3-dicarboxylic acid, 5-[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio] derivs.	poly/perfluorinated TIOLS	8	20
32687-76-6		Bis(2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptanoyl) peroxide	poly/perfluorinated CARBOXYLIC ACIDS	6	6
57677-95-9		Bis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctan-1-yl) hydrogen phosphate	poly/perfluorinated PHOSPHOORGANICS	6	6
52299-25-9	700-183-3	Bis(nonafluorobutyl)phosphinic acid	poly/perfluorinated PHOSPHOORGANICS	4	4
753501-43-8		Boron, trifluoro(tetrahydrofuran)-, (T-4)-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and 3-methyl-3-[(2,2,3,3,3-pentafluoropropoxy)methyl]oxetane	Fluorinated oxetane polymers		
864910-70-3		Boron, trifluoro(tetrahydrofuran)-, (T-4)-, polymer with 2-methyloxirane, 3-methyl-3-[(2,2,3,3,3-pentafluoropropoxy)methyl]oxetane, oxirane and tetrahydrofuran	Fluorinated oxetane polymers		2
332079-06-8		Boron, trifluoro(tetrahydrofuran)-, (T-4)-, polymer with 3-methyl-3-[(2,2,2-trifluoroethoxy)methyl]oxetane	Fluorinated oxetane polymers		
332079-07-9		Boron, trifluoro(tetrahydrofuran)-, (T-4)-, polymer with 3-methyl-3-[(2,2,2-trifluoroethoxy)methyl]oxetane, ether with 2,2-dimethyl-1,3-propanediol (2:1)	Fluorinated oxetane polymers		
753501-40-5		Boron, trifluoro(tetrahydrofuran)-, (T-4)-, polymer with 3-methyl-3-[(2,2,3,3,3-pentafluoropropoxy)methyl]oxetane, ether with 2,2-dimethyl-1,3-propanediol (2:1)	Fluorinated oxetane polymers		
452080-67-0		Boron, trifluoro(tetrahydrofuran)-, (T-4)-, polymer with 3-methyl-3-[(2,2,3,3,3-pentafluoropropoxy)methyl]oxetane, ether with 2,2-dimethyl-1,3-propanediol (2:1), bis(hydrogen sulfate), diammonium salt	Fluorinated oxetane polymers		
1029089-63-1		Boron, trifluoro(tetrahydrofuran)-, (T-4)-, polymer with 3-methyl-3-[(2,2,3,3,3-pentafluoropropoxy)methyl]oxetane, ether with 2,2-dimethyl-1,3-propanediol (2:1), polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocya	Fluorinated oxetane polymers		
375-02-0	206-783-7	Butanal, heptafluoro-	OTHER poly/perfluorinated ORGANICS	4	4
662-50-0	211-553-4	Butanamide, 2,2,3,3,4,4,4-heptafluoro-	OTHER poly/perfluorinated ORGANICS	3	3
346-10-1		Butanamide, n-[4-[[2-[2,4-bis(1,1-dimethylpropyl)phenoxy]-1-oxobutyl]amino]-2-hydroxyphenyl]-2,2,3,3,4,4,4-heptafluoro-	OTHER poly/perfluorinated ORGANICS	3	3
423-39-2	207-025-8	Butane, 1,1,1,2,2,3,3,4,4-nonafluoro-4-iodo-	poly/perfluorinated IODIDES	4	4

163702-07-6		Butane, 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-	OTHER poly/perfluorinated ORGANICS	4	4
185045-68-5		Butane, 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-, mixt. with (1E)-1,2-dichloroethene and 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane	poly/perfluorinated ETHERS	1	4
374-98-1	206-779-5	Butane, 1,1,1,2,2,3,3-heptafluoro-4-iodo-	poly/perfluorinated IODIDES	3	3
375-51-9		Butane, 1,1,1,2,2,3,4,4,4-nonafluoro-3-iodo-	poly/perfluorinated IODIDES	4	4
40723-80-6	255-055-5	Butane, 1,1,1,2,2-pentafluoro-4-iodo-	poly/perfluorinated IODIDES	4	4
594-91-2		Butane, 1,1,1,2,3,3,4,4,4-nonafluoro-2-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	5	5
2501-01-1		Butane, 1,1,1,2,3,4,4,4-octafluoro-2,3-bis(1,1,2,2,3,3,3-heptafluoropropoxy)-	poly/perfluorinated ETHERS	4	4
354-96-1		Butane, 1,1,1,2,3,4,4,4-octafluoro-2,3-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	6	6
377-36-6		Butane, 1,1,2,2,3,3,4,4-octafluoro-	OTHER poly/perfluorinated ORGANICS	4	4
375-50-8	206-788-4	Butane, 1,1,2,2,3,3,4,4-octafluoro-1,4-diiodo-	poly/perfluorinated IODIDES	4	4
54572-17-7		Butane, 1,1,2,3,4,4-hexafluoro-1,2,3,4-tetrakis(heptafluoropopoxy)-, (R*,S*)-	poly/perfluorinated ETHERS	4	4
54208-66-1		Butane, 1,1,2,3,4,4-hexafluoro-1,2,3,4-tetrakis(heptafluoropropoxy)-	poly/perfluorinated ETHERS	4	4
355-24-8		Butane, 1,4-dichloro-1,1,2,2,3,3,4,4-octafluoro-	OTHER poly/perfluorinated ORGANICS	4	4
163702-05-4		Butane, 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluoro-	poly/perfluorinated ETHERS	4	4
355-20-4		Butane, 2,3-dichloro-1,1,1,2,3,4,4,4-octafluoro-	OTHER poly/perfluorinated ORGANICS	4	4
355-25-9	206-580-3	Butane, decafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
28984-80-7		Butane, trichloroheptafluoro-	OTHER poly/perfluorinated ORGANICS	2	4
503534-33-6		Butanedioic acid, [(carboxymethyl)thio]-, 1,4-bis(3,3,4,4,5,5,6,6,6-nonafluorohexyl)ester, lithium salt	poly/perfluorinated ESTERS	4	4
94166-88-8		Butanedioic acid, sulfo-, 1,4-bis(.alpha.-.omega.-perfluoro-C6-12-alkyl) esters, sodium salts	poly/perfluorinated ESTERS	6	12
63367-17-9		Butanedioic acid, sulfo-, 1,4-bis(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluorononyl) ester, sodium salt	poly/perfluorinated SULFONAMIDES	8	8
98151-22-5		Butanedioic acid, sulfo-, 1,4-bis(2,2,3,3,4,4,5,5,6,6-decafluorohexyl) ester, sodium salt	poly/perfluorinated SULFONAMIDES	5	5
54950-05-9		Butanedioic acid, sulfo-, 1,4-bis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) ester, sodium salt	poly/perfluorinated ESTERS	6	6
72905-91-0		Butanedioic acid, sulfo-, 1,4-bis(mixed 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl and 2,2,3,3,4,4,5,5-octafluoropentyl) esters, sodium salts	poly/perfluorinated ESTERS	4	6
90268-45-4		Butanesulfonyl fluoride, nonafluoro-, branched	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	4	4
661476-43-3		Butanoic acid, 2,2,3,3,4,4-hexafluoro-4-[(trifluoroethenyl)oxy]-, methyl ester, homopolymer, hydrolyzed	poly/perfluorinated POLYMERS		
68187-25-7		Butanoic acid, 4-[[3-(dimethylamino) propyl]amino]-4-oxo-, 2(or 3)-[(.gamma.-.omega.-perfluoro-C6-20-alkyl)thio] derivs.	poly/perfluorinated TIOLS	6	20
375-22-4	206-786-3	Butanoic acid, heptafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	3	3
17165-55-8		Butanoic acid, heptafluoro-, 2-propenyl ester	poly/perfluorinated ESTERS	4	4
336-59-4	206-410-8	Butanoic acid, heptafluoro-, anhydride	poly/perfluorinated ESTERS	4	4
356-28-5		Butanoic acid, heptafluoro-, ethenyl ester	poly/perfluorinated ESTERS	4	4
356-27-4	206-602-1	Butanoic acid, heptafluoro-, ethyl ester	poly/perfluorinated ESTERS	4	4
356-24-1	206-600-0	Butanoic acid, heptafluoro-, methyl ester	poly/perfluorinated ESTERS	4	4
3794-64-7	223-266-1	Butanoic acid, heptafluoro-, silver(1+) salt	poly/perfluorinated CARBOXYLIC ACIDS	4	4
2218-54-4	218-721-6	Butanoic acid, heptafluoro-, sodium salt	poly/perfluorinated CARBOXYLIC ACIDS	4	4
211697-45-9		Butanoic acid,2,2,3,3,4,4-hexafluoro-4-[(trifluoroethenyl) oxy]-, sodium salt, polymer with 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]propane and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
69531-49-3		Butanoic acid,2,2,3,3,4,4-hexafluoro-4-[(trifluorothenyl)oxy]-, sodium salt, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
89461-13-2		Butanol, (ethenyloxy)-, polymer with chlorotrifluoroethene and (ethenyloxy)cyclohexane	poly/perfluorinated POLYMERS		
11070-66-9		Butene, octafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
213188-00-2		Butyl acrylate modified ethylene and chlorotrifluoroethylene, polymer	poly/perfluorinated POLYMERS		
		Butyl acrylate/C6-14 perfluoroalkylethyl acrylate/mercaptopropyl dimethicone copolymer is a copolymer of 2-(perfluoro(C6-14 alkyl)) ethyl acrylate, n-butyl acrylate and mercaptopropyl dimethicone monomers	Fluorinated (meth)acrylate polymers	6	12
50937-96-7		Butyl acrylate-N-Perfluorooctylsulfonyl-N-methylaminoethyl methacrylate copolymer	Fluorinated (meth)acrylate polymers	8	8
172616-04-5		C4 Perfluorinated surfactant	OTHER poly/perfluorinated ORGANICS	4	4
141607-32-1		C6 Perfluorinated surfactant	OTHER poly/perfluorinated ORGANICS	6	6
		C6-14 Perfluoroalkylethyl Acrylate/HEMA Copolymer is a copolymer of 2-(perfluoro(C6-14 alkyl)) ethyl acrylate and 2-hydroxyethyl methacrylate monomers	Fluorinated (meth)acrylate polymers	6	14
21055-88-9		Carbamic acid, (4-methyl-1,3-phenylene)bis-, bis[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl] ester	poly/perfluorinated SULFONAMIDES	8	8
68081-83-4		Carbamic acid, (4-methyl-1,3-phenylene)bis-, bis[2-[ethyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl] ester	poly/perfluorinated SULFONAMIDES	4	8
67846-66-6		Carbamic acid, [2-(sulfothio)ethyl]3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-, C-ethyl ester, sodium salt	poly/perfluorinated URETHANES	6	6
95370-51-7		Carbamic acid, [2-(sulfothio)ethyl]-, C-(.gamma.-.omega.-perfluoro-C6-9-alkyl) esters, monosodium salts	poly/perfluorinated URETHANES	6	9
82199-07-3		Carbamic acid, [2-(sulfothio)ethyl]-, C-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) ester, monosodium salt	poly/perfluorinated URETHANES	6	6
53122-42-2		Carbamic acid, [4-methyl-3-[[(2-methyl-1-aziridinyl)carbonyl]amino]phenyl]-, 2-[[3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)decyl]thio]-1-[[[3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-hexadecafluoro-9-(trifluoromethyl)decyl]thio]methyl]e	poly/perfluorinated TIOLS	9	9
72779-04-5		Carbamic acid, [4-methyl-3-[[(2-methyl-1-aziridinyl)carbonyl]amino]phenyl]-, 2-[[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluoromethyl)dodecyl]thio]-1-[[[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-eicosafluoro-11-(trifluorometh	poly/perfluorinated TIOLS	10	10
72779-05-6		Carbamic acid, [4-methyl-3-[[(2-methyl-1-aziridinyl)carbonyl]amino]phenyl]-, 2-[[3,3,4,4,5,5,6,6,7,8,8,8-dodecafluoro-7-(trifluoromethyl)octyl]thio]-1-[[[3,3,4,4,5,5,6,6,7,8,8,8-dodecafluoro-7-(trifluoromethyl)octyl]thio]methyl]ethyl ester	poly/perfluorinated TIOLS	7	7
93894-74-7		Carbamic acid, [5-[[[2-[[(heptadecafluoroisooctyl)sulfonyl]methylamino]ethoxy]carbonyl]amino]-2-methylphenyl]-, 9-octadecenyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
94313-84-5		Carbamic acid, [5-[[[2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethoxy]carbonyl]amino]-2-methylphenyl]-, 9-octadecenyl ester, (Z)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
72968-38-8	277-138-5	Carboxylic acids, C7-13, perfluoro, ammonium salts	poly/perfluorinated CARBOXYLIC ACIDS	7	13
160476-36-8		Chloroethylene-vinylformic acid-perfluoroalkyl(ethyl) copolymer	poly/perfluorinated POLYMERS		
172074-63-4		Chlorotrifluoroethylene-Vinylmethyldiethoxysilane copolymer	poly/perfluorinated POLYMERS		2
71608-45-2		Chromium, 4,4-bis[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio]pentanoate chloro hydroxy complexes	poly/perfluorinated TIOLS	8	20
71608-44-1		Chromium, bis[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio]acetate chloro hydroxy complexes	poly/perfluorinated TIOLS	8	20
71608-46-3		Chromium, chloro hydroxy 5-[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio]bicyclo[2.2.1]heptane-2,3-dicarboxylate complexes	poly/perfluorinated TIOLS	8	20
68891-96-3		Chromium, diaquatetrachloro[.mu.-[N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]glycinato-O1:O1']]-.mu.-hydroxybis(2-methylpropanol)di-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
68900-97-0		Chromium, diaquatetrachloro[.mu.-[N-ethyl-N-[(nonafluorobutyl)sulfonyl]glycinato-O1:O1']]-.mu.-hydroxybis(2-propanol)di-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68891-97-4		Chromium, diaquatetrachloro[.mu.-[N-ethyl-N-[(pentadecafluoroheptyl)sulfonyl]glycinato-O1: O1']]-.mu.-hydroxybis(2-propanol)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68891-98-5		Chromium, diaquatetrachloro[.mu.-[N-ethyl-N-[(tridecafluorohexyl)sulfonyl]glycinato-O1:O1']]-.mu.-hydroxybis(2-propanol)di-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6

68891-99-6		Chromium, diaquatetrachloro(.mu.-[N-ethyl-N-[(undecafluoropentyl)sulfonyl]glycinato-O1:O1']}-.mu.-hydroxybis(2-propanol)di-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
97298-47-0		Chromium, hexachloro[.mu.-[N-[(heptadecafluorooctyl)sulfonyl]-N-methylglycinato-O1:O1']]di-.mu.-hydroxytri-, cyclo	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
72869-27-3		Chromium, N-[2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-docosafluoro-1-oxo-11-(trifluoromethyl)dodecyl]glycine N-[2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-octadecafluoro-1-oxo-9-(trifluoromethyl)decyl]glycine N-[2,2,3,3,4,4,5,5,6,6,7,8,8,8-tetradecafluoro-1-oxo-7-(trifluoromethyl)octyl]glycine complexes	poly/perfluorinated AMINES	7	11
3709-70-4		Cis-Perfluoro-4-methyl-2-pentene	poly/perfluorinated ALKANES/ALKENES	5	5
162567-74-0		Complex mixture of phosphoric acid esters and perfluoropolymethylisopropyl ether	poly/perfluorinated PHOSPHOORGANICS		
143336-91-8		Copoly[2,2-bis[4-(4-aminophenoxy)phenyl]propane, 2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane, 1,3-bis(3-aminopropyl)-1,1,3,3-tetramethyldisiloxane, terephthaloyl chloride] 1,4-Benzenedicarbonyl dichloride, polymer with benzenamine, 4,4[(1-methylet	poly/perfluorinated POLYMERS	3	3
151402-74-3		Copoly[2,2-bis[4-(4-aminophenoxy)phenyl]propane, 2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane, 1,3-bis(3-aminopropyl)-1,1,3,3-tetramethyldisiloxane, tertphthaloyl chloride, isophthaloyl chloride] 1,3-Benzenedicarbonyl dichloride, polymer with 1,4-b	poly/perfluorinated POLYMERS	3	3
		Copolymer formed of methoxy PEG-23 methacrylate, perfluorooctyl ethyl acrylate, and one or more monomers of acrylic acid, methacrylic acid or one of their simple esters	Fluorinated (meth)acrylate polymers	8	8
503284-73-9		Copolymer of 2,3-epoxypropyl methacrylate, octadecyl acrylate and 2[perfluoroalkyl(C4-14)]ethyl acrylate	Fluorinated (meth)acrylate polymers	4	14
504396-13-8		Copolymer of 2-[N-ethylperfluoroalkane(C 4-8)sulfonamido]ethyl methacrylate and α-acryloyl-ω-methoxypoly(n 10-25)(oxyethylene)	Fluorinated (meth)acrylate polymers	4	8
515152-55-3		Copolymer of 2-hydroxyethyl methacrylate, α-acryloyl-ω-hydroxypoly(n 6-8)(oxyethylene) and 2-{perfluoro[n-alkyl(C 6,8,10,12,14)]}ethyl acrylate (insoluble in water, acid and alkali also containing 1% or less of component having less than 1,000 of molecula	Fluorinated (meth)acrylate polymers	6	14
503287-56-7		Copolymer of acrylonitrile, N-(butoxymethyl)acrylamide, α-methacryloyl-ωmethacryloyloxypoly(oxyethylene), α-methacryloyl-ω-methoxypoly (oxyethylene) and 2-[perfluoroalkyl(C 4-14)]ethyl acrylate	Fluorinated (meth)acrylate polymers	4	14
511271-18-4		Copolymer of chloroethene, N-hydroxymethylacrylamide and 2-[perfluoro-n-alkyl(C6,8,10,12,14)]ethyl acrylate (insoluble in water, acid and alkali also containing 1% or less of component having less than 1,000 of molecular weight)	Fluorinated (meth)acrylate polymers	6	14
503296-97-7		Copolymer of cis-methylbutenedioic acid, octadecyl acrylate, 2-perfluoro-nalkyl(C 6,8,10,12,14)ethyl acrylate and styrene (insoluble in water, acid and alkali also containing 1% or less of component having less than 1,000 of molecular weight)	Fluorinated (meth)acrylate polymers	6	14
511271-19-5		Copolymer of cyclohexyl methacrylate, 2,3-epoxypropyl methacrylate and 2{perfluoro-[n-alkyl(C 4-14)]}ethyl acrylate	Fluorinated (meth)acrylate polymers	4	14
510732-38-4		Copolymer of cyclohexyl methacrylate, maleic anhydride, 2-{perfluoro[n-alkyl(C 4,6,8,10,12,14)]ethyl} acrylate and 2,4,6-tris(allyloxy)-1,3,5-triazine	Fluorinated (meth)acrylate polymers	4	14
510733-10-5		Copolymer of ethylene dimethacrylate, 2-hydroxyethyl acrylate, α-hydroxy-ωmethacryloylpoly(n 1-10)(oxyethylene-co-oxypropylene), octadecyl acrylate and 2-perfluoroalkyl(C 4-14)ethyl acrylate	Fluorinated (meth)acrylate polymers	4	14
503299-50-1		Copolymer of ethylene methacrylate N-({5-[({[[(1-methylpropylidene)amino]oxy} carbonyl)amino]-1,3,3-trimethylcyclohexyl}methyl)carbamate, 2-ethylhexyl acrylate, 2-hydroxyethyl acrylate and 2-[perfluoro-n-alkyl(C 4-14)]ethyl acrylate	Fluorinated (meth)acrylate polymers	4	14
202875-75-0		Copolymer of N-(3,4-dichlorophenyl)maleimide, 2-[perfluoro-n-alkyl(C4,6,8,10,12,14)]ethyl methacrylate and sodium 4-vinylbenzenesulfonate (insoluble in water, acid and alkali also containing 1% or less of component having less than 1,000 of molecular we	Fluorinated (meth)acrylate polymers	4	14
503299-29-4		Copolymer of n-alkyl(C 14-24) methacrylate, cyclohexyl methacrylate, ethylene methacrylate N-({5-[({[[(1-methylpropylidene)amino]oxy}carbonyl)amino]-1,3,3trimethylcyclohexyl}methyl)carbamate, 2-hydroxyethyl acrylate, 2-[perfluoro-nalkyl(C 4-14)]ethyl acryl	Fluorinated (meth)acrylate polymers	4	14
510732-48-6		Copolymer of octadecyl methacrylate and 2-{perfluoro[n-alkyl(C 6,8,10,12,14 mixture)]}ethyl acrylate (insoluble in water, acid and alkali also containing 1% or less of component having less than 1,000 of molecular weight)	Fluorinated (meth)acrylate polymers	6	14
147026-01-5		COPOLYMER OF TETRAFLUOROETHYLENE AND PERFLUOROETHYL VINYL ETHER	poly/perfluorinated POLYMERS	2	2
93611-23-5		Copolymer of tetrafluoroethylene/hexafluoropropene/nonafluorobutyl trifluorovinyl ether (a number-average molecular weight is not less than 1,000 and the polymer is insoluble in water, lipid soluble solvent, usual solvent, acid and alkali)	Polytetrafluoroethylene (PTFE)	4	4
29763-53-9		Copper, [C,C,C,C-tetrakis(pentadecafluoroheptyl)-29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32]-	OTHER poly/perfluorinated ORGANICS	7	7
32755-72-9		Cyanic acid, [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]di-4,1-phenylene ester, homopolymer	poly/perfluorinated POLYMERS		
2994-71-0	221-065-3	Cyclobutane, 1,1,2,2,3,4-hexafluoro-3,4-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	6	6
13221-71-1		Cyclobutane, 1,1,2,3,3,4-hexafluoro-2,4-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	6	6
1583-98-8		Cyclobutane, 1,1,2,3,3,4-hexafluoro-2,4-bis(trifluoromethyl)-, trans-	poly/perfluorinated ALKANES/ALKENES	6	6
28677-00-1		Cyclobutane, hexafluorobis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	6	6
115-25-3	204-075-2	Cyclobutane, octafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
378-17-6		Cyclobutanemethanol, 2,2,3,3-tetrafluoro-	poly/perfluorinated ALKOHOLS	4	4
697-11-0		Cyclobutene, hexafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
84808-64-0		Cyclohexane, 1,1,2,2,3,3,4,4,5,5,6-undecafluoro-6-[2,2,2-trifluoro-1,1-bis(trifluoromethyl)ethyl]-	poly/perfluorinated ALKANES/ALKENES	3	10
306-98-9	206-195-0	Cyclohexane, 1,1,2,2,3,3,4,4,5,6-decafluoro-5,6-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	8	8
335-27-3	206-386-9	Cyclohexane, 1,1,2,2,3,3,4,5,5,6-decafluoro-4,6-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	8	8
374-77-6		Cyclohexane, 1,1,2,2,3,4,4,5,5,6-decafluoro-3,6-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	8	8
374-76-5		Cyclohexane, 1,1,2,3,3,4,5,5,6-nonafluoro-2,4,6-tris(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	9	9
26637-68-3		Cyclohexane, decafluorobis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	8	8
355-68-0	206-591-3	Cyclohexane, dodecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
308-24-7		Cyclohexane, undecafluoro-	poly/perfluorinated ALKANES/ALKENES	5	5
355-02-2	206-573-5	Cyclohexane, undecafluoro(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	7	7
374-60-7		Cyclohexane, undecafluoro-, (nonafluorobutyl)-	poly/perfluorinated ALKANES/ALKENES	4	6
84238-52-8		Cyclohexane, undecafluoro-, mono(perfluoro-C18-11-alkyl) derivs.	OTHER poly/perfluorinated ORGANICS	11	18
6588-63-2		Cyclohexanecarbonyl fluoride, undecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
28788-68-3		Cyclohexanemethanol, 1,2,2,3,3,4,4,5,5,6,6-undecafluoro-	poly/perfluorinated ALKOHOLS	6	6
170442-59-8		Cyclohexanemethanol, 4-[(ethenyloxy)methyl]-, polymer with chlorotrifluoroethene, (ethenyloxy)cyclohexane, .alpha.-[[4-[(ethenyloxy)methyl]cyclohexyl]methyl]-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and ethoxyethene	poly/perfluorinated POLYMERS		
335-24-0		Cyclohexanesulfonic acid, 1,2,2,3,3,4,5,5,6,6-decafluoro-4-(pentafluoroethyl)-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
67584-42-3	266-724-6	Cyclohexanesulfonic acid, decafluoro(pentafluoroethyl)-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
68156-01-4		Cyclohexanesulfonic acid, nonafluorobis(trifluoromethyl)-, potassium salt (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
3107-18-4		Cyclohexanesulfonic acid, undecafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
68156-06-9		Cyclohexanesulfonyl fluoride, decafluoro(pentafluoroethyl)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
68318-34-3		Cyclohexanesulfonyl fluoride, decafluoro(trifluoromethyl)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	7	7
68156-00-3		Cyclohexanesulfonyl fluoride, nonafluorobis(trifluoromethyl)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
355-03-3		Cyclohexanesulfonyl fluoride, undecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
336-19-6	206-408-7	Cyclohexene, 1,2-dichloro-3,3,4,4,5,5,6,6-octafluoro-	poly/perfluorinated ALKANES/ALKENES	4	4
355-75-9	206-592-9	Cyclohexene, decafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
15290-77-4	430-710-1	Cyclopentane, 1,1,2,2,3,3,4-heptafluoro-	poly/perfluorinated ALKANES/ALKENES	5	5
376-77-2		Cyclopentane, decafluoro-	poly/perfluorinated ALKANES/ALKENES	5	5
1805-22-7	217-298-5	Cyclopentane, nonafluoro(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	7	7

1759-63-3		Cyclopentene, 1-chloro-2,3,3,4,4,5,5-heptafluoro-	OTHER poly/perfluorinated ORGANICS	5	5
559-40-0	209-203-0	Cyclopentene, octafluoro-	poly/perfluorinated ALKANES/ALKENES	5	5
68227-20-3		Cyclotetrasiloxane, octamethyl-, polymer with 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane, hexamethyldisiloxane and 2,4,6-trimethyl-2,4,6-tris(3,3,3-trifluoropropyl)cyclotrisiloxane	poly/perfluorinated POLYMERS		
26702-40-9		Cyclotrisiloxane, 2,4,6-trimethyl-2,4,6-tris(3,3,3-trifluoropropyl)-, homopolymer	poly/perfluorinated POLYMERS		
70024-87-2		Cyclotrisiloxane, 2,4,6-trimethyl-2,4,6-tris(3,3,3-trifluoropropyl)-, homopolymer, sodium-terminated	poly/perfluorinated POLYMERS		
69155-44-8		Cyclotrisiloxane, 2,4,6-trimethyl-2,4,6-tris(3,3,3-trifluoropropyl)-, polymer with chloroethenyldimethylsilane	poly/perfluorinated POLYMERS		
		DEA-Perfluorohexyl Ethylphosphates is the diethanolamine salt of a complex mixture of esters of perfluorohexylethanol and phosphoric acid.	poly/perfluorinated PHOSPHOORGANICS	2	8
68156-07-0		Decafluoro(trifluoromethyl)cyclohexanesulfonic acid, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	7	7
375-97-3		Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosafluoro-	OTHER poly/perfluorinated ORGANICS	10	10
423-62-1	207-030-5	Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosafluoro-10-iodo-	poly/perfluorinated IODIDES	10	10
77117-48-7		Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-	poly/perfluorinated ALKANES/ALKENES	8	8
2043-53-0	218-053-5	Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-10-iodo-	poly/perfluorinated IODIDES	8	8
103188-55-2		Decane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-eicosafluoro-2,9-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	11	11
677-93-0		Decane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-eicosafluoro-10-iodo-2-(trifluoromethyl)-	poly/perfluorinated IODIDES	11	11
307-43-7		Decane, 1-bromo-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heneicosafluoro-	OTHER poly/perfluorinated ORGANICS	10	10
1813-83-8		Decane, 3,3,4,4,5,5,6,6,7,7,8,8-dodecafluoro-1,10-diiodo-	poly/perfluorinated IODIDES	6	6
307-45-9		Decane, docosafluoro-	poly/perfluorinated ALKANES/ALKENES	10	10
3658-63-7		Decanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-octadecafluoro-9-(trifluoromethyl)-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	10	10
68015-85-0		Decanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-octadecafluoro-9-(trifluoromethyl)-, compd. with ethanamine (1:1)	poly/perfluorinated CARBOXYLIC ACIDS	10	10
335-76-2	206-400-3	Decanoic acid, nonadecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	9	9
3108-42-7		Decanoic acid, nonadecafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	10	10
3830-45-3		Decanoic acid, nonadecafluoro-, sodium salt	poly/perfluorinated CARBOXYLIC ACIDS	10	10
16486-94-5		Decanoic acid, octadecafluoro-9-(trifluoromethyl)-	poly/perfluorinated CARBOXYLIC ACIDS	10	10
64018-23-1		Decanoyl chloride, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
15720-98-6		Decanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,10,10,10-octadecafluoro-9-(trifluoromethyl)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	10	10
160709-28-4		Di[2-perfluoroalkyl(C3-18)-1-methylethyl]phthalate	OTHER poly/perfluorinated ORGANICS	3	18
97388-28-8		Diazene, (1,2,2,3,3,4,4,5,5-nonafluorocyclopentyl)phenyl-	OTHER poly/perfluorinated ORGANICS	5	5
462996-01-6		Diazenedicarboxylic acid, bis(4,4,5,5,6,6,7,7,8,8,9,9,9-tridecafluorononyl) ester	poly/perfluorinated CARBOXYLIC ACIDS	6	6
82551-73-8		DI-Block waxes (CnF2+1CmH2m+1) mp=47-52 grC	poly/perfluorinated ALKANES/ALKENES	4	8
137338-39-9		DI-Block waxes (CnF2+1CmH2m+1) mp=58-65 grC	poly/perfluorinated ALKANES/ALKENES	8	8
137338-40-0		DI-Block waxes (CnF2+1CmH2m+1) mp=58-65 grC	poly/perfluorinated ALKANES/ALKENES	8	8
137338-41-1		DI-Block waxes (CnF2+1CmH2m+1) mp=58-65 grC	poly/perfluorinated ALKANES/ALKENES	8	8
		Diester of isostearic acid and polyperfluoroethoxymethoxy difluoroethyl PEG ether	poly/perfluorinated POLYMERS		
		Diethylaminoethyl Methacrylate/HEMA/Perfluorohexylethyl Methacrylate Crosspolymer is a copolymer of diethylaminoethyl methacrylate, hydroxyethyl methacrylate (HEMA), and perfluorohexylethyl methacrylate that is crosslinked with PEG-3 dimethacrylate	Fluorinated (meth)acrylate polymers	2	8
200013-65-6		Diphosphoric acid, polymers with ethoxylated Me esters of reduced polymd. oxidized tetrafluoroethylene	poly/perfluorinated POLYMERS		
94237-17-9		Disiloxane, 1,1-dichloro-3,3,3-trimethyl-1-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
42977-21-9		Disulfide, bis(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)	poly/perfluorinated TIOLS	8	8
93962-52-8		Disulfide, bis(tridecafluorohexyl)	poly/perfluorinated TIOLS	6	6
118400-71-8		Disulfides, bis(.gamma.-.omega.-perfluoro-C6-20-alkyl)	poly/perfluorinated TIOLS	6	20
29809-36-7		Docosane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20,21,21,22,22-pentatetracontafluoro-22-iodo-	poly/perfluorinated IODIDES	10	10
263756-45-2		Docosane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20-hentetracontafluoro-22-iodo-	poly/perfluorinated IODIDES	20	20
307-60-8	206-205-3	Dodecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosafluoro-12-iodo-	poly/perfluorinated IODIDES	12	12
2043-54-1	218-054-0	Dodecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosafluoro-12-iodo-	poly/perfluorinated IODIDES	10	10
3248-61-1		Dodecane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-tetracosafluoro-12-iodo-2-(trifluoromethyl)-	poly/perfluorinated IODIDES	13	13
307-59-5		Dodecane, hexacosafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	12	12
68015-87-2		Dodecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-docosafluoro-11-(trifluoromethyl)-, compd. with ethanamine (1:1)	poly/perfluorinated CARBOXYLIC ACIDS	11	11
16486-96-7		Dodecanoic acid, docosafluoro-11-(trifluoromethyl)-	poly/perfluorinated CARBOXYLIC ACIDS	12	12
307-55-1	206-203-2	Dodecanoic acid, tricosafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	12	12
3793-74-6		Dodecanoic acid, tricosafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	12	12
64018-26-4		Dodecanoyl chloride, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	12	12
15811-52-6		Dodecanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,12,12,12-docosafluoro-11-(trifluoromethyl)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	12	12
29809-34-5		Eicosane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20-hentetracontafluoro-20-iodo-	poly/perfluorinated IODIDES	20	20
65104-63-4		Eicosane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18-heptatriacontafluoro-20-iodo-	poly/perfluorinated IODIDES	18	18
37589-57-4	253-557-9	Eicosane, dotetracontafluoro-	poly/perfluorinated ALKANES/ALKENES	20	20
68310-12-3		Eicosanoic acid, nonatriacontafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	20	20
160228-75-1		Ethanamine, 1,1,2,2-tetrafluoro-2-(trifluoromethoxy)-N,N-bis(trifluoromethyl)-	poly/perfluorinated AMINES	3	3
57765-32-9		Ethanaminium, 2-[[(heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, iodide	poly/perfluorinated SULFONAMIDES	8	8
93894-70-3		Ethanaminium, N,N,N-triethyl-, salt with heptadecafluoroisooctanesulfonic acid (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
92265-81-1		Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-ethoxyethyl 2-propenoate, 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate	poly/perfluorinated POLYMERS	8	8
369371-42-6		Ethane, 1,2-dichloro-1-[difluoro(pentafluoroethoxy)methoxy]-1,2,2-trifluoro-	poly/perfluorinated ETHERS	4	5
874288-98-9		Ethane, 1,2-dichloro-1-[difluoro(trifluoromethoxy)methoxy]-1,2,2-trifluoro-	poly/perfluorinated ETHERS	3	4
369371-43-7		Ethane, 1,2-dichloro-1-[difluoro[1,1,2,2-tetrafluoro-2-(trifluoromethoxy)ethoxy]methoxy]-1,2,2-trifluoro-	poly/perfluorinated ETHERS	5	6
85567-23-3	287-736-8	Ethane, 1-ethoxy-2-(1,1,2,2-tetrafluoroethoxy)-	poly/perfluorinated ESTERS	2	2
26591-06-0		Ethane, epoxytetrafluoro-, polymers	poly/perfluorinated POLYMERS		
306-99-0		Ethane, tetrafluoro-1,2-bis(undecafluorocyclohexyl)-	poly/perfluorinated ALKANES/ALKENES	14	14

182176-52-9	432-190-1	Ethaneperoxoic acid, reaction products with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl thiocyanate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl thiocyanate	Fluorinated urethanes polymers	5	8
70815-05-3		Ethanesulfinic acid, 2-[1-[difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
64346-91-4		Ethanesulfonamide, N-(2-aminoethyl)-2-[1-[difluoro[(tetrafluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
65104-43-0		Ethanesulfonamide, N-butyl-2-[1-[difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
111173-25-2		Ethanesulfonic acid, 1,1,2,2-tetrafluoro-2-[(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
31175-20-9		Ethanesulfonic acid, 1,1,2,2-tetrafluoro-2-[1,2,2-trifluoro-2-[(trifluoroethenyl)oxy]-1-(trifluoromethyl)ethoxy]-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
754925-54-7		Ethanesulfonic acid, 2-[(1,1,2,2,3,3,4,4,5,5,6,6,6-dodecafluorohexyl)oxy]-1,1,2,2-tetrafluoro-, potassium salt (1:1)	poly/perfluorinated ETHERS	2	6
73606-19-6		Ethanesulfonic acid, 2-[(6-chloro-1,1,2,2,3,3,4,4,5,5,6,6-dodecafluorohexyl)oxy]-1,1,2,2-tetrafluoro-, potassium salt (1:1)	poly/perfluorinated ETHERS	2	6
65086-49-9		Ethanesulfonic acid, 2-[1-[difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, potassium salt, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
31176-88-2		Ethanesulfonic acid,1,1,2,2-tetrafluoro-2-[1,2,2-trifluoro-2-[(trifluoroethenyl)oxy]-1-(trifluomethyl)ethoxy]-, sodium salt, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
85600-80-2		Ethanesulfonic acid,2-[1-[difluoro[(trifluoroethenyl)oxymethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, sodium salt polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
29514-94-1		Ethanesulfonyl fluoride, 1,1,2,2-tetrafluoro-2-[(1,2,2-trifluoroethenyl)oxy]-	poly/perfluorinated ETHERS	4	4
69462-70-0		Ethanesulfonyl fluoride, 1,1,2,2-tetrafluoro-2-[(1,2,2-trifluoroethenyl)oxy]-, polymer with 1,1,2,2-tetrafluoroethene	Polytetrafluoroethylene (PTFE)		2
1163733-25-2		Ethanesulfonyl fluoride, 1,1,2,2-tetrafluoro-2-[(1,2,2-trifluoroethenyl)oxy]-, polymer with 1,1,2,2-tetrafluoroethene, hydrolyzed	Polytetrafluoroethylene (PTFE)		2
2127-74-4		Ethanesulfonyl fluoride, 1,2,2,2-tetrafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	4	4
144728-59-6		Ethanesulfonyl fluoride, 2-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,2-tetrafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	4	4
26654-97-7		Ethanesulfonyl fluoride, 2-[1-[difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
1378930-04-1		Ethanesulfonyl fluoride, 2-[1-[difluoro][(1,2,2-trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, polymer with 1,1,2,2-tetrafluoroethene, hydrolyzed	Polytetrafluoroethylene (PTFE)		2
1378928-76-7		Ethanesulfonyl fluoride, 2-[1-[difluoro][(1,2,2-trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, polymer with 1,1,2,2-tetrafluoroethene, hydrolyzed, potassium salts	Polytetrafluoroethylene (PTFE)		2
16090-14-5	240-249-4	Ethanesulfonylfluoride, 2-[1-[difluoro[(1,2,2-trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	2	5
97660-44-1		Ethanol, 2-(methylamino)-, N-(.gamma.-.omega.-perfluoro-C8-14-.beta.-alkenyl) derivs.	poly/perfluorinated ALKOHOLS	8	14
27607-36-9		Ethanol, 2,2'-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)imino]bis-	poly/perfluorinated ALKOHOLS	8	8
65530-64-5		Ethanol, 2,2'-iminobis-, compd. with .alpha.,.alpha.'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[.omega.-fluoropoly(difluoromethylene)] (1:1)	poly/perfluorinated POLYMERS		
65530-74-7		Ethanol, 2,2'-iminobis-, compd. with .alpha.-fluoro-.omega.-[2-(phosphonooxy)ethyl]poly(difluoromethylene) (1:1)	poly/perfluorinated POLYMERS		
65530-63-4		Ethanol, 2,2'-iminobis-, compd. with .alpha.-fluoro-.omega.-[2-(phosphonooxy)ethyl]poly(difluoromethylene) (2:1)	poly/perfluorinated POLYMERS		
27607-42-7		Ethanol, 2-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)amino]-	poly/perfluorinated ALKOHOLS	8	8
67939-89-3		Ethanol, 2-[ethyl[(1,1,2,2,3,3,4,4,4-nonafluorobutyl)sulfonyl]amino]-, dihydrogen phosphate (ester)	poly/perfluorinated PHOSPHOORGANICS	4	4
67939-87-1		Ethanol, 2-[ethyl[(1,1,2,2,3,3,4,4,5,5,5-undecafluoropentyl)sulfonyl]amino]-, hydrogen phosphate (ester)	poly/perfluorinated PHOSPHOORGANICS	5	5
502164-17-2		Ethene, 1,1,2,2-tetrafluoro-, oxidized, polymd., reduced, Et esters	Polytetrafluoroethylene (PTFE)	4	4
1564254-27-8		Ethene, 1,1,2,2-tetrafluoro-, oxidized, polymd., reduced, Me esters, reduced, N-(3-isocyanatomethylphenyl)carbamates	Polytetrafluoroethylene (PTFE)	4	4
1998-53-4		Ethene, 1,1'-[(1,1,2,2-tetrafluoro-1,2-ethanediyl)bis(oxy)]bis[1,2,2-trifluoro-	Polytetrafluoroethylene (PTFE)	4	4
346662-93-9		Ethene, 1-[difluoro(1,1,2,2,2-pentafluoroethoxy)methoxy]-1,2,2-trifluoro-	Polytetrafluoroethylene (PTFE)	4	4
754191-93-0		Ethene, 1-[difluoro(1,1,2,2,2-pentafluoroethoxy)methoxy]-1,2,2-trifluoro-, polymer with 1,1-difluoroethene and 1,1,2,2-tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
700874-87-9		Ethene, 1-[difluoro(trifluoromethoxy)methoxy]-1,2,2-trifluoro-	Polytetrafluoroethylene (PTFE)	4	4
369371-47-1		Ethene, 1-[difluoro[1,1,2,2-tetrafluoro-2-(trifluoromethoxy)ethoxy]methoxy]-1,2,2-trifluoro-	Polytetrafluoroethylene (PTFE)	4	4
9002-83-9		Ethene, 1-chloro-1,2,2-trifluoro-, homopolymer	poly/perfluorinated POLYMERS		
55157-25-0		Ethene, bromotrifluoro-, homopolymer	poly/perfluorinated POLYMERS		
60917-27-3		Ethene, bromotrifluoro-, polymer with tetrafluoroethene and trifluoro(trifluoromethoxy)ethene	Polytetrafluoroethylene (PTFE)		
66143-00-8		Ethene, bromotrifluoro-, polymer with tribromofluoromethane	poly/perfluorinated POLYMERS		
25038-89-5		Ethene, chlorotrifluoro-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
116-14-3		Ethene, tetrafluoro-	poly/perfluorinated ALKANES/ALKENES	2	2
9002-84-0		Ethene, tetrafluoro-, homopolymer	Polytetrafluoroethylene (PTFE)		
68891-05-4		Ethene, tetrafluoro-, homopolymer, .alpha.-fluoro-.omega.-(2-hydroxyethyl)-, citrate, reaction products with 1,6-diisocyanatohexane	Polytetrafluoroethylene (PTFE)		
		Ethene, tetrafluoro-, oxidized, polymd, reduced, Me esters, reduced ethoxylated esters with phosphoric acid	poly/perfluorinated POLYMERS		2
69991-61-3		Ethene, tetrafluoro-, oxidized, polymd.	Polytetrafluoroethylene (PTFE)	4	4
69991-62-4		Ethene, tetrafluoro-, oxidized, polymd., hydrogenated	Polytetrafluoroethylene (PTFE)	4	4
161075-11-2		Ethene, tetrafluoro-, oxidized, polymd., reduced, brominated	Polytetrafluoroethylene (PTFE)	4	4
161075-02-1	500-539-6	Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated	Polytetrafluoroethylene (PTFE)	4	4
274918-03-5		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C10 fraction	Polytetrafluoroethylene (PTFE)	4	4
274918-09-1		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C11 fraction	Polytetrafluoroethylene (PTFE)	4	4
274918-10-4		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C12 fraction	Polytetrafluoroethylene (PTFE)	4	4
274918-12-6		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C13 fraction	Polytetrafluoroethylene (PTFE)		
274917-93-0		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C3 fraction	Polytetrafluoroethylene (PTFE)	4	4
274917-94-1		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C4 fraction	Polytetrafluoroethylene (PTFE)	4	4
274917-95-2		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C5 fraction	Polytetrafluoroethylene (PTFE)	4	4
274917-96-3		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C6 fraction	Polytetrafluoroethylene (PTFE)	4	4
274917-97-4		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C7 fraction	Polytetrafluoroethylene (PTFE)	4	4
274918-01-3		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C8 fraction	Polytetrafluoroethylene (PTFE)	4	4
274918-02-4		Ethene, tetrafluoro-, oxidized, polymd., reduced, decarboxylated, C9 fraction	Polytetrafluoroethylene (PTFE)	4	4
161075-03-2		Ethene, tetrafluoro-, oxidized, polymd., reduced, Me esters, hydrolysed	Polytetrafluoroethylene (PTFE)	4	4
161075-04-3		Ethene, tetrafluoro-, oxidized, polymd., reduced, Me esters, reaction products with ammonia	Polytetrafluoroethylene (PTFE)	4	4
161075-13-4		Ethene, tetrafluoro-, oxidized, polymd., reduced, Me esters, reaction products with ammonia, dehydrated	Polytetrafluoroethylene (PTFE)	4	4
161075-05-4		Ethene, tetrafluoro-, oxidized, polymd., reduced, Me esters, reaction products with ammonia, reduced	Polytetrafluoroethylene (PTFE)	4	4
88645-28-7		Ethene, tetrafluoro-, oxidized, polymd., reduced, Me esters, reaction products with ammonia, reduced, reaction products with carbonic dichloride	Polytetrafluoroethylene (PTFE)	4	4
88645-29-8	500-272-5	Ethene, tetrafluoro-, oxidized, polymd., reduced, Me esters, reduced	Polytetrafluoroethylene (PTFE)	4	4
162492-15-1	500-749-8	Ethene, tetrafluoro-, oxidized, polymd., reduced, Me esters, reduced, ethoxylated	Polytetrafluoroethylene (PTFE)	4	4

101316-90-9		Ethene, tetrafluoro-, oxidized, polymd., redused, Me esters, redused acrylates	Fluorinated (meth)acrylate polymers	4	4
1187-93-5		Ethene, trifluoro(trifluoromethoxy)-	poly/perfluorinated (METH)ACRYLATES	1	2
252237-40-4		Ethylphosphonic acid, perfluorohexyl-	poly/perfluorinated PHOSPHOORGANICS	6	6
1-87-5		Fatty acids, C18-unsatd., dimers and trimers, 2-(perfluoro-N-methyl-C4-8-alkanesulfonamido)ethyl esters	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	8
306974-63-0		Fatty acids, C18-unsatd., dimers, 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl esters	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	8
68990-40-9		Fatty acids, C18-unsatd., dimers, diisocyanates, polymers with 2,3-bis(.gamma.-.omega.-perfluoro-C4-18-alkyl)-1,4-butanediol,1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane and 2,2-(methylimino)bisethanol	Fluorinated urethanes polymers	4	18
148240-78-2		Fatty acids, C18-unsatd., trimers, 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl esters	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
148240-79-3		Fatty acids, C18-unsatd., trimers, 2-[methyl[(1,1,2,2,3,3,4,4,4-nonafluorobutyl)sulfonyl]amino]ethyl esters	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
148240-81-7		Fatty acids, C18-unsatd., trimers, 2-[methyl[(1,1,2,2,3,3,4,4,5,5,5-undecafluoropentyl)sulfonyl]amino]ethyl esters	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
148240-82-8		Fatty acids, C18-unsatd., trimers, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl esters	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
161074-58-4		Fatty acids, C18-unsatd., trimers, 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl esters	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	8
148240-80-6		Fatty acids, C18-unsatd., trimers, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl esters	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
72623-77-9		Fatty acids, C6-18, perfluoro, ammonium salts	poly/perfluorinated CARBOXYLIC ACIDS	6	18
68333-92-6		Fatty acids, C7-13, perfluoro (TSCA, NDSL, EINECS)	poly/perfluorinated CARBOXYLIC ACIDS	6	12
69278-80-4		Fatty acids, C7-13, perfluoro, compds. with ethylamine	poly/perfluorinated CARBOXYLIC ACIDS	7	13
91032-01-8		Fatty acids, C7-19, perfluoro	poly/perfluorinated CARBOXYLIC ACIDS	7	19
212013-54-2		Fatty acids, C7-19, perfluoro, ammonium salts	poly/perfluorinated CARBOXYLIC ACIDS	7	19
178535-23-4		Fatty acids, linseed-oil, .gamma.-.omega.-perfluoro-C8-14-alkyl esters	poly/perfluorinated CARBOXYLIC ACIDS	8	14
306973-46-6		Fatty acids, linseed-oil, dimers, 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl esters	OTHER poly/perfluorinated ORGANICS	8	8
		Fatty acids, meadowfoam, esters with 1-perfluorononyl-2-octyldodecyloxy-ethan-1,2-diol	poly/perfluorinated ALKOHOLS	9	9
1114-17-3		Fluoroaliphatic polymeric esters (95-99%)	poly/perfluorinated POLYMERS		
110-86-7		Fluoropolyester and polyester modified polyisocyanate and heterocyclic amine	poly/perfluorinated POLYMERS		
335-36-4	206-389-5	Furan, 2,2,3,3,4,4,5-heptafluorotetrahydro-5-(nonafluorobutyl)-	poly/perfluorinated ETHERS	8	8
356-48-9		Furan, 2,2,3,3,4,4,5-heptafluorotetrahydro-5-(pentafluoroethyl)-("Tetrahydrofurane, perfluoroethyl-")	poly/perfluorinated ESTERS	6	6
71302-72-2		Furan, 2,2,3,3,4,4-hexafluorotetrahydro-5-[2,2,2-trifluoro-1,1-bis(trifluoromethyl)ethyl]-	poly/perfluorinated ESTERS	4	4
646-85-5		Furan, 2,2,3,3,4,5,5-heptafluorotetrahydro-4-(nonafluorobutyl)-	poly/perfluorinated ETHERS	3	4
957209-18-6		Furan, 2,3,3,4,4-pentafluorotetrahydro-5-methoxy-2,5-bis[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-	poly/perfluorinated ETHERS	3	3
69661-30-9		Furan, 2,3,5-trifluorotetrahydro-4-(pentafluoroethyl)-2,3,4,5-tetrakis(trifluoromethyl)-	poly/perfluorinated ETHERS	8	8
40464-54-8		Furan, heptafluorotetrahydro(nonafluorobutyl)-	poly/perfluorinated ETHERS	8	8
773-14-8		Furan, octafluorotetrahydro-	poly/perfluorinated ETHERS	4	4
51588-53-5		Glycine, N-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-1-oxononyl)-N-methyl-, sodium salt	poly/perfluorinated ALKOHOLS	8	8
94159-87-2		Glycine, N-(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-2-hydroxyundecyl)-N-methyl-, monopotassium salt	poly/perfluorinated ALKOHOLS	8	8
70281-93-5		Glycine, N-[(heptadecafluorooctyl)sulfonyl]-N-methyl-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
66551-19-7		Glycine, N-[(heptadecafluorooctyl)sulfonyl]-N-propyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
55910-10-6		Glycine, N-[(heptadecafluorooctyl)sulfonyl]-N-propyl-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
85228-95-1		Glycine, N-[[4-[(heptadecafluorononenyl)oxy]phenyl]sulfonyl]-N-methyl-, sodium salt	poly/perfluorinated ETHERS	9	9
94159-89-4		Glycine, N-[4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-2-hydroxy-10-(trifluoromethyl)undecyl]-N-methyl-, monopotassium salt	poly/perfluorinated ALKOHOLS	9	9
116537-74-7		Glycine, N-ethyl-N-(2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro-1-oxoheptyl)-, sodium salt	poly/perfluorinated CARBOXYLIC ACIDS	6	6
2991-50-6		Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
2991-52-8		Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, ammonium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
1869-77-8		Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
87988-69-0		Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, methyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
2991-51-7		Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
3871-50-9		Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, sodium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
68957-33-5		Glycine, N-ethyl-N-[(nonafluorobutyl)sulfonyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
67584-63-8		Glycine, N-ethyl-N-[(nonafluorobutyl)sulfonyl]-, ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
67584-51-4		Glycine, N-ethyl-N-[(nonafluorobutyl)sulfonyl]-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68555-68-0		Glycine, N-ethyl-N-[(nonafluorobutyl)sulfonyl]-, sodium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
68957-63-1		Glycine, N-ethyl-N-[(pentadecafluoroheptyl)sulfonyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68957-54-0		Glycine, N-ethyl-N-[(pentadecafluoroheptyl)sulfonyl]-, ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
67584-62-7		Glycine, N-ethyl-N-[(pentadecafluoroheptyl)sulfonyl]-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68555-71-5		Glycine, N-ethyl-N-[(pentadecafluoroheptyl)sulfonyl]-, sodium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68957-32-4		Glycine, N-ethyl-N-[(tridecafluorohexyl)sulfonyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68957-53-9		Glycine, N-ethyl-N-[(tridecafluorohexyl)sulfonyl]-, ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
67584-53-6		Glycine, N-ethyl-N-[(tridecafluorohexyl)sulfonyl]-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68555-70-4		Glycine, N-ethyl-N-[(tridecafluorohexyl)sulfonyl]-, sodium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
68957-31-3		Glycine, N-ethyl-N-[(undecafluoropentyl)sulfonyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	9	9
68555-79-3		Glycine, N-ethyl-N-[(undecafluoropentyl)sulfonyl]-, ethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
67584-52-5		Glycine, N-ethyl-N-[(undecafluoropentyl)sulfonyl]-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	9	9
68555-69-1		Glycine, N-ethyl-N-[(undecafluoropentyl)sulfonyl]-, sodium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	5	5
85665-66-3		Glycine, N-propyl-N-[(tridecafluorohexyl)sulfonyl]-, potassium salt	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	6	6
110494-69-4		Heptadecafluoro-N-poly(oxy-1,2-ethanediyl)-N-propyl-1-octanesulfonamide	poly/perfluorinated POLYMERS	8	8
335-57-9	206-392-1	Heptane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-hexadecafluoro-	poly/perfluorinated ALKANES/ALKENES	7	7
133881-46-6		Heptane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7-pentadecafluoro-7-(trifluoromethoxy)-	poly/perfluorinated ETHERS	7	7
335-58-0	206-393-7	Heptane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7-pentadecafluoro-7-iodo-	poly/perfluorinated IODIDES	7	7
153273-32-6		Heptane, 1,1,1,2,2,3,3,4,4,5,5,6,7,7,7-pentadecafluoro-6-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	8	8

24394-25-0		Heptane, 1,1,1,2,2,3,3,4,4,5,5,6,7,7,7-pentadecafluoro-6-iodo-	poly/perfluorinated IODIDES	7	7
1682-31-1		Heptane, 1,1,1,2,2,3,3,4,4,5,5-undecafluoro-7-iodo-	poly/perfluorinated IODIDES	5	5
153273-33-7		Heptane, 1,1,1,2,2,3,3,4,4,5,6,6,7,7,7-pentadecafluoro-5-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	8	8
84808-63-9		Heptane, 1,1,1,2,3,3,4,5,5,6,7,7,7-tridecafluoro-2,4,6-tris(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	10	10
375-88-2	206-799-4	Heptane, 1-bromo-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-	OTHER poly/perfluorinated ORGANICS	7	7
78971-81-0		Heptane, 7-(ethenyloxy)-1,1,2,2,3,3,4,4,5,5,6,6-dodecafluoro-	OTHER poly/perfluorinated ORGANICS	9	9
1546-95-8	216-283-0	Heptanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	7	7
376-34-1		Heptanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
15166-06-0		Heptanoic acid, 2,2,3,3,4,4,5,5,6,7,7,7-dodecafluoro-6-(trifluoromethyl)-	poly/perfluorinated CARBOXYLIC ACIDS	7	7
16069-78-6		Heptanoic acid, 3,5,7,7-tetrachloro-2,2,3,4,4,5,6,6,7-nonafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	7	7
72714-62-6	615-790-8	Heptanoic acid, 4,6,6-trichloro-7,7,7-trifluoro-3,3-dimethyl-, methyl ester	poly/perfluorinated SULFONAMIDES	7	7
375-85-9	206-798-9	Heptanoic acid, tridecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	7	7
6130-43-4		Heptanoic acid, tridecafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
41430-70-0	255-362-4	Heptanoic acid, tridecafluoro-, ethyl ester	poly/perfluorinated ESTERS	7	7
20109-59-5		Heptanoic acid, tridecafluoro-, sodium salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
52447-22-0		Heptanoyl chloride, 2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
41405-35-0		Heptanoyl chloride, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
375-84-8		Heptanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	7	7
65975-15-7		Hexacosane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20,21,21,22,22,23,23,24,24,25,25,26,26-tripentacontafluoro-26-iodo-	poly/perfluorinated IODIDES	26	26
355-49-7	206-588-7	Hexadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-tetratriacontafluoro-	poly/perfluorinated ALKANES/ALKENES	14	17
355-50-0		Hexadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16-tritriacontafluoro-16-iodo-	poly/perfluorinated IODIDES	16	16
65510-55-6		Hexadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-nonacosafluoro-16-iodo-	poly/perfluorinated IODIDES	14	14
75032-94-9		Hexadecanoic acid, 2-sulfo-, 1-(2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptyl) ester, sodium salt	poly/perfluorinated ESTERS	6	6
67905-19-5	267-638-1	Hexadecanoic acid, hentriacontafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	6	6
37360-98-8		Hexafluorodi(trifluoromethyl)cyclobutane	poly/perfluorinated ALKANES/ALKENES	6	6
178233-67-5		Hexahydroperfluoro-C6-12 alkyl acrylate, lauryl acrylate and acroyl-butylurethane polymer	Fluorinated (meth)acrylate polymers	3	9
186406-48-4		Hexakis (1H,1H,6H-Decafluorohexyloxy) phosphazine	poly/perfluorinated PHOSPHOORGANICS	5	5
186406-49-5		Hexakis (1H,1H,8H-tetradecafluorooctyloxy)phosphazine	poly/perfluorinated PHOSPHOORGANICS	7	7
16059-16-8		Hexakis(1H,1H,5H-octafluoropentoxy)phospazine	poly/perfluorinated PHOSPHOORGANICS	4	4
3830-74-8		Hexakis(1H,1H,7H-dodecafluoroheptoxy)phosphazene	poly/perfluorinated PHOSPHOORGANICS	6	6
186043-67-4		Hexakis(1H,1H,9H-perfluorononyloxy)phosphazene ("1,3,5,2,4,6-Triazatriphosphorine,2,2,4,4,6,6-hexakis[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluorononyl)oxy]-2,2,4,4,6,6-hexahydro-")	poly/perfluorinated PHOSPHOORGANICS	9	9
72494-14-5		Hexanamide, 2-[2,4-bis(1,1-dimethylpropyl)phenoxy]-N-[3-hydroxy-4-[(2,2,3,3,4,4,5,5-octafluoro-1-oxopentyl)amino]phenyl]-	OTHER poly/perfluorinated ORGANICS	6	6
355-37-3	206-581-9	Hexane, 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
355-43-1	206-586-6	Hexane, 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-6-iodo-	poly/perfluorinated IODIDES	6	6
355-44-2		Hexane, 1,1,1,2,2,3,3,4,4,5,6,6,6-tridecafluoro-5-iodo-	poly/perfluorinated IODIDES	6	6
2043-55-2	218-055-6	Hexane, 1,1,1,2,2,3,3,4,4-nonafluoro-6-iodo-	poly/perfluorinated IODIDES	4	4
558-69-0		Hexane, 1,1,1,2,2,3,3,4,5,5,6,6,6-tridecafluoro-4-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	7	7
86714-23-0		Hexane, 1,1,1,2,2,3,3,5,6,6,6-undecafluoro-4,4,5-tris(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	8	8
1735-48-4		Hexane, 1,1,1,2,2,3,4,5,5,6,6,6-dodecafluoro-3,4-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	8	8
80632-82-2		Hexane, 1,1,1,2,2,3,5,5,6,6,6-undecafluoro-4-(pentafluoroethyl)-3,4-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	10	10
3486-08-6	222-475-5	Hexane, 1,1,1,2,3,3,4,4,5,5,6,6-dodecafluoro-6-iodo-2-(trifluoromethyl)-	poly/perfluorinated IODIDES	6	6
71076-47-6		Hexane, 1,1,1,3,3,4,4,6,6,6-decafluoro-2,2,5,5-tetrakis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	10	10
133080-89-4		Hexane, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-(pentafluoroethoxy)-	Fluorinated (meth)acrylate polymers	6	6
375-80-4	206-794-7	Hexane, 1,1,2,2,3,3,4,4,5,5,6,6-dodecafluoro-1,6-diiodo-	Fluorinated (meth)acrylate polymers	6	6
253873-70-0		Hexane, 1,6-diisocyanato homopolymer, copolymer with γ-ω-perfluoroalcohols C8-14, oxiranemethanol, 1,2-ethanediol and 2,4-diisocyanato-1-methylbenzene (AICS)	Fluorinated (meth)acrylate polymers	6	12
1279108-20-1		Hexane, 1,6-diisocyanato-, homopolymer, .alpha.-[1-[[[3-[[3-(dimethylamino)propyl]amino]propyl]amino]carbonyl]-1,2,2,2-tetrafluoroethyl]-.omega.-(1,1,2,2,3,3,3-heptafluoropropoxy)poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]]-blocked	Fluorinated urethanes polymers	3	3
135228-60-3		Hexane, 1,6-diisocyanato-, homopolymer, .gamma.-.omega.-perfluoro-C6-20-alc.-blocked	Fluorinated urethanes polymers	6	22
355009-66-4		Hexane, 1,6-diisocyanato-, homopolymer, 1,1,2,2,3,3,4,4,4,-nonafluoro-N-(2-hydroxyethyl)-N-methyl-1-butanesulfonamide- and stearyl alcohol-blocked	Fluorinated urethanes polymers	4	4
357624-15-8		Hexane, 1,6-diisocyanato-, homopolymer, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-1-octanol-blocked	Fluorinated urethanes polymers	8	8
306978-65-4		Hexane, 1,6-diisocyanato-, homopolymer, N-(hydroxyethyl)-N-methyl perfluoro-C4-8-alkane sulfonamides- and stearyl alc.-blocked	Fluorinated urethanes polymers	4	8
2-62-8		Hexane, 1,6-diisocyanato-, homopolymer, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanol	Fluorinated urethanes polymers	10	10
126927-97-7		Hexane, 1,6-diisocyanato-, homopolymer, reaction products with α-fluoro-ω-(2-hydroxyethyl)poly(difluomethylene)	Fluorinated urethanes polymers		
335-56-8	206-391-6	Hexane, 1-bromo-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
355-41-9		Hexane, 1-chloro-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
2977730-93-9	435-790-1	Hexane, 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	7	7
355-42-0	206-585-0	Hexane, tetradecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
336-08-3	206-407-1	Hexanedioic acid, 2,2,3,3,4,4,5,5-octafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	4	4
277752-44-0		Hexanedioic acid, dimethyl ester, polymers with 2,2-bis (bromomethyl)-1,3-propanediol-ethenediol-tetrafluoroethylene telomer reaction products	poly/perfluorinated POLYMERS		
376-50-1		Hexanedioic acid, octafluoro-, diethyl ester	poly/perfluorinated CARBOXYLIC ACIDS	4	4
37881-62-2		Hexanedioyl difluoride, octafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	6	6
163336-49-0		Hexanenitrile, 2,2,3,3,4,4,5,5,6,6-decafluoro-6-[(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene and trifluoro(trifluoromethoxy)ethene	Polytetrafluoroethylene (PTFE)	5	5
15899-29-3		Hexanoic acid, 2,2,3,3,4,4,5,6,6,6-decafluoro-5-(trifluoromethyl)-	poly/perfluorinated CARBOXYLIC ACIDS	7	7
68015-84-9		Hexanoic acid, 2,2,3,3,4,4,5,6,6,6-decafluoro-5-(trifluoromethyl)-, compd. with ethanamine (1:1)	poly/perfluorinated CARBOXYLIC ACIDS	6	6
1726-50-7		Hexanoic acid, decafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	5	5
307-24-4	206-196-6	Hexanoic acid, undecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	5	5

21615-47-4	244-479-6	Hexanoic acid, undecafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	6	6
2923-26-4		Hexanoic acid, undecafluoro-, sodium salt	poly/perfluorinated CARBOXYLIC ACIDS	6	6
64018-24-2		Hexanoyl chloride, 3,3,4,4,5,5,6,6,6-nonafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
1422-98-6		Hexanoyl chloride, 3,5,6-trichloro-2,2,3,4,4,5,6,6-octafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	5	5
355-38-4	206-582-4	Hexanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,6-undecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	5	5
18017-31-7		Hexanoyl fluoride, 2,2,3,3,4,4,5,6,6,6-decafluoro-5-(trifluoromethyl)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
90411-87-3		Hydrofluoric acid, reaction products with 1-octanesulfonyl fluoride, fluorocarbon by-products	poly/perfluorinated CARBOXYLIC ACIDS	1	99
90411-88-4		Hydrofluoric acid, reaction products with octanoyl fluoride, fluorocarbon by-products	OTHER poly/perfluorinated ORGANICS	1	99
110053-43-5		Imidodicarbonic diamide, N,N',2-tris(6-isocyanatohexyl)-, reaction products with 3-chloro-1,2-propanediol and alpha-fluoro-omega-(2-hydroxyethyl)poly(difluoromethylene)	poly/perfluorinated POLYMERS		
194999-85-4		Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
2137740-80-8		Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonic acid (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
160738-69-2		Iodoperfluoroalkane(C5-14)	poly/perfluorinated IODIDES	5	14
25684-89-3		Isobutylene-Tetrafluoroethylene copolymer	Polytetrafluoroethylene (PTFE)	4	4
		Isododecyl/Perfluorononylethyl Dimer Dilinoleate/Citrate is a mixture of esters formed by the reaction of Dilinoleic Acid and Citric Acid with Isododecanol and perfluorononyl ethyl alcohol	poly/perfluorinated ESTERS		9
93894-56-5		Isooctanesulfonamide, heptadecafluoro-	poly/perfluorinated SULFONAMIDES	8	8
93894-57-6		Isooctanesulfonamide, heptadecafluoro-, compd. with N,N-diethylethanamine (1:1)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
93894-65-6		Isooctanesulfonamide, heptadecafluoro-N-(2-hydroxyethyl)-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
93894-66-7		Isooctanesulfonamide, heptadecafluoro-N,N-bis(2-hydroxyethyl)-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
93894-71-4		Isooctanesulfonamide, heptadecafluoro-N-methyl-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
93894-67-8		Isooctanesulfonic acid, heptadecafluoro-, lithium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
93894-73-6		Isooctanesulfonic acid, heptadecafluoro-, magnesium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
93894-68-9		Isooctanesulfonic acid, heptadecafluoro-, potassium salt	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
172018-29-0		Isoprene-Chlorotrifluoroethylene copolymer	poly/perfluorinated POLYMERS		2
		Isopropyl Titanium Triisostearate/Perfluorooctyl Triethoxysilane Crosspolymer is the reaction product of Isopropyl Tiranium Triisostearate and Perfluorooctyl Triethoxysilane	Polyfluoro siloxanes and silicones polymers		8
75032-95-0		L-Glutamic acid, N-[(heptadecafluorooctyl)sulfonyl]-, disodium salt	poly/perfluorinated SULFONAMIDES	8	8
160402-15-3		Linear perfluoroalkyl(C1-24)iodide	poly/perfluorinated IODIDES	1	24
349660-50-0		Methanol, reaction products fluorinated 2,2,3,3-tetrafluorooxetane homopolymer-iodine reaction products-trichloroethenylsilane polymer	Fluorinated oxetane polymers		
19190-61-5	700-677-9	Methyl 2,2,3,3,4,4-hexafluoro-4-(trifluoroethenyloxy)butanoate	poly/perfluorinated ETHERS	2	4
958445-54-0	640-001-9	Methyl 2,2,3-trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]propanoate	poly/perfluorinated CARBOXYLIC ACIDS	2	5
160498-33-9		Monoperfluoroalkyl(C10-18) phosphate diammonium	poly/perfluorinated PHOSPHOORGANICS	10	18
55716-11-5		Morpholine, 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,2,2,2-pentafluoroethyl)-	poly/perfluorinated ESTERS	2	2
382-28-5	206-841-1	Morpholine, 2,2,3,3,5,5,6,6-octafluoro-4-(trifluoromethyl)-	poly/perfluorinated ESTERS	1	2
1600-71-1		Morpholine, 2,2,3,3,5,5,6,6-octafluoro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-	OTHER poly/perfluorinated ORGANICS	7	7
25628-08-4	700-536-1	N,N,-triethylethanaminium 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulfonate	poly/perfluorinated SULFONAMIDES	4	4
160402-26-6		N,N-Bis(2-hydroxyethyl)-N-[2-hydroxy-3-(perfluoroalkyl(C7,9,11))propyl]-N-methylammonium iodide	OTHER poly/perfluorinated ORGANICS	7	11
1220100-43-5	700-737-4	N,N'-bis[2-hydroxy-3-(2,2,3,3-tetrafluoropropoxy)propyl]-N,N,N',N'-tetramethylethane-1,2-diaminium dichloride	poly/perfluorinated AMMONIUM ORGANICS	3	3
82030-83-9		N,N-Dimethyl-N-(perfluoroalkyl(C4-14)carbonylaminopropyl)-α-acetic acid betaine	OTHER poly/perfluorinated ORGANICS	4	14
	410-690-9	N-[2,5-dichloro-4-(1,1,2,3,3,3-hexafluoropropoxy)-phenyl-aminocarbonyl]-2,6-difluorobenzamide	OTHER poly/perfluorinated ORGANICS	3	3
160336-21-0		N-[3-(Dimethylamino)propyl]-2(or 3)-[2-[perfluoro(n-alkyl(C1-12))]ethylthio]succinamic acid	OTHER poly/perfluorinated ORGANICS	1	12
154380-34-4		N-[3-(Trimethoxysilyl)propyl]perfluorohexanamide	OTHER poly/perfluorinated ORGANICS	6	6
125061-94-1		Naphthalene, [difluoro(1,2,2,3,3,4,4,5,5,6,6-undecafluorocyclohexyl)methyl]heptadecafluorodecahydro-	poly/perfluorinated NAPHTHALENES	17	17
306-92-3		Naphthalene, 1,1,2,2,3,3,4,4,4a,5,5,6,6,7,7,8,8a-heptadecafluorodecahydro-8-(trifluoromethyl)-	poly/perfluorinated NAPHTHALENES	11	11
119141-87-6		Naphthalene, 1,1,2,2,3,3,4,4,4a,5,5,6,6,7,8,8,8a-heptadecafluoro-7-[1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)propyl]decahydro-	poly/perfluorinated NAPHTHALENES	14	14
119107-96-9		Naphthalene, 1,1,2,2,3,3,4,4,4a,5,5,6,6,7,8,8,8a-heptadecafluorodecahydro-7-(nonafluorobutyl)-	poly/perfluorinated NAPHTHALENES	14	14
306-95-6		Naphthalene, 1,1,2,2,3,3,4,4,4a,5,5,6,6,7,8,8,8a-heptadecafluorodecahydro-7-(trifluoromethyl)-	poly/perfluorinated NAPHTHALENES	14	14
119141-86-5		Naphthalene, 1,1,2,2,3,3,4,4,4a,5,5,6,6,7,8,8,8a-heptadecafluoro-7-[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]decahydro-	poly/perfluorinated NAPHTHALENES	14	14
119107-97-0		Naphthalene, 1,1,2,2,3,3,4,4,4a,5,5,6,6,7,8,8a-heptadecafluorodecahydro-7-[2,2,2-trifluoro-1,1-bis(trifluoromethyl)ethyl]-	poly/perfluorinated NAPHTHALENES	14	14
2342-07-6		Naphthalene, 1,1,2,2,3,3,4,4,5,6,7,8-dodecafluoro-1,2,3,4-tetrahydro-	poly/perfluorinated NAPHTHALENES	1	1
2796-08-9		Naphthalene, 2-(1,1,2,2-tetrafluoroethoxy)-	poly/perfluorinated NAPHTHALENES	4	4
118945-65-6		Naphthalene, heptadecafluoro[1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)propyl]-	poly/perfluorinated NAPHTHALENES	14	14
118945-64-5		Naphthalene, heptadecafluoro[1,2,2,3,3,3-hexafluoro-1-(trifluoromethyl)propyl]-	poly/perfluorinated NAPHTHALENES	14	14
118914-93-5		Naphthalene, heptadecafluorodecahydro(nonafluorobutyl)-	poly/perfluorinated NAPHTHALENES	14	14
51294-16-7		Naphthalene, heptadecafluorodecahydro(trifluoromethyl)-	poly/perfluorinated NAPHTHALENES	11	11
118914-94-6		Naphthalene, heptadecafluorodecahydro[2,2,2-trifluoro-1,1-bis(trifluoromethyl)ethyl]-	poly/perfluorinated NAPHTHALENES	14	14
306-94-5	206-192-4	Naphthalene, octadecafluorodecahydro-	poly/perfluorinated NAPHTHALENES	10	10
313-72-4	206-239-9	Naphthalene, octafluoro-	poly/perfluorinated NAPHTHALENES	8	8
31506-34-0		N-Butyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonamide	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
1-45-9		n-Decanol and alcohols, C8-14, perfluoro, polymer with 2-oxepanone, reaction product with diisocyanatomethyl benzene, polymer, poly(oxyethylene)(oxypropylene)glycol and 1H-imidazol-1-propanamine	Fluorinated (meth)acrylate polymers	8	14
1-51-1		N-Ethyl perfluorooctanesulfonamido ethanol, polymer with 2-butanoneoxime, 2-ethylhexyl alcohol and MDI-prepolymer	Fluorinated urethanes polymers	8	8
1-50-0		N-Methyl perfluoroalkyl(C4-C8)sulfonamidoethyl methacrylate, polymer with N-hydroxymethyl acrylamide, lauryl methacrylate, methoxypolyethylene glycol methacrylate, octadecyl methacrylate and vinylidene chloride	poly/perfluorinated COOPOLYMERS	4	8
1-51-0		N-Methyl perfluorooctanesulfonamido ethanol, polymer with epichlorhydrin and adipic acid	poly/perfluorinated POLYMERS	8	8
1-51-2		N-Methyl perfluorooctanesulfonamido ethyl acrylate, polymers with acrylamide, butyl acrylate and vinylidene chloride	poly/perfluorinated COOPOLYMERS	8	8
332912-47-7		N-Methyl-1-butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-, salts with benzene-chlorine-sulfurchloride reaction products	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
558-97-4		Nonane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-nonadecafluoro-9-iodo-	poly/perfluorinated IODIDES	9	9
2043-52-9		Nonane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7-pentadecafluoro-9-iodo-	poly/perfluorinated IODIDES	7	7
38550-34-4	253-994-5	Nonane, 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-8-iodo-	poly/perfluorinated IODIDES	6	6

71726-31-3		Nonane, 9-(ethenyloxy)-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-hexadecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	9	9
375-96-2		Nonane, eicosafluoro-	poly/perfluorinated ALKANES/ALKENES	9	9
4149-60-4		Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-,heptadecafluoro-, ammonium salt (1:1)	poly/perfluorinated CARBOXYLIC ACIDS	8	8
76-21-1	200-944-5	Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	8	8
1868-86-6		Nonanoic acid, 2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	8	8
754-87-0		Nonanoic acid, 2,4,6,8,9-pentachloro-2,3,3,4,5,5,6,7,7,8,9,9-dodecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	8	8
53281-25-7		Nonanoic acid, 3,5,7,9,9-pentachloro-2,2,3,4,4,5,6,6,7,8,8,9-dodecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	8	8
375-95-1	206-801-3	Nonanoic acid, heptadecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	8	8
30377-52-7	250-159-7	Nonanoic acid, heptadecafluoro-, ethyl ester	poly/perfluorinated ESTERS	8	8
52447-23-1		Nonanoyl chloride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
423-95-0	207-033-1	Nonanoyl chloride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
84029-52-7		Nonene, 1,1'-[1,4-butanediylbis(oxy)]bis[heptadecafluoro-	poly/perfluorinated ETHERS	8	8
84029-56-1		Nonene, 1,1'-[1,5-pentanediylbis(oxy)]bis[heptadecafluoro-	poly/perfluorinated ETHERS	8	8
84029-58-3		Nonene, 1,1'-[1,6-hexanediylbis(oxy)]bis[heptadecafluoro-	poly/perfluorinated ETHERS	8	8
66138-93-0		Nonene, 1,1'-[oxybis(2,1-ethanediyloxy)]bis[heptadecafluoro-	poly/perfluorinated ETHERS	8	8
84029-60-7		Nonene, heptadecafluoro-1-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl)oxy]-	poly/perfluorinated ETHERS	7	7
29809-35-6		Octadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18-heptatriacontafluoro-18-iodo-	poly/perfluorinated IODIDES	18	18
65150-94-9		Octadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16-tritriacontafluoro-18-iodo-	poly/perfluorinated IODIDES	16	16
16517-11-6	240-582-5	Octadecanoic acid, pentatriacontafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	18	18
423-54-1		Octanamide, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-	OTHER poly/perfluorinated ORGANICS	7	7
85938-56-3		Octanamide, N-(3-aminopropyl)-2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-	OTHER poly/perfluorinated ORGANICS	7	7
41358-63-8		Octanamide, N-[3-[bis(2-hydroxyethyl)amino]propyl]-2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-	OTHER poly/perfluorinated ORGANICS	7	7
335-65-9	206-395-8	Octane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-	poly/perfluorinated ALKANES/ALKENES	8	8
507-63-1	208-079-5	Octane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-8-iodo-	poly/perfluorinated IODIDES	8	8
80793-17-5	700-684-7	Octane, 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
2043-57-4	218-056-1	Octane, 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-8-iodo-	poly/perfluorinated IODIDES	6	6
865-77-0	212-747-1	Octane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8-hexadecafluoro-8-iodo-2-(trifluoromethyl)-	poly/perfluorinated IODIDES	9	9
3021-63-4		Octane, 1,1,1,2,3,3,4,4,5,5,6,6,7,8,8,8-hexadecafluoro-2,7-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	10	10
423-55-2	207-028-4	Octane, 1-bromo-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	OTHER poly/perfluorinated ORGANICS	8	8
307-33-5		Octane, 1-chloro-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	OTHER poly/perfluorinated ORGANICS	8	8
210896-25-6		Octane, 8-(1,3-dimethylbutoxy)-1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-	OTHER poly/perfluorinated ORGANICS	6	6
85711-89-3		Octane, ethylheptadecafluoro-	poly/perfluorinated ALKANES/ALKENES	8	8
307-34-6	206-199-2	Octane, octadecafluoro-	poly/perfluorinated ALKANES/ALKENES	8	8
647-12-1	211-476-6	Octanenitrile, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-	OTHER poly/perfluorinated ORGANICS	7	7
15899-31-7		Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,8,8,8-tetradecafluoro-7-(trifluoromethyl)-	poly/perfluorinated CARBOXYLIC ACIDS	8	8
3658-62-6		Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,8,8,8-tetradecafluoro-7-(trifluoromethyl)-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	8	8
68015-86-1		Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,8,8,8-tetradecafluoro-7-(trifluoromethyl)-, compd. with ethanamine (1:1)	poly/perfluorinated CARBOXYLIC ACIDS	8	8
53826-12-3		Octanoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	6	6
3658-57-9		Octanoic acid, 7-(chlorodifluoromethyl)-2,2,3,3,4,4,5,5,6,6,7,8,8,8-tetradecafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	3	8
16557-94-1		Octanoic acid, 8-chloro-2,2,3,3,4,4,5,5,6,6,7,7,8,8-tetradecafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
335-67-1	206-397-9	Octanoic acid, pentadecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	7	7
3825-26-1	223-320-4	Octanoic acid, pentadecafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
33496-48-9		Octanoic acid, pentadecafluoro-, anhydride	poly/perfluorinated CARBOXYLIC ACIDS	7	7
90480-55-0		Octanoic acid, pentadecafluoro-, branched	poly/perfluorinated CARBOXYLIC ACIDS	7	7
90480-56-1		Octanoic acid, pentadecafluoro-, branched, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
68141-02-6		Octanoic acid, pentadecafluoro-, chromium(3+) salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
3108-24-5	221-468-4	Octanoic acid, pentadecafluoro-, ethyl ester	poly/perfluorinated CARBOXYLIC ACIDS	7	7
45285-51-6		Octanoic acid, pentadecafluoro-, ion (1-)	poly/perfluorinated CARBOXYLIC ACIDS	7	7
376-27-2	206-808-1	Octanoic acid, pentadecafluoro-, methyl ester	poly/perfluorinated CARBOXYLIC ACIDS	7	7
90480-57-2		Octanoic acid, pentadecafluoro-, mixed esters with 2,2'-[1,4-butanediylbis(oxymethylene)]bis[oxirane] and 2,2'-[1,6-hexanediylbis(oxymethylene)]bis[oxirane]	poly/perfluorinated CARBOXYLIC ACIDS	7	7
2395-00-8		Octanoic acid, pentadecafluoro-, potassium salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
335-93-3		Octanoic acid, pentadecafluoro-, silver(1+) salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
335-95-5	206-404-5	Octanoic acid, pentadecafluoro-, sodium salt	poly/perfluorinated CARBOXYLIC ACIDS	7	7
335-64-8	206-394-2	Octanoyl chloride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	7	7
64018-25-3		Octanoyl chloride, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	6	6
335-66-0	206-396-3	Octanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	7	7
15742-62-8		Octanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,7,8,8,8-tetradecafluoro-7-(trifluoromethyl)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	8	8
788-41-0		Oxepane, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro-	poly/perfluorinated ETHERS	6	6
1-87-3		Oxetane, 2,3,3,4,4-pentafluoro-2-(2,2,3,3,4,4,5,5,5-undecafluoropentyl)-	poly/perfluorinated ETHERS	4	4
475678-78-5		Oxetane, 3-methyl-3-[[(3,3,4,4,5,5,6,6,6-nonafluorohexyl)oxy]methyl]-	poly/perfluorinated ETHERS	4	4
38565-52-5	254-004-4	Oxirane, (2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoroheptyl)-	poly/perfluorinated OXIRANES	6	6
38565-54-7	254-007-0	Oxirane, (2,2,3,3,4,4,5,5,6,6,7,7,8,8,8,9,9,10,10,11,11,11-heneicosafluoroundecyl)-	poly/perfluorinated OXIRANES	10	10
94158-66-4		Oxirane, (2,2,3,3,4,4,5,5,6,6,7,7,8,8,8,9,9,10,10,11,11,12,12,13,13,13-pentacosafluorotridecyl)-	poly/perfluorinated OXIRANES	12	12
94158-67-5		Oxirane, (2,2,3,3,4,4,5,5,6,6,7,7,8,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-nonacosafluoropentadecyl)-	poly/perfluorinated OXIRANES	14	14
94158-68-6		Oxirane, (2,2,3,3,4,4,5,5,6,6,7,7,8,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,17-tritriacontafluoroheptadecyl)-	poly/perfluorinated OXIRANES	16	16
38565-53-6	254-006-5	Oxirane, (2,2,3,3,4,4,5,5,6,6,7,7,8,8,8,9,9,9-heptadecafluorononyl)-	poly/perfluorinated OXIRANES	8	8

54009-79-9		Oxirane, [2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,17,17,17-dotriacontafluoro-16-(trifluoromethyl)heptadecyl]-	poly/perfluorinated OXIRANES	17	17
54009-77-7		Oxirane, [2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-octacosafluoro-14-(trifluoromethyl)pentadecyl]-	poly/perfluorinated OXIRANES	15	15
54009-78-8		Oxirane, [2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-tetracosafluoro-12-(trifluoromethyl)tridecyl]-	poly/perfluorinated OXIRANES	13	13
47795-34-6		Oxirane, [2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-eicosafluoro-10-(trifluoromethyl)undecyl]-	poly/perfluorinated OXIRANES	11	11
41925-33-1	255-587-8	Oxirane, [2,2,3,3,4,4,5,5,6,6,7,7,8,9,9,9-hexadecafluoro-8-(trifluoromethyl)nonyl]-	poly/perfluorinated OXIRANES	9	9
125370-60-7		Oxirane, 2-[[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluorononyl)oxy]methyl]-	poly/perfluorinated ETHERS	8	8
208721-05-5		Oxirane, methyl-, polymer with oxirane, mono(4,4,5,5,6,6,7,7,8,8,9,9,10,10-heptadecafluoro-1-methyl undecyl)ether	poly/perfluorinated POLYMERS	7	7
183146-60-3		Oxirane, methyl-, polymer with oxirane, mono[2-hydroxy-3-[(gamma-omega-perfluoro-C8-20-alkyl)thio]propyl]ethers	poly/perfluorinated POLYMERS	8	20
98561-39-8		Oxirane, mono[[(.beta.-.omega.-perfluoro-.omega.-hydro-C2-4-alkyl)oxy]methyl] derivs.	poly/perfluorinated OXIRANES	2	4
119438-11-8		Oxirane, mono[[(.gamma.-.omega.-perfluoro-C4-10-alkyl)thio]methyl] derivs.	poly/perfluorinated OXIRANES	4	10
15453-10-8		Oxirane, trifluoro(1,1,2,2,3,4,4-heptafluoro-3-butenyl)-	poly/perfluorinated OXIRANES	6	6
25038-02-2		Oxirane, trifluoro(trifluoromethyl)-, homopolymer	poly/perfluorinated POLYMERS		2
68239-02-1		Oxiranecarbonitrile, (chloromethyl)(difluoroamino)-, homopolymer	poly/perfluorinated POLYMERS		
		PEG-10 Acrylate/Perfluorohexylethyl Acrylate Copolymer is a copolymer of PEG-10 acrylate and perfluorohexylethyl acrylate monomers.	Fluorinated (meth)acrylate polymers	2	8
335-79-5		Pentadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13, 14,14,15,15-hentriacontafluoro-15-iodo-	poly/perfluorinated IODIDES	15	15
3-02-1		Pentane, (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoro-, (3R,4R)- and pentane, 1,1,1,2,2,3,4,5,5,5-, (3S,4S)-, reaction mass of	poly/perfluorinated ALKANES/ALKENES	5	5
638-79-9	211-350-0	Pentane, 1,1,1,2,2,3,3,4,4,5,5-undecafluoro-5-iodo-	poly/perfluorinated IODIDES	5	5
355-04-4	206-575-6	Pentane, 1,1,1,2,2,3,3,4,5,5,5-undecafluoro-4-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	6	6
68158-13-4		Pentane, 1,1,1,2,2,3,3,4,5,5,5-undecafluoro-4-iodo-	poly/perfluorinated IODIDES	5	5
865-71-4		Pentane, 1,1,1,2,2,3,4,4,5,5,5-undecafluoro-3-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	6	6
138495-42-8	420-640-8	Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-	poly/perfluorinated ALKANES/ALKENES	5	5
1006614-98-7		Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-, (3R,4R)-	poly/perfluorinated ALKANES/ALKENES	5	5
142347-07-7		Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-, (3R,4R)-rel-	poly/perfluorinated ALKANES/ALKENES	5	5
1006614-96-5		Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-, (3R,4S)-	poly/perfluorinated ALKANES/ALKENES	5	5
142347-08-8		Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-, (3R,4S)-rel-	poly/perfluorinated ALKANES/ALKENES	5	5
1006614-95-4		Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-, (3S,4R)-	poly/perfluorinated ALKANES/ALKENES	5	5
1006614-97-6		Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-, (3S,4S)-	poly/perfluorinated ALKANES/ALKENES	5	5
335-14-8		Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-3,4-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	7	7
50285-18-2		Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-3-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-4-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	3	9
132182-92-4		Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-(trifluoromethyl)-	poly/perfluorinated ESTERS	6	6
36591-89-6		Pentane, 1,1,1,2,2,4,4,5,5,5-decafluoro-3,3-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	7	7
50285-19-3		Pentane, 1,1,1,2,2,4,4,5,5,5-decafluoro-3-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-3-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	9	9
354-97-2		Pentane, 1,1,1,2,3,4,4,5,5,5-decafluoro-3-(pentafluoroethyl)-2-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	8	8
85720-78-1		Pentane, 1,1,1,2,3,4,5,5,5-nonafluoro-2-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	6	6
62375-54-6		Pentane, 1,1,1,3,3,5,5,5-octafluoro-2,2,4,4-tetrakis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	9	9
73928-40-2		Pentane, 1,1,2,2,3,3,4,4,5,5-decafluoro-1-[(trifluoroethenyl)oxy]-	poly/perfluorinated ETHERS	5	5
85720-79-2		Pentane, 2,3-dichloro-1,1,1,2,3,4,5,5,5-nonafluoro-4-(trifluoromethyl)-	OTHER poly/perfluorinated ORGANICS	6	6
66396-73-4		Pentane, 5-(ethenyloxy)-1,1,2,2,3,3,4,4-octafluoro-	OTHER poly/perfluorinated ORGANICS	4	4
678-26-2	211-647-5	Pentane, dodecafluoro-	poly/perfluorinated ALKANES/ALKENES	5	5
75330-20-0		Pentane, undecafluoroiodo-	poly/perfluorinated IODIDES	5	5
376-72-7	206-812-3	Pentanoic acid, 2,2,3,3,4,4,5,5-octafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	4	4
22715-45-3		Pentanoic acid, 2,2,3,3,4,4,5,5-octafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	5	5
72828-80-9		Pentanoic acid, 2,2,3,3,4,4,5,5-octafluoro-, octyl ester	poly/perfluorinated CARBOXYLIC ACIDS	5	5
94095-37-1		Pentanoic acid, 4,4-bis[(.gamma.-.omega.-perfluoro-C6-12-alkyl)thio] derivs., compds. with diethanolamine	poly/perfluorinated TIOLS	6	12
71608-60-1		Pentanoic acid, 4,4-bis[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio] derivs.	poly/perfluorinated TIOLS	8	20
71608-61-2		Pentanoic acid, 4,4-bis[(.gamma.-.omega.-perfluoro-C8-20-alkyl)thio] derivs., compds. with diethanolamine	poly/perfluorinated TIOLS	8	20
2706-90-3	220-300-7	Pentanoic acid, nonafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	4	4
68259-11-0		Pentanoic acid, nonafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	5	5
424-37-3		Pentanoic acid, nonafluoro-, ethenyl ester	poly/perfluorinated ESTERS	4	4
2706-89-0		Pentanoic acid, nonafluoro-, sodium salt	poly/perfluorinated CARBOXYLIC ACIDS	5	5
375-62-2	206-790-5	Pentanoyl fluoride, 2,2,3,3,4,4,5,5,5-nonafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	5	5
329238-24-6		Perfluoro acetic acid, α-substituted with the copolymer of perfluoro-1,2-propylene glycol and perfluoro-1,1-ethylene glycol, terminated with chlorohexafluoropropyloxy groups	poly/perfluorinated POLYMERS		
		Perfluoro alkylsulfonyl ketone silane	OTHER poly/perfluorinated ORGANICS	1	20
	404-730-4	perfluoro(5,6,9,12-tetramethyl-4,7,10,13-tetraoxahexadecane)	poly/perfluorinated ETHERS	1	3
	404-710-5	perfluoro(5,8,9,12-tetramethyl-4,7,10,13-tetraoxahexadecane)	poly/perfluorinated ETHERS	1	3
908020-52-0		Perfluoro[(2-ethyloxy-ethoxy)acetic acid], ammonium salt	poly/perfluorinated ETHERS	2	2
2070-70-4		Perfluoro-4-methyl-2-pentene	poly/perfluorinated ALKANES/ALKENES	6	6
161075-23-6		Perfluoroalkyl (C4-23) iodide	poly/perfluorinated IODIDES	4	23
90451-86-8		Perfluoroalkyl acrylate-, copolymer	Fluorinated (meth)acrylate polymers	1	99
82030-84-0		Perfluoroalkyl amine oxide (Japan)	poly/perfluorinated AMINES	1	99
110070-82-1		Perfluoroalkyl(C4-C14)carbonyl aminohexanoic acid, ammonium salt	OTHER poly/perfluorinated ORGANICS	4	14
82030-85-1		Perfluoroalkyl(C4-C14)carbonyl aminomethoxy polyethylene oxide	poly/perfluorinated POLYMERS	4	14
82030-81-7		Perfluoroalkyl(C4-C14)carbonyl aminopropyl trimethyl ammonium iodide	poly/perfluorinated IODIDES	4	14
		Perfluoroalkylethyl Phosphate is the aminomethylpropanol salt of a complex mixture of esters of phosphoric acid and a perfluoroalkylethyl alcohol containining 8 to 18 carbons in the alkyl chain.	poly/perfluorinated PHOSPHOORGANICS	8	18
2355-31-9		Perfluoroalkyls (2-(N-methyl-perfluorooctane sulfonamido) acetic acid)	poly/perfluorinated SULFONAMIDES	8	8
		Perfluoro-C6-12-alkyl ethanol	poly/perfluorinated ALKOHOLS	6	12

182700-79-4		-perfluoro-C8-14-alcs. and N,N-2-tris(6-isocyanatohexyl) imidodicarbonic diamide	OTHER poly/perfluorinated ORGANICS	8	14
25067-11-2		Perfluoroethylene propylene copolymer	poly/perfluorinated POLYMERS	1	99
108427-53-8		Perfluorohexane sulfonic acid	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	6
41997-13-1		Perfluorohexanesulfonamide	poly/perfluorinated SULFONAMIDES	6	6
		PERFLUORONONYL OCTYLDODECYL GLYCOL GRAPESEEDATE	poly/perfluorinated ALKOHOLS	9	9
		Perfluorononylethyl carboxy PEG-7 dimethicone Phosphate is the partial ester of phosphoric acid and a carboxylated derivative of perfluorononylethyl dimethicone containing an average of 7 moles of ethylene oxide	poly/perfluorinated PHOSPHOORGANICS	2	11
141074-63-7		Perfluoropentadecanoic acid	poly/perfluorinated CARBOXYLIC ACIDS	15	15
113114-19-5		Perfluoropolytrimethyleneoxide	poly/perfluorinated POLYMERS		
86508-42-1		Perfluorotri-n-butylamine ("Perfluoro compd., C5-18")	poly/perfluorinated AMINES	5	18
28285-49-6		Peroxide, bis(3,5,6-trichloro-2,2,3,4,4,5,6,6-octafluoro-1-oxohexyl)-	OTHER poly/perfluorinated ORGANICS	5	5
306-91-2	400-470-0	Phenanthrene, tetracosafluorotetradecahydro-	poly/perfluorinated ALKANES/ALKENES	14	14
159182-00-0		Phenanthrene, tetracosafluorotetradecahydro-, polymers	poly/perfluorinated POLYMERS		
142623-70-9		Phenol, 4-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)thio]-	poly/perfluorinated TIOLS	8	8
52299-27-1		Phosphinic acid, bis(heneicosafluorodecyl)-	poly/perfluorinated PHOSPHOORGANICS	10	10
40143-79-1		Phosphinic acid, bis(heptadecafluorooctyl)-	poly/perfluorinated PHOSPHOORGANICS	8	8
63225-54-7		Phosphinic acid, bis(pentacosafluorododecyl)-	poly/perfluorinated PHOSPHOORGANICS	12	12
68412-69-1		Phosphinic acid, bis(perfluoro-C6-12-alkyl) derivs.	poly/perfluorinated PHOSPHOORGANICS	6	12
93062-53-4		Phosphinic acid, bis(perfluoro-C6-12-alkyl) derivs., aluminum salts	poly/perfluorinated PHOSPHOORGANICS	6	12
40143-77-9		Phosphinic acid, bis(tridecafluorohexyl)-	poly/perfluorinated PHOSPHOORGANICS	6	6
90146-97-7		Phosphonic acid, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-, compd. with N,N-diethylethanamine (9CI)	poly/perfluorinated PHOSPHOORGANICS	8	8
40143-78-0		Phosphonic acid, (heptadecafluorooctyl)-	poly/perfluorinated PHOSPHOORGANICS	8	8
40143-76-8		Phosphonic acid, (tridecafluorohexyl)-	poly/perfluorinated PHOSPHOORGANICS	6	6
63513-12-2		Phosphonic acid, [[4-[(heptadecafluorononenyl)oxy]phenyl]methyl]-	poly/perfluorinated PHOSPHOORGANICS	8	8
71463-78-0		Phosphonic acid, [3-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]propyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
71463-80-4		Phosphonic acid, [3-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]propyl]-, diethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	8
71463-79-1		Phosphonic acid, [3-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]propyl]-	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
71463-81-5		Phosphonic acid, [3-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]propyl]-, diethyl ester	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	7	7
68412-68-0		Phosphonic acid, perfluoro-C6-12-alkyl derivs.	poly/perfluorinated PHOSPHOORGANICS	6	12
90481-10-0		Phosphonic acid, perfluoro-C6-12-alkyl derivs., aluminum salts	poly/perfluorinated PHOSPHOORGANICS	6	12
332350-90-0	682-239-6	Phosphonium, tributyl(2-methoxypropyl)-, salt with 1,1,2,2,3,3,4,4,4-nonefluoro-N-methyl-1-butanesulfonamide (1:1)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
332350-93-3	442-960-7	Phosphonium, triphenyl(phenylmethyl)-, salt with 1,1,2,2,3,3,4,4,4-nonefluoro-N-methyl-1-butanesulfonamide (1:1)	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	4
74499-44-8		Phosphoric acid, .gamma.-.omega.-perfluoro-C8-16-alkyl esters, compds. with diethanolamine	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	16
92332-25-7		Phosphoric acid, bis(.gamma.-.omega.-perfluoro-C8-14-alkyl) esters, compds. with diethanolamine	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	14
		Phosphoric acid, mixed esters with 3,3,4,4,5,5,6,6,7,7,8,8,8 –tridecafluorooctan-1-ol and polysubstituted alkane, mono- and diammonium salts	poly/perfluorinated PHOSPHOORGANICS	6	6
		Phosphoric acid, mixed esters with 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctan-1-ol and polysubstituted alkane, mono- and diammonium salts	poly/perfluorinated PHOSPHOORGANICS	6	6
1224429-82-6		Phosphoric acid, mixed esters with polyethylene glycol and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-1-octanol, ammonium salts	poly/perfluorinated POLYMERS	6	6
92332-26-8		Phosphoric acid, mono(.gamma.-.omega.-perfluoro-C8-14-alkyl) esters, compds. with diethanolamine	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	8	14
1189052-95-6	700-812-1	Phosphoric acid, P-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-, sodium salt (1:1)	poly/perfluorinated PHOSPHOORGANICS	8	8
71356-38-2		Piperazinium, 1-(carboxymethyl)-1-(2-hydroxyethyl)-4-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro-1-oxodecyl)-, hydroxide, inner salt	poly/perfluorinated AMMONIUM ORGANICS	9	9
564-11-4		Piperidine, 2,2,3,3,4,4,5,5,6,6-decafluoro-1-(pentafluoroethyl)-	poly/perfluorinated AMINES	2	5
359-71-7		Piperidine, 2,2,3,3,4,4,5,5,6,6-decafluoro-1-(trifluoromethyl)-	poly/perfluorinated AMINES	1	5
	432-060-2	poly(1-pentene-2,3,3,4,4,5,5-heptafluoro-co-ethene-co-tetrafluoroethene)	OTHER poly/perfluorinated ORGANICS	4	4
105656-63-1		Poly(4-bromo-3,3,4,4-tetrafluoro-1-butene/ethylene/tetrafluor oethylene/trifluoromethyl trifluorovinyl ether)	poly/perfluorinated POLYMERS	4	4
65530-81-6		Poly(difluoromethylene), .alpha.-(2,2-dichloro-1,1,2-trifluoroethyl)-.omega.-hydro-	Polytetrafluoroethylene (PTFE)		
65530-85-0		Poly(difluoromethylene), .alpha.-(cyclohexylmethyl)-.omega.-hydro-	Polytetrafluoroethylene (PTFE)		
65530-73-6		Poly(difluoromethylene), .alpha.,.alpha.'-(thiodi-2,1-ethanediyl)bis[.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
71550-16-8		Poly(difluoromethylene), .alpha.,.alpha.',.alpha."-[(2-hydroxy-1,2,3-propanetriyl)tris[carbonyloxy(2-iodo-3,1-propanediyl)]]tris[.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
71278-43-8		Poly(difluoromethylene), .alpha.,.alpha.',.alpha."-[(2-hydroxy-1,2,3-propanetriyl)tris[carbonyloxy[2-(chloromethyl)-2,1-ethanediyl]]]tris[.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
71230-79-0		Poly(difluoromethylene), .alpha.,.alpha.',.alpha."-[1,2,4-benzenetriyltris[carbonyloxy(2-iodo-3,1-propanediyl)]]tris[.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
71230-80-3		Poly(difluoromethylene), .alpha.,.alpha.',.alpha."-[1,2,4-benzenetriyltris[carbonyloxy[2-(chloromethyl)-2,1-ethanediyl]]]tris[.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
71550-15-7		Poly(difluoromethylene), .alpha.,.alpha.'-[1,2-phenylenebis[carbonyloxy(2-iodo-3,1-propanediyl)]]bis[.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
71550-17-9		Poly(difluoromethylene), .alpha.,.alpha.'-[1,2-phenylenebis[carbonyloxy[2-(chloromethyl)-2,1-ethanediyl]]]bis[.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
65530-70-3		Poly(difluoromethylene), .alpha.,.alpha.'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[.omega.-fluoro-, ammonium salt	poly/perfluorinated POLYMERS		
245331-40-2		Poly(difluoromethylene), .alpha.,.alpha.'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[.omega.-fluoro-, sodium salt (1:1)	Polytetrafluoroethylene (PTFE)		
65530-76-9		Poly(difluoromethylene), .alpha.,.alpha.'-[sulfonylbis(oxy-2,1-ethanediyl)]bis[.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
65530-67-8		Poly(difluoromethylene), .alpha.,.omega.-bis(methylthio)-	Polytetrafluoroethylene (PTFE)		
71002-41-0		Poly(difluoromethylene), .alpha.-[2-(acetyloxy)-2-[(carboxymethyl)dimethylammonio]ethyl]-.omega.-fluoro-, hydroxide, inner salt	Polytetrafluoroethylene (PTFE)		
65530-83-8		Poly(difluoromethylene), .alpha.-[2-[(2-carboxyethyl)thio]ethyl]-.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
65530-69-0		Poly(difluoromethylene), .alpha.-[2-[(2-carboxyethyl)thio]ethyl]-.omega.-fluoro-, lithium salt	Polytetrafluoroethylene (PTFE)		
161278-39-3	500-631-6	Poly(difluoromethylene), .alpha.-[2-[[[3-[(carboxymethyl)dimethylammonio]propyl]amino]sulfonyl]ethyl]-.omega.-fluoro-, inner salt	Polytetrafluoroethylene (PTFE)		
65530-55-4		Poly(difluoromethylene), .alpha.-[2-[[2-(dimethylamino)ethyl]thio]ethyl]-.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
65530-68-9		Poly(difluoromethylene), .alpha.-[2-[[2-[(carboxymethyl)dimethylammonio]ethyl]thio]ethyl]-.omega.-fluoro-, hydroxide, inner salt	Polytetrafluoroethylene (PTFE)		
71002-40-9		Poly(difluoromethylene), .alpha.-[3-(dimethylamino)-2-hydroxypropyl]-.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		
131324-06-6		Poly(difluoromethylene), .alpha.-chloro-.omega.-(1-chloro-1-fluoroethyl)-	Polytetrafluoroethylene (PTFE)		
79070-11-4		Poly(difluoromethylene), .alpha.-chloro-.omega.-(2,2-dichloro-1,1,2-trifluoroethyl)-	Polytetrafluoroethylene (PTFE)		
65530-75-8		Poly(difluoromethylene), .alpha.-ethenyl-.omega.-fluoro-	Polytetrafluoroethylene (PTFE)		

65530-60-1		Poly(Difluoromethylene), .alpha.-fluoro-.omega.-(2-hydroxyethyl)-	Polytetrafluoroethylene (PTFE)	1	99
65530-59-8		Poly(difluoromethylene), .alpha.-fluoro-.omega.-(2-hydroxyethyl)-, 2-hydroxy-1,2,3-propanetricarboxylate (3:1)	Polytetrafluoroethylene (PTFE)		
65605-56-3		Poly(difluoromethylene), .alpha.-fluoro-.omega.-(2-hydroxyethyl)-, dihydrogen 2-hydroxy-1,2,3-propanetricarboxylate	Polytetrafluoroethylene (PTFE)		
65530-58-7		Poly(difluoromethylene), .alpha.-fluoro-.omega.-(2-hydroxyethyl)-, ester with 2,15-bis(carboxymethyl)-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,2,15,16-tetracarboxylic acid (6:1)	Polytetrafluoroethylene (PTFE)		
65605-57-4		Poly(difluoromethylene), .alpha.-fluoro-.omega.-(2-hydroxyethyl)-, hydrogen 2-hydroxy-1,2,3-propanetricarboxylate	Polytetrafluoroethylene (PTFE)		
71215-70-8		Poly(Difluoromethylene), .alpha.-fluoro-.omega.-(2-iodoethyl)	Polytetrafluoroethylene (PTFE)	1	99
68379-37-3		Poly(difluoromethylene), .alpha.-fluoro-.omega.-(2-iodopropyl)-	Polytetrafluoroethylene (PTFE)		
80010-38-4		Poly(difluoromethylene), .alpha.-fluoro-.omega.-(2-sulfoethyl)-, ammonium salt	Polytetrafluoroethylene (PTFE)		
95144-12-0		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-(phosphonooxy)ethyl]-, ammonium salt	Polytetrafluoroethylene (PTFE)		
65530-72-5		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-(phosphonooxy)ethyl]-, diammonium salt	poly/perfluorinated POLYMERS		
65530-71-4		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-(phosphonooxy)ethyl]-, monoammonium salt	poly/perfluorinated POLYMERS		
245331-49-1		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-(phosphonooxy)ethyl]-, sodium salt (1:1)	Polytetrafluoroethylene (PTFE)		
245331-02-6		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-(phosphonooxy)ethyl]-, sodium salt (1:2)	Polytetrafluoroethylene (PTFE)		
65530-77-0		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-(sulfooxy)ethyl]-	Polytetrafluoroethylene (PTFE)		
65605-73-4		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]-, homopolymer	Polytetrafluoroethylene (PTFE)		
207004-58-8		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-[(1-oxo-2-propenyl)oxy]ethyl]-, polymer with 1,1-dichlorethene	Fluorinated (meth)acrylate polymers		2
65530-65-6		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-[(1-oxooctadecyl)oxy]ethyl]-	Polytetrafluoroethylene (PTFE)		
65530-66-7		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]-	Polytetrafluoroethylene (PTFE)		
65530-57-6		Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-[[2-(trimethylammonio)ethyl]thio]ethyl]-, methyl sulfate	Polytetrafluoroethylene (PTFE)		
163440-89-9		Poly(difluoromethylene), .alpha.-hydro-.omega.-(2,2-dichloro-2-fluoroethyl)-	Polytetrafluoroethylene (PTFE)		
72987-44-1		Poly(difluoromethylene), .alpha.-hydro-.omega.-[(phosphonooxy)methyl]-	Polytetrafluoroethylene (PTFE)		
80010-37-3		Poly(difluoromethylene), alpha-fluoro-omega-[2-sulphoethyl)-	Polytetrafluoroethylene (PTFE)		
115287-18-8		Poly(methylnonafluorohexylsiloxane)	Polyfluoro siloxanes and silicones polymers	4	4
122402-79-3		Poly(oxy-1,2-ethanediyl), .alpha.-(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-2-hydroxyundecyl)-.omega.-[(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-2-hydroxyundecyl)oxy]	poly/perfluorinated COOPOLYMERS	7	7
56467-05-1		Poly(oxy-1,2-ethanediyl), .alpha.-(tridecafluorohexyl)-.omega.-hydroxy-	poly/perfluorinated COOPOLYMERS	6	6
165967-96-4		Poly(oxy-1,2-ethanediyl), .alpha.',.alpha."-[[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)silylidyne]tris[oxy(dimethylsilylene)-3,1-propanediyl]]tris[.omega.-methoxy-	Polyfluoro siloxanes and silicones polymers	8	8
143907-02-2		Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.',.alpha."-(oxydi-3,1,2-propanetriyl)tetrakis[.omega.-[(heptadecafluorononenyl)oxy]]-	poly/perfluorinated COOPOLYMERS	9	9
52032-20-9		Poly(oxy-1,2-ethanediyl), .alpha.-[[[(heptadecafluorooctyl)sulfonyl]methylamino]carbonyl]-.omega.-butoxy-	poly/perfluorinated COOPOLYMERS	8	8
68877-38-3		Poly(oxy-1,2-ethanediyl), .alpha.-[1,4,4,5,5,5-hexafluoro-1,2,3-tris(trifluoromethyl)-2-pentenyl]-.omega.-[[1,4,4,5,5,5-hexafluoro-1,2,3-tris(trifluoromethyl)-2-pentenyl]oxy]-	poly/perfluorinated COOPOLYMERS	1	5
68877-51-0		Poly(oxy-1,2-ethanediyl), .alpha.-[1,4,4,5,5,5-hexafluoro-1,2,3-tris(trifluoromethyl)-2-pentenyl]-.omega.-methoxy-	poly/perfluorinated COOPOLYMERS	5	5
306979-40-8		Poly(oxy-1,2-ethanediyl), .alpha.-[2-(methylamino)ethyl]-.omega.-[(1,1,3,3-tetramethylbutyl)phenoxy]-, N-[(perfluoro-C4-8-alkyl)sulfonyl] derivs.	poly/perfluorinated COOPOLYMERS	4	8
93480-00-3		Poly(oxy-1,2-ethanediyl), .alpha.-[2-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1-oxooctyl)amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated COOPOLYMERS	7	7
52550-45-5		Poly(oxy-1,2-ethanediyl), .alpha.-[2-[[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl]-.omega.-hydroxy-	poly/perfluorinated COOPOLYMERS	8	8
29117-08-6		Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated COOPOLYMERS	8	8
68958-61-2		Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-methoxy-	poly/perfluorinated COOPOLYMERS	8	8
68298-79-3		Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated COOPOLYMERS	4	4
68298-81-7		Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated COOPOLYMERS	7	7
68958-60-1		Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-methoxy-	poly/perfluorinated COOPOLYMERS	7	7
56372-23-7		Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated COOPOLYMERS	6	6
68298-80-6		Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated COOPOLYMERS	5	5
65545-80-4		Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, ether with .alpha.-fluoro-.omega.-(2-hydroxyethyl)poly(difluoromethylene) (1:1)	poly/perfluorinated COOPOLYMERS	?	?
306975-84-8		Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane, N-(2-hydroxyethyl)-N-methyl perfluoro C4-8-alkane sulfonamide-blocked	Fluorinated urethanes polymers	4	8
70983-59-4		Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-hydroxy-, 2-hydroxy-3-[(.gamma.-.omega.-perfluoro-C6-20-alkyl)thio]propyl ethers	poly/perfluorinated COOPOLYMERS	6	20
83563-58-0		Poly(oxy-1,2-ethanediyl), ?-[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(trifluoromethyl)-1-butenyl]-?-[[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(triSfluoromethyl)-1-butenyl]oxy]-	poly/perfluorinated COOPOLYMERS		
83731-88-8		Poly(oxy-1,2-ethanediyl), ?-methyl-?-[[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(trifluoromethyl)-1-butenyl]oxy]-	poly/perfluorinated COOPOLYMERS		
68171-31-3		Poly(oxy-1,4-butanediyl), .alpha.-[(trifluoromethyl)sulfonyl]-.omega.-[[(trifluoromethyl)sulfonyl]oxy]-	poly/perfluorinated COOPOLYMERS		
69991-67-9		Poly(oxydifluormethanediyl)poly(oxy-1,1,2,3,3,3-hexafluoro-1,2-propanediyl), .alpha.-trifluormethyl-.omega.-trifluoromethoxy-	poly/perfluorinated COOPOLYMERS		
160965-19-5		Poly[2-perfluoroalkyl(C4-8)ethylsiloxane]	Polyfluoro siloxanes and silicones polymers	4	8
37626-13-4		Poly[4,5-difluoro-2,2-bis(trifluoromethyl)-1,3-dioxole/tetrafluoroethylene]	poly/perfluorinated POLYMERS	4	4
146222-54-0		Poly[oxy(1,1,2,2-tetrafluoro-1,2-ethanediyl)], .alpha.-(1,1-difluoro-2-hydroxyethyl)-.omega.-(1,1-difluoro-2-hydroxyethoxy)	Polytetrafluoroethylene (PTFE)	4	4
195158-89-5		Poly[oxy(methyl-1,2-ethanediyl),α-(2-methyl-1-oxo-2-propenyl)-ω-hydroxy-, polymer with α-fluoro-ω-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene) and α-(2-methyl-1-oxo-2-propenyl)-ω-methoxypoly(oxy1,2-ethanediyl)	poly/perfluorinated POLYMERS		
37338-48-0		Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated POLYMERS	8	8
68310-18-9		Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated POLYMERS	4	4
68259-39-2		Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated POLYMERS	7	7
68259-38-1		Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated POLYMERS	6	6
68310-17-8		Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-	poly/perfluorinated POLYMERS	5	5
330678-54-1		Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,3-diisocyanatomethylbenzene, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-N-propyl-1-octanesulfonamide and polypropylene glycol mono-butylether-blocke	Fluorinated urethanes polymers	8	8
1-87-4		Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymers with perfluoro-C8-14-alkyl acrylate, 3-hydroxypropyl group terminated dimethylsiloxane,methylenedi-p-phenylene diisocyanate, polymethylenepolyphenylene isocyanate, 2-butanone oxime	poly/perfluorinated COOPOLYMERS	8	14
51798-33-5		Poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]], .alpha.-(1-carboxy-1,2,2,2-tetrafluoroethyl)-.omega.-[tetrafluoro(trifluoromethyl)ethoxy]-	poly/perfluorinated POLYMERS		
65208-35-7		Poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]], .alpha.-[1,2,2,2-tetrafluoro-1-(fluorocarbonyl)ethyl]-.omega.-[tetrafluoro(trifluoromethyl)ethoxy]-	poly/perfluorinated POLYMERS		
126066-30-6		Poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]], .alpha.-[1,2,2,2-tetrafluoro-1-(hydroxymethyl)ethyl]-.omega.-[tetrafluoro(trifluoromethyl)ethoxy]-	poly/perfluorinated POLYMERS	4	4
134035-61-3		Poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]], .alpha.-[1,2,2,2-tetrafluoro-1-(methoxycarbonyl)ethyl]-.omega.-[tetrafluoro(trifluoromethyl)ethoxy]-	poly/perfluorinated POLYMERS	4	4
29014-57-1		Poly-1,1-dihydropentadecafluorooctyl methacrylate	Fluorinated (meth)acrylate polymers	2	5
31623-04-8		Polyfluoroalkyl (C2-5) methacrylate	Fluorinated (meth)acrylate polymers	2	5

59006-66-5		Polyfluoroalkyl (C2-5) methacrylate	Fluorinated (meth)acrylate polymers	2	5
95243-53-1		Polyfluoroalkyl (C2-5) methacrylate	Fluorinated (meth)acrylate polymers	2	5
512179-48-5		Polymer of 2-ethylhexyl methacrylate, 14-hydroxy-3,6,9,12-tetraoxahexadecyl methacrylate, 11-hydroxy-3,6,9-trioxaundecyl methacrylate and 2-{perfluoro[nalkyl(C 4-14)]}ethyl acrylate, which has addition compound of octane-1-thiol on one terminal	Fluorinated (meth)acrylate polymers	4	14
1-55-0		Polymer of N-methyl perfluoroalkyl(C4-C8) sulfonamidoethyl methacrylat, octadecyl methacrylat, lauryl methacrylat, N-hydroxymethyl acrylamide, vinylidene chloride and dimethylaminoethyl methacrylate.	poly/perfluorinated COOPOLYMERS	4	8
160336-17-4		Polymer(butyl acrylate-2-[N-methyl-N-[perfluoroalkyl[C=4-8]sulfonyl]amino] ethyl acrylate)	Fluorinated (meth)acrylate polymers	4	8
		polyperfluoroethyl polyether triazine	poly/perfluorinated ETHERS		
		polyperfluoroethyl polyether(n~21) phosphinate	poly/perfluorinated ETHERS	3	3
		polyperfluoroethyl polyether(n~6) mono-phosphate	poly/perfluorinated ETHERS	3	3
		polyperfluoroethyl polyether(n=12) thiophosphate	poly/perfluorinated ETHERS	3	3
60164-51-4		polyperfluoropropyl ether Zonyl PFPE lubricant	poly/perfluorinated POLYMERS	2	2
65530-82-7		Poly-TFE, alpha,omega-difluoro-	poly/perfluorinated POLYMERS	1	99
		Potassium perfluorobutane -sulfonate, PFBS-K	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
190605-64-2		Potassium salt of perfluoroalkyl (C=5-10), N-ethylsulfonylglycine	poly/perfluorinated ALKOHOLS	5	10
756426-58-1		Potassium, 1,1,2,2-tetrafluoro-2-(perfluorohexyloxy)ethane sulfonate	poly/perfluorinated ETHERS	2	6
160305-97-5		Potassium, 3,4,5,6-tetrachloro-N-[3-((perfluoroalkyl(C=6-8)sulfonyloxy))phenyl]phthalamate	poly/perfluorinated POLYMERS	6	8
503431-63-8		Proline, 1-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)sulfonyl]-, lithium salt	poly/perfluorinated SULFONAMIDES	8	8
68187-42-8		Propanamide, 3-[(.gamma.-.omega.-perfluoro-C4-10-alkyl)thio] derivs.	poly/perfluorinated TIOLS	4	10
71608-63-4		Propanamide, N-(1,1-dimethyl-3-oxobutyl)-, 3-[(.gamma.-.omega.-perfluoro-C6-20-alkyl)thio] derivs.	poly/perfluorinated TIOLS	6	20
106372-30-9		Propane, 1-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,2,3,3,3-heptafluoro-	poly/perfluorinated ESTERS	3	3
1623-05-8	216-600-2	Propane, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]-	poly/perfluorinated ETHERS	3	3
74499-68-6		Propane, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]-, polymer with 1,1-difluoroethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
35397-13-8		Propane, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]-, polymer with chlorotrifluoroethene and ethene	poly/perfluorinated POLYMERS		
29087-71-6		Propane, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]-, polymer with ethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
26655-00-5		Propane, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
165178-32-5		Propane, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene and trifluoro(trifluoromethoxy)ethane	Polytetrafluoroethylene (PTFE)		
354-92-7		Propane, 1,1,1,2,3,3,3-heptafluoro-2-(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	4	4
10372-98-2	233-813-6	Propane, 1,1,1,2,3,3,3-heptafluoro-2-[(trifluoroethenyl)oxy]-	poly/perfluorinated ESTERS	1	3
28523-86-6		Propane, 1,1,1,3,3,3-hexafluoro-2-(fluoromethoxy)-	poly/perfluorinated ESTERS	3	3
374-51-6		Propane, 1,1,1,3,3,3-hexafluoro-2,2-bis(trifluoromethyl)-	poly/perfluorinated ALKANES/ALKENES	5	5
4459-18-1		Propane, 1,1,1,3,3,3-hexafluoro-2-iodo-2-(trifluoromethyl)-	poly/perfluorinated IODIDES	4	4
4459-18-1		Propane, 1,1,1,3,3,3-hexafluoro-2-iodo-2-(trifluoromethyl)-	poly/perfluorinated IODIDES	4	4
252846-11-0		Propane, 1,1,2,2,3,3-hexafluoro-1-[(trifluoroethenyl)oxy]-3-(trifluoromethoxy)-, polymer with 1,1-difluoroethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
16627-68-2		Propane, 1,1,2,2-tetrafluoro-3-(1,1,2,2-tetrafluoroethoxy)-	poly/perfluorinated ESTERS	5	5
3330-14-1		Propane, 1-[1-(difluoro(1,2,2,2-tetrafluoroethoxy)methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2,3,3,3-heptafluoro-	poly/perfluorinated ETHERS	1	3
1644-11-7	216-703-2	Propane, 1-[1-(difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2,3,3,3-heptafluoro-	poly/perfluorinated ETHERS	3	3
85720-81-6	288-387-4	Propane, 2-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,1,2,3,3,3-heptafluoro-	poly/perfluorinated ESTERS	3	3
1542-18-3		Propane, 2-(difluoroiodomethyl)-1,1,1,2,3,3,3-heptafluoro-	poly/perfluorinated IODIDES	4	4
163702-08-7		Propane, 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoro-	poly/perfluorinated ETHERS	1	4
163702-06-5		Propane, 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoro-	poly/perfluorinated ETHERS	3	3
29819-80-5	249-879-4	Propane, 3-(ethenyloxy)-1,1,2,2-tetrafluoro-	poly/perfluorinated ESTERS	2	2
226409-30-9		Propanedioic acid, 2-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-, 1,3-bis[4-(ethenyloxy)butyl] ester	OTHER poly/perfluorinated ORGANICS	6	6
220075-01-4		Propanedioic acid, 2-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-, 1,3-dimethyl ester	OTHER poly/perfluorinated ORGANICS	6	6
238420-80-9		Propanedioic acid, mono(.gamma.-.omega.-perfluoro-C8-12-alkyl) derivs., bis[4-(ethenyloxy)butyl] esters	OTHER poly/perfluorinated ORGANICS	8	12
238420-68-3		Propanedioic acid, mono(.gamma.-.omega.-perfluoro-C8-12-alkyl) derivs., di-Me esters	OTHER poly/perfluorinated ORGANICS	8	12
177484-43-4		Propanenitrile, 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3-hexafluoro-3-[(trifluoroethenyl)oxy]propoxy]-, polymer with tetrafluoroethene and trifluoro(trifluoromethoxy)ethene	Polytetrafluoroethylene (PTFE)	3	4
69804-19-9	274-123-5	Propanenitrile, 3-[1-[difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-2,2,3,3-tetrafluoro-	poly/perfluorinated ESTERS	1	2
71832-66-1		Propanenitrile, 3-[1-[difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-2,2,3,3-tetrafluoro-, polymer with tetrafluoroethene and trifluoro(trifluoromethoxy)ethene	Polytetrafluoroethylene (PTFE)		
149339-57-1		Propanoic acid 3-[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)thio]-	poly/perfluorinated TIOLS	6	6
919005-14-4		Propanoic acid, 2,2,3-trifluoro-3-[1,1,2,2,3,3-hexafluoro-3-(trifluoromethoxy)propoxy]-	poly/perfluorinated ETHERS	1	3
62037-80-3	700-242-3	Propanoic acid, 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)-, ammonium salt	poly/perfluorinated ETHERS	2	3
13252-14-7	236-237-3	Propanoic acid, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]-	poly/perfluorinated ETHERS	2	3
67118-57-4	266-579-9	Propanoic acid, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]-, potassium salt	poly/perfluorinated ESTERS	1	3
4089-61-6	223-826-5	Propanoic acid, 2-[2-[2-(aminosulfonyl)-1,1,2,2-tetrafluoroethoxy]-1,1,2,3,3,3-hexafluoropropoxy]-2,3,3,3-tetrafluoro-, monoammonium salt	poly/perfluorinated ETHERS	1	3
176590-84-4		Propanoic acid, 3-[(.gamma.-.omega.-perfluoro-C6-18-alkyl)thio]derivs	poly/perfluorinated TIOLS	6	18
70892-42-1		Propanoic acid, 3-[(2-fluoroethyl)thio]-, telomer with tetrafluoroethene, reaction products with chromium chloride hydroxide (CrCl2(OH)) (1:2)	poly/perfluorinated POLYMERS	1	99
433333-62-1		Propanoic acid, 3-[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)thio]-, lithium salt	poly/perfluorinated TIOLS	6	6
476304-39-9		Propanoic acid, 3-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)thio]-2-methyl-, lithium salt	poly/perfluorinated TIOLS	8	8
69068-23-1		Propanoic acid, 3-[1-(difluoro [(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-2,2,3,3-tetrafluoro-, sodium salt, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
1378930-30-3		Propanoic acid, 3-[1-[difluoro((1,2,2-trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-2,2,3,3-tetrafluoro-, methyl ester, polymer with 1,1,2,2-tetrafluoroethene, hydrolyzed, potassium salts	Polytetrafluoroethylene (PTFE)		2
69087-46-3		Propanoic acid, 3-[1-(difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-2,2,3,3-tetrafluoro-	poly/perfluorinated ETHERS	1	3
63863-44-5		Propanoic acid, 3-[1-(difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-2,2,3,3-tetrafluoro-, methyl ester, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
69087-47-4		Propanoic acid, 3-[1-(difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-2,2,3,3-tetrafluoro-, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
70788-53-3		Propanoic acid, 3-[1-(difluoro[(trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-2,2,3,3-tetrafluoro-, potassium salt, polymer with tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
69116-73-0		Propanoic acid, 3-[2-[1,2-difluoro-2-oxo-1-(trifluoromethyl)ethoxy]-1,2,2-trifluoro-1-(trifluoromethyl)ethoxy]-2,2,3,3-tetrafluoro-, methyl ester	poly/perfluorinated ESTERS	1	3
306975-57-5		Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,1'-methylenebis[4-isocyanatobenzene] and 1,2,3-propanetriol, reaction products with N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-1-octanesulfonamide and...	poly/perfluorinated POLYMERS	7	8

306975-56-4		Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide, reaction products with N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-N-(2-hy	poly/perfluorinated POLYMERS	7	8
328390-05-2		Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymers with 1,4-cyclohexanedimethanol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexan e and reduced Me esters of reduced polymd. oxidized tetrafluoroethylene, compds. with triethylamine	poly/perfluorinated POLYMERS		
328389-91-9		Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymers with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and reduced Me esters of reduced polymd. oxidized tetrafluoroethylene, compds. with triethylamine	poly/perfluorinated POLYMERS		
26779-98-6		Propanoic acid, ethenyl ester, polymer with 1,1-difluoroethene and tetrafluoroethene	Polytetrafluoroethylene (PTFE)		
425-38-7		Propanoyl fluoride, 2,2,3,3-tetrafluoro-3-(trifluoromethoxy)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	4	4
1682-78-6		Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-(1,1,2,2,2-pentafluoroethoxy)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	1	3
2062-98-8	218-173-8	Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	12	12
2927-83-5		Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-(trifluoromethoxy)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	1	1
4089-57-0	223-823-9	Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	5	5
2641-34-1	220-141-3	Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	2	3
241148-23-2		Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]-, polymer with trifluoro(trifluoromethyl)oxirane, reaction products with 3,3'-(3,3,4,4,5,5,6,6,7,7,8,8-dodecafluoro-1,10-decanediyl)bis[3-[(dimethylsilyl)oxy]	poly/perfluorinated POLYMERS	5	5
25711-77-7	247-202-7	Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(pentafluorophenoxy)propoxy]-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	1	4
4089-58-1	223-824-4	Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]propoxy]-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	2	3
27639-98-1		Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]propoxy]-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	3	3
112820-37-8		Propanoyl fluoride, 2-[1-[difluoro(heptafluoropropoxy)methyl]-1,2,2,2-tetrafluoroethoxy]-2,3,3,3-tetrafluoro-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES		
81126-57-0		Propanoyl fluoride, 3-chloro-2,3,3-trifluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	4	4
68988-53-4		Propenoic acid, 2-methyl-, C4-18-alkyl esters, polymer with 2-[methyl[(.gamma.-.omega.-perfluoro-C8-14-alkyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate	Fluorinated (meth)acrylate polymers	8	14
25935-14-2		Pyridinium, 1-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-, iodide	poly/perfluorinated IODIDES	8	8
61798-68-3		Pyridinium, 1-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-, salt with 4-methylbenzenesulfonic acid (1:1)	OTHER poly/perfluorinated ORGANICS	8	8
92129-34-5		Quaternary ammonium compd., (hydroxyethyl)dimethyl(.gamma.-.omega.-perfluoro-C8-14-.beta.-alkenyl), Me sulfates	poly/perfluorinated AMMONIUM ORGANICS	8	14
145477-02-7		Quaternary ammonium compd., diethylmethyl(.gamma.-.omega.-perfluoro-C8-14-.beta.-alkenyl), tetraphenyl borates	poly/perfluorinated AMMONIUM ORGANICS	8	14
127133-57-7		Quaternary ammonium compd., diethylmethyl(.gamma.-.omega.-perfluoro-C8-14-alkenyl), methyl sulfates	poly/perfluorinated AMMONIUM ORGANICS	8	14
153325-45-2		Quaternary ammonium compd., diethylmethyl-(perfluoro-C8-14-(alkenyl), tetrafluoroborates	poly/perfluorinated AMMONIUM ORGANICS	8	14
91081-09-3		Quaternary ammonium compounds, (hydroxyethyl)dimethyl(.gamma.-.omega.-perfluoro-2-C8-14-alkenyl), chlorides	poly/perfluorinated AMMONIUM ORGANICS	8	14
85631-40-9		Quaternary ammonium compounds, dimethyl(.gamma.-.omega.-perfluoro-C8-14-.beta.-alkenyl)[2-(sulfooxy)ethyl], hydroxides, inner salts	poly/perfluorinated AMMONIUM ORGANICS	8	14
115535-36-9		Quaternary ammonium compounds, trimethyl(ð-ω-perfluoro-C8-14-β-alkenyl), chlorides (AICS)	poly/perfluorinated AMMONIUM ORGANICS	5	11
68127-59-3	614-283-9	reaction mass of (1R,3R)-3-[(1Z)-2-chloro-3,3,3-trifluoroprop-1-en-1-yl]-2,2-dimethylcyclopropanecarboxylic acid and (1S,3S)-3-[(1Z)-2-chloro-3,3,3-trifluoroprop-1-en-1-yl]-2,2-dimethylcyclopropanecarboxylic acid	poly/perfluorinated POLYMERS		
	700-755-2	reaction mass of (3E)-1,1,1,2,2,3,4,5,6,6,7,7,7-tridecafluoro-5-methoxyhept-3-ene and (2E)-1,1,1,2,3,4,5,5,6,6,7,7,7-tridecafluoro-4-methoxyhept-2-ene and (3E)-1,1,1,2,2,4,5,5,6,6,7,7,7-tridecafluoro-3-methoxyhept-3-ene	OTHER poly/perfluorinated ORGANICS	3	7
	939-133-2	Reaction mass of 1,1,2,2-tetrafluoro-2-[[(4R,5R)-2,2,4,5-tetrafluoro-5-(trifluoromethoxy)-1,3-dioxolan-4-yl]oxy]ethyl carbonofluoridate and 1,1,2,2-tetrafluoro-2-{[(4S,5S)-2,2,4,5-tetrafluoro-5-(trifluoromethoxy)-1,3-dioxolan-4-yl]oxy}ethyl carbonofluoridate	poly/perfluorinated ETHERS	2	2
	422-270-2	Reaction mass of 1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)propyl methyl ether and methyl 1,1,2,2,3,3,4,4,4-nonafluorobutyl ether	OTHER poly/perfluorinated ORGANICS	4	4
	425-340-0	Reaction mass of 1-ethoxy-1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)propane and 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane	OTHER poly/perfluorinated ORGANICS	3	3
	908-197-3	Reaction mass of 2,2,3,3,4,4,5,5,6-nonafluoro-6-(heptafluoropropyl)tetrahydro-2H-pyran and 2,2,3,3,4,4,5-heptafluorotetrahydro-5-(nonafluorobutyl)furan	OTHER poly/perfluorinated ORGANICS	4	5
	473-390-7	reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine	OTHER poly/perfluorinated ORGANICS	2	4
161075-00-9	500-537-5	Reaction mass of 2,2,3,5,5,6-hexafluoro-3,6-bis(trifluoromethyl)-1,4-dioxane, 1,1,1,2,3,3-hexafluoro-2,3-bis(pentafluoroethoxy)propane,1,1,1,2,3,3-hexafluoro-3-(pentafluoroethoxy)-2-(trifluoromethoxy)propane, 1,1,1,2,3,3-hexafluoro-2…	poly/perfluorinated POLYMERS		
1190931-27-1	682-238-0	Reaction mass of ammonium difluoro {[(4S,5R)-2,2,4,5-tetrafluoro-5-(trifluoromethoxy)-1,3-dioxolan-4-yl]oxy}acetate, ammonium difluoro {[(4R,5S)-2,2,4,5-tetrafluoro-5-(trifluoromethoxy)-1,3-dioxolan-4-yl]oxy}acetate, ammonium difluoro {[(4S,5S)-2,2,4,5-te...	poly/perfluorinated POLYMERS		3
1190931-41-9	682-239-6	Reaction mass of difluoro{[(4S,5R)-2,2,4,5-tetrafluoro-5-(trifluoromethoxy)-1,3-dioxolan-4-yl]oxy}acetic acid, difluoro{[(4R,5S)-2,2,4,5-tetrafluoro-5-(trifluoromethoxy)-1,3-dioxolan-4-yl]oxy}acetic acid, difluoro{[(4S,5S)-2,2,4,5-tetrafluoro-5-(trifluoro...	poly/perfluorinated POLYMERS		3
		Reaction mass of mixed (3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) phosphates, ammonium salts	poly/perfluorinated PHOSPHOORGANICS	6	6
1190931-39-5	682-240-1	Reaction mass of potassium difluoro{[(4S,5R)-2,2,4,5-tetrafluoro-5-(trifluoromethoxy)-1,3-dioxolan-4-yl]oxy}acetate, potassium difluoro{[(4R,5S)-2,2,4,5-tetrafluoro-5-(trifluoromethoxy)-1,3-dioxolan-4-yl]oxy}acetate, potassium difluoro{[(4S,5S)-2,2,4,5-te	poly/perfluorinated POLYMERS		3
1644-10-6		Reaction product of 1,2-epoxy-1,1,2,3,3,3-hexafluoropropane, oxaryl difluoride and potassium fluoride, it consists predominantly(90% or more) of 2,2'-3,3,3,3',3',3'-octafluoro-2,2'-[(perfluoroethylene)dioxy]bis(propanoyl fluoride)	poly/perfluorinated POLYMERS		3
182700-90-9		Reaction product of 1-octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-methyl, and benzene-chlorine-sulfur chloride(S2Cl2) reaction products chlorides	poly/perfluorinated SULFONAMIDES	8	8
510732-30-6		Reaction product of 2-butanone oxime with reaction product of poly[(isocyanatophenylene)methylene], α-(3-hydroxypropoxy)- ω-(3hydroxypropyl)poly(n 10-15)(dimethylsiloxane), poly(n 6-9)(propylene) and αfluoro-ω-[2-(ethoxycarbonyl)vinyl]poly(n 3-6)(tetrafl	Fluorinated urethanes polymers	6	12
507225-08-3		Reaction product of 2-butanone oxime with reaction product of α-isocyanato-ωisocyanatophenylpoly(phenylenemethylene), α-(3-hydroxypropyldimethylsilyl)- ω-(3-hydroxypropyl)poly(n 10-15)(oxydimethylsilanediyl), poly(n 6-9)(oxy-2methylethylene) and {reaction	Fluorinated urethanes polymers	3	8
512179-62-3		Reaction product of N-(3-aminopropyl)perfluorooctanesulfonamide, sodium 3chloro-2-hydroxypropane-1-sulfonate and sodium 2-chloroacetate	poly/perfluorinated SULFONAMIDES	8	8
509086-57-1		Reaction product of potassium acrylate with 1-perfluoro[n-alkyl(C6,8,10,12,14, 16,18)]-2-iodoethane, it consists predominantly of 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7, 8,8-heptadecafluorodecyl acrylate	poly/perfluorinated IODIDES	6	18
104075-34-5		Reaction products with N-methylamine acetate, potassium hydroxide, α-fluoro-ω-iodopoly(perfluoroethylene)(n=4-8) and 2-propen-1-ol	poly/perfluorinated POLYMERS		
70815-20-2		Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, polymer with 2,4,6-trimethyl-2,4,6-tris(3,3,3-trifluoropropyl)cyclotrisiloxane	poly/perfluorinated POLYMERS		
83048-65-1		Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
38436-16-7	253-930-6	Silane, dichloromethyl(3,3,4,4,5,5,6,6,6-nonafluorohexyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
73609-36-6	277-551-0	Silane, dichloromethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
152992-46-6		Silane, diethoxy(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)methyl-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
83038-83-9		Silane, diethoxymethyl(3,3,4,4,5,5,6,6,6-nonafluorohexyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
85857-17-6		Silane, dimethoxymethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
94237-08-8		Silane, methoxydimethyl(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
1034681-41-8		Silane, triacetate(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)- (Silanetriol, 1-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-, 1,1,1-triacetate)	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
375-63-3		Silane, trichloro(1,1,2,2,3,3,4,4-octafluorobutyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
78560-45-9	278-947-6	Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
78560-44-8		Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
146443-00-7		Silane, trichloro(heptadecafluorodecyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
102390-98-7		Silane, triethoxy(3,3,4,4,5,5,6,6,6-nonafluorohexyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4

51851-37-7	257-473-3	Silane, triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
101947-16-4		Silane, triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl- (Decyltriethoxysilane, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-)	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
85877-79-8		Silane, trimethoxy(3,3,4,4,5,5,6,6,6-nonafluorohexyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
85857-16-5	288-657-1	Silane, trimethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
312-81-2		Silane, trimethyl(2,2,3,3-tetrafluorocyclobutyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
125476-71-3		Silicic acid (H4SiO4), disodium salt, reaction products with chlorotrimethylsilane and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanol	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
		Silicones and siloxanes, 3-(perfluorooctyl)propyl methyl, 3-(triethoxysilyl)propyl methyl, trimethylsilyl terminated	Polyfluoro siloxanes and silicones polymers	8	8
143372-54-7		Siloxanes and Silicones, (3,3,4,4,5,5,6,6,7,7,8,8, 9,9,10,10,10-heptadecafluorodecyl)oxy Me, hydroxy Me, Me octyl, ethers with polyethylene glycol mono-Me ether	Polyfluoro siloxanes and silicones polymers	8	8
		Siloxanes and silicones, 1,3-aminopropyl Me, di-Me, Me 3-mercaptopropyl polymers with 2,3-dihydroxypropyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate, octadecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-methyl-2-propenoate and chloroethylene	poly/perfluorinated POLYMERS	6	6
		Siloxanes and Silicones, 11-(2-(nonafluorononyl)ethoxy)-11-oxoundecyl methyl, 3-hydropoly(oxyethylene)oxypropyl methyl, dimethyl (10 mol EO average molar ratio	Polyfluoro siloxanes and silicones polymers	9	9
		Siloxanes and Silicones, 11-(2-(nonafluorononyl)ethoxy)-11-oxoundecyl methyl, 3-hydropoly(oxyethylene)oxypropyl methyl, dimethyl (8 mol EO average molar ratio	Polyfluoro siloxanes and silicones polymers	9	9
		Siloxanes and Silicones, 11-(2-(nonafluorononyl)ethoxy)-11-oxoundecyl methyl, docosyl methyl, dimethyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	9	9
		Siloxanes and Silicones, 11-(2-(nonafluorononyl)ethoxy)-11-oxoundecyl methyl, hexacosyl methyl, dimethyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	9	9
		Siloxanes and Silicones, 2-(nonafluorononyl)ethyl methyl, 3-hydropoly(oxyethylene)oxypropyl methyl, dimethyl (8 mol EO average molar ratio)	Polyfluoro siloxanes and silicones polymers	9	9
		Siloxanes and Silicones, 2-(nonafluorononyl)ethyl methyl, 3-hydropoly(oxyethylene)oxypropyl methyl, phenylisopropyl (8 mol EO average molar ratio) ("PERFLUORONONYLETHYL PEG-8 PHENYLISOPROPYL DIMETHCONE" (INCI))	Polyfluoro siloxanes and silicones polymers	9	9
		Siloxanes and Silicones, 2-(nonafluorononyl)ethyl methyl, dimethyl. hydrogen methyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	9	9
		Siloxanes and Silicones, 2-(nonafluorononyl)ethyl methyl, diphenyl, dimethyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	9	9
273737-91-0		Siloxanes and Silicones, 3-[[2-[(2-aminoethyl)amino]ethyl]amino]propyl hydroxy, hydroxy 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl, hydroxy-terminated, formates (salts)	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
297175-70-3		Siloxanes and Silicones, 3-aminopropyl ethoxy, ethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl), polymers with 3-aminopropyl(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silsesquioxanes, hydrolyzed, formates (salts)	Polyfluoro siloxanes and silicones polymers	6	6
		Siloxanes and silicones, 3-aminopropyl Me, di-Me, Me 3-mercaptopropyl polymers with 3-chloro-2-hydroxypropyl 2-methyl-2-propenoate, N-(hydroxymethyl)-2-propenamide, octadecyl 2-propenoate, 2-(perfluorooctyl)ethyl 2-propenoate, 2-(perfluorodecyl)ethyl 2-propenoate and chloroethene	poly/perfluorinated POLYMERS	8	8
		Siloxanes and Silicones, di-Me, 3-(2-perfluoro-C4-14-alkylethoxy)propyl-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	14
275820-27-4		Siloxanes and Silicones, di-Me, 3-aminopropyl group-terminated, polymers with 4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[benzenamine] and 5,5'-[2,2,2-trifluoro- 1-(trifluoromethyl)ethylidene]bis[1,3-isobenzofurandione]	Polyfluoro siloxanes and silicones polymers	2	2
127133-54-4		Siloxanes and Silicones, di-Me, 3-hydroxypropyl group terminated, polymers with 2-butyne-1,4-diol-,gamma.-,omega.-perfluoro C10-20 thiol reaction product and 1,6-diisocyanato-2,2,4(or 2,4,4)-trimethylhexane	Polyfluoro siloxanes and silicones polymers	10	20
174393-72-7		Siloxanes and Silicones, di-Me, 3-hydroxypropylmethyl, methylvinyl, [(ethenyldimethylsilyl)oxy]-terminated, ethers with trifluoro(trifluoromethyl)oxirane homopolymer 1,2,2,2-tetrafluoro-1-(hydroxymethyl) ethyl tetrafluoro (trifluoromethyl) ethyl ether	Polyfluoro siloxanes and silicones polymers	2	2
		Siloxanes and Silicones, di-Me, alkyl (C20-29), perfluorodecylethoxy- ("C20-28 ALKYL PERFLUORODECYLETHOXY DIMETHICONE (INCI)")	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	10	10
146632-08-8		Siloxanes and Silicones, di-Me, butyl- and 3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl group-terminated, polymers with 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethylacrylate and iso-Bu methacrylate	Polyfluoro siloxanes and silicones polymers	8	8
182700-77-2		Siloxanes and Silicones, di-Me, hydroxy-terminated, polymers with tetradecanedioic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-tricosafluoro-1-tridecanol-terminated	Polyfluoro siloxanes and silicones polymers	11	11
104780-70-3		Siloxanes and Silicones, di-Me, Me 3-(1,1,2,2-tetrafluoroethoxy)propyl, Me 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	2	6
180513-27-3		Siloxanes and Silicones, di-Me, Me 3,3,3-trifluoropropyl, polymers with Me silsesquioxanes, [(ethenyldimethylsilyl)oxy]-terminated	Polyfluoro siloxanes and silicones polymers	1	1
115340-95-9		Siloxanes and Silicones, di-Me, Me 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
162567-79-5		Siloxanes and Silicones, di-Me, Me H, reaction product with alcohols, C8-14, perfluoro- and Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-hydroxy-	Polyfluoro siloxanes and silicones polymers	8	14
		Siloxanes and silicones, di-Me, Me perfluorononylethyl, Me stearyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	9	9
321371-84-0		Siloxanes and Silicones, di-Me, mono[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl] group-terminated, polymers with 2-[[[[5-[[[2-[[[[[5-[[[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)oxy]carbonyl]amino]-2-methylphenyl]amino]carbonyl]oxy]methyl	Polyfluoro siloxanes and silicones polymers	8	8
306974-28-7		Siloxanes and Silicones, di-Me, mono[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl] group-terminated, polymers with 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl acrylate and stearyl methacrylate	Polyfluoro siloxanes and silicones polymers	4	8
501098-09-5		Siloxanes and Silicones, di-Me, mono[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl] group-terminated, polymers with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanol and 2-hydroxyethylacrylate-blocked 2,4-TDI-trimethylolpropane polymer, 2-hydroxyethyl methacrylate, iso-Bu methacrylate, Me methacrylate and polyethylene-polypropylene glycolmonoacrylate, tert-Bu 2-ethylhexaneperoxoate-initiated	Polyfluoro siloxanes and silicones polymers	8	8
		Siloxanes and Silicones, di-Me, perfluorononyl- ("Perfluorononyl Dimethicone (INCI)")	Polyfluoro siloxanes and silicones polymers	9	9
		Siloxanes and Silicones, di-Me, perfluorononyl- ("perfluorononyl Dimethicone/Methicone/Amodimethicone Crosspolymer is a crosslinked silicone polymer that is formed by reacting a copolymer of Perfluorononyl Dimethicone and Methicone with Methicone and Amodimethicone" (INCI))	Polyfluoro siloxanes and silicones polymers	9	9
69430-44-0		Siloxanes and Silicones, di-Me, polymers with 3,3,3-trifluoropropyl silsequioxanes	Polyfluoro siloxanes and silicones polymers	1	1
69430-43-9		Siloxanes and Silicones, di-Me, polymers with hexamethylcyclotrisiloxane and 2,4,6-trimethyl-2,4,6-tris(3,3,3-trifluoropropyl)cyclotrisiloxane	Polyfluoro siloxanes and silicones polymers	1	1
170424-64-3		Siloxanes and Silicones, hydroxy Me, Me octyl, Me (.gamma.-.omega.-perfluoro C8-14-alkyl)oxy, ethers with polyethylene glycol mono-Me ether	Polyfluoro siloxanes and silicones polymers	8	14
1257095-32-1		Siloxanes and Silicones, lauryl Me, Me 2-(2-methylpropoxy)ethyl, Me octyl, Me 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
178233-65-3		Siloxanes and Silicones, Me hydrogen, Me 3,3,4,4,5,5,6,6,6-nonafluorohexyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
3-01-0		Siloxanes and Silicones, Me hydrogen, reaction products with 1-octene and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-1-octanol and .alpha.-methyl-.omega.-hydroxypoly(oxy-1,2-ethanediyl)	Polyfluoro siloxanes and silicones polymers	13	13
1-44-8		Siloxanes and Silicones, Me hydrogen, reaction products with perfluoro C8-14 alcohols, 1-octene and polyethylene glycol monomethyl ether	Polyfluoro siloxanes and silicones polymers	8	14
262292-17-1		Siloxanes and Silicones, Me octyl, Me stearyl, Me 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
943344-69-2		Silsesquioxanes, 3-aminopropyl 3,3,4,4,5,5,6,6,6-nonafluorohexyl, hydroxy-terminated acetates	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
146245-94-5		Sodium .alpha.-[2-[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl]-.omega.-(4-sulfonatobutoxy)poly(oxyethylene)	poly/perfluorinated POLYMERS	8	8
	700-540-3	sodium 1,1,1,2,2,3,3,19,19,20,20,21,21,21-tetradecafluoro-11-({[1-(2,2,3,3,4,4,4-heptafluorobutoxy)propan-2-yl]oxy}carbonyl)-7,15-dimethyl-9,13-dioxo-5,8,14,17-tetraoxahenicosane-10-sulfonate	poly/perfluorinated ETHERS	3	6
134344-15-3		Sodium 4-[(perfluorohexenyl)oxy]benzenesulfonate	poly/perfluorinated ETHERS	6	6
	700-541-9	Sodium 6,14-diethyl-1,1,1,2,2,18,18,19,19,19-decafluoro-8,12-dioxo-10-({[1-(2,2,3,3,3-pentafluoropropoxy)butan-2-yl]oxy}carbonyl)-4,7,13,16-tetraoxanonadecane-9-sulfonate	poly/perfluorinated ETHERS	2	2
63661-51-8		Sodium hydrogen 4-[(heptadecafluorononenyl)oxy]benzylphosphonate	poly/perfluorinated PHOSPHOORGANICS	8	8
64910-98-1		Sodium p-[(nonadecafluorodecenyl)oxy]benzenesulfonate	poly/perfluorinated ETHERS	9	10
4021-47-0		Sodium perfluoro(octane-1-sulfonate)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	8
80621-17-6		Sodium, 3-[methyl[3-[[(tridecafluorohexyl)sulphonyl]amino]propyl]amino]propane-sulphonate	poly/perfluorinated SULFONAMIDES	6	6
160994-59-2		Sodium, di(perfluoroalkyl(C4-18))sulfonatobutanedioic acid	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	18
175354-31-1		Stannane, bromotris(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	OTHER poly/perfluorinated ORGANICS	6	6
324063-66-3		Stannane, oxobis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	OTHER poly/perfluorinated ORGANICS	6	6
175354-30-0		Stannane, phenyltris(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl	OTHER poly/perfluorinated ORGANICS	6	6
27615-98-1		Stannane, tributylfluoro-, polymers	poly/perfluorinated POLYMERS	4	4
175354-32-2		Stannane, tris(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	OTHER poly/perfluorinated ORGANICS	6	6
		Stearyl methacrylate/perfluorooctylethyl methacrylate copolymer is a copolymer of stearyl methacrylate and perfluorooctylethyl methacrylate monomers	Fluorinated (meth)acrylate polymers	10	10
60131-27-3		Sulfobutanedioic acid, 1,4-bis(2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptylester, sodium salt	poly/perfluorinated ESTERS	6	6

148684-79-1		Sulfonamides, C4-8-alkane, perfluoro, N-(hydroxyethyl)-N-methyl, reaction products with 1,6-diisocyanatohexane homopolymer and ethylene glycol	Fluorinated urethanes polymers	4	8
306973-47-7		Sulfonamides, C4-8-alkane, perfluoro, N-(hydroxyethyl)-N-methyl, reaction products with 12-hydroxystearic acid and 2,4-TDI, ammonium salts	poly/perfluorinated SULFONAMIDES	4	8
91081-99-1		Sulfonamides, C4-8-alkane, perfluoro, N-(hydroxyethyl)-N-methyl, reaction products with epichlorohydrin, adipates (esters)	poly/perfluorinated SULFONAMIDES	4	8
306980-27-8		Sulfonamides, C4-8-alkane, perfluoro, N,N'-[1,6-hexanediylbis[(2-oxo-3,5-oxazolidinediyl)methylene]]bis[N-methyl-	OTHER poly/perfluorinated ORGANICS	4	8
192662-29-6		Sulfonamides, C4-8-alkane, perfluoro, N-[3-(dimethylamino)propyl], reaction products with acrylic acid	Fluorinated (meth)acrylate polymers	4	8
306973-44-4		Sulfonamides, C4-8-alkane, perfluoro, N-[3-(dimethylamino)propyl], reaction products with acrylic acid (TSCA)	Fluorinated (meth)acrylate polymers	4	8
179005-07-3		Sulfonamides, C4-8-alkane, perfluoro, N-[3-(dimethyloxidoamino)propyl]	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	8
179005-06-2		Sulfonamides, C4-8-alkane, perfluoro, N-[3-(dimethyloxidoamino)propyl], potassium salts	N-alkyl perfluoroalkyl sulfonamides (…FASAs)	4	8
178535-22-3		Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl)-, polymer with 1,1'-methylenebis[4-isocyanatobenzene] and polymethylenepolyphenylene isocyanate, 2-ethylhexyl esters, Me Et ketone oxime-blocked	Fluorinated urethanes polymers	4	8
68608-14-0		Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl), reaction products with 1,1'-methylenebis[4-isocyanatobenzene]	Fluorinated urethanes polymers	4	8
68608-13-9		Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl), reaction products with 1,3-diisocyanatomethylbenzene polymer	Fluorinated urethanes polymers	4	8
160901-25-7		Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl), reaction products with 2-ethyl-1-hexanol and polymethylenepolyphenylene isocyanate	Fluorinated urethanes polymers	4	8
306973-51-3		Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl), reaction products with 2-ethyl-1-hexanol and polymethylenepolyphenylene isocyanate (TSCA)	Fluorinated urethanes polymers	4	8
160901-26-8		Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl), reaction products with 2-ethyl-1-hexanol, Me Et ketone oxime and polymethylenepolyphenylene isocyanate	Fluorinated urethanes polymers	4	8
222716-67-8		Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl), reaction products with poly(Bu acrylate) and polyethylene-polypropylene glycol mono-Bu ether	poly/perfluorinated COOPOLYMERS	4	8
129813-71-4		Sulfonamides, C4-8-alkane, perfluoro, N-methyl-N-(oxiranylmethyl)	poly/perfluorinated SULFONAMIDES	4	8
306974-19-6		Sulfonamides, C4-8-alkane, perfluoro, N-methyl-N-[(3-octadecyl-2-oxo-5-oxazolidinyl)methyl]	poly/perfluorinated SULFONAMIDES	4	8
98999-57-6		Sulfonamides, C7-8-alkane, perfluoro, N-methyl-N-[2-[(1-oxo-2-propenyl)oxy]ethyl], polymers with 2-ethoxyethyl acrylate, glycidyl methacrylate and N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]ethanaminium chloride	Fluorinated (meth)acrylate polymers	7	8
180582-79-0		Sulfonic acids, C6-12-alkane, .gamma.-omega.-perfluoro, ammonium salts	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	12
93572-72-6		Sulfonic acids, C6-12-alkane, perfluoro	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	12
68391-09-3		Sulfonic acids, C6-12-alkane, perfluoro, potassium salts	poly/perfluorinated SULFONIC/SULFINIC ACIDS	6	12
306974-45-8		Sulfonic acids, C6-8-alkane, perfluoro, compds. with polyethylene-polypropylene glycol bis(2-aminopropyl) ether	poly/perfluorinated POLYMERS	6	8
297175-71-4		Sulfonic acids, C8-20-alkane, .gamma.-omega.-perfluoro, compds. with triethylamine	poly/perfluorinated SULFONIC/SULFINIC ACIDS	8	20
144317-44-2		Sulfonium, triphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1)	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
91770-74-0		Sulfonyl fluorides, C1-5-alkane, .omega.-(ethenyloxy), perfluoro	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	1	5
68516-17-6		Sulfuric acid, mono(.gamma.-.omega.-perfluoro-C6-12-alkyl) esters, ammonium salts	poly/perfluorinated ESTERS	6	12
84238-62-0		Sulfuric acid, mono(.gamma.-.omega.-perfluoro-C8-12-alkyl) esters, ammonium salts	poly/perfluorinated ESTERS	8	12
101940-12-9		Sulfuric acid, mono(.gamma.-.omega.-perfluoro-C8-14-alkyl) esters, ammonium salts	poly/perfluorinated ESTERS	8	14
85995-90-0		Sulfuric acid, mono(γ-ω-perfluoro-C8-14-alkyl) esters (EINECS)	poly/perfluorinated ESTERS	8	14
		TEA-C8-18 perfluoroalkylethyl phosphate is the triethanolamine salt of a complex mixture of esters of phosphoric acid and a perfluoroalkylethyl alcohol containining 8 to 18 carbons in the alkyl chain	poly/perfluorinated PHOSPHOORGANICS	8	18
		TEA-Perfluorohexyl Ethylphosphates is the triethanolamine salt of a complex mixture of esters of perfluorohexylethanol and phosphoric acid	poly/perfluorinated PHOSPHOORGANICS		6
39823-55-7		Tetracosane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20,21,21,22,22,23,23,24,24-nonatetracontafluoro-24-iodo-	poly/perfluorinated IODIDES	24	24
307-63-1	206-207-4	Tetradecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-nonacosafluoro-14-iodo-	poly/perfluorinated IODIDES	14	14
30046-31-2	250-014-8	Tetradecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosafluoro-14-iodo-	poly/perfluorinated IODIDES	12	12
133331-77-8		Tetradecane, 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-	poly/perfluorinated ALKANES/ALKENES	6	6
3248-63-3		Tetradecane, 1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-octacosafluoro-14-iodo-2-(trifluoromethyl)-	poly/perfluorinated IODIDES	15	15
307-62-0		Tetradecane, triacontafluoro-	poly/perfluorinated ALKANES/ALKENES	14	14
5102-53-4		Tetradecanedioic acid, tetracosafluoro-, dihydrazide	poly/perfluorinated CARBOXYLIC ACIDS	12	12
68052-68-6		Tetradecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,14,14,14-hexacosafluoro-13-(trifluoromethyl)-, compd. with ethanamine (1:1)	poly/perfluorinated CARBOXYLIC ACIDS	15	15
376-06-7	206-803-4	Tetradecanoic acid, heptacosafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	14	14
18024-09-4		Tetradecanoic acid, hexacosafluoro-13-(trifluoromethyl)-	poly/perfluorinated CARBOXYLIC ACIDS	15	15
94094-26-5		Tetradecanoic acid, methyl (3,3,4,4,5,5,6,6,6-nonafluorohexyl)silylene ester	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	4	4
68025-62-7		Tetradecanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,14,14,14-hexacosafluoro-13-(trifluoromethyl)-	poly/perfluorinated ALKANOYL/SULFONYL CHLORIDE or FLUORIDES	15	15
162491-88-5	500-721-5	Tetrafluoroethylene, homopolymer, telomers with pentafluoroiodoethane, reaction products with ethylene, hydrolyzed, reaction products with 2,3-epoxypropan-1-ol, octadecan-1-ol and 1,3,5-tris(6-isocyanatohexyl)biuret	poly/perfluorinated POLYMERS		
161075-07-6	500-544-3	Tetrafluoroethylene, oxidized, oligomers, reduced, methyl esters, reaction products with 3-aminopropyltriethoxysilane	poly/perfluorinated POLYMERS		
161075-06-5	500-543-8	Tetrafluoroethylene, oxidized, oligomers, reduced, methyl esters, reaction products with ethylenediamine	poly/perfluorinated POLYMERS		
162492-14-0	500-748-2	Tetrafluoroethylene, oxidized, oligomers, reduced, methyl esters, reduced, reaction products with ethylene oxide and methacrylic anhydride	poly/perfluorinated COOPOLYMERS		
172074-62-3		Tetrafluoroethylene-Formaldehyde copolymer	Polytetrafluoroethylene (PTFE)	4	4
54675-89-7		Tetrafluoroethylene-propylene-vinylidene fluoride polymer	poly/perfluorinated COOPOLYMERS		
32609-65-7		Tetramethylammoniumperfluorooctanoat	poly/perfluorinated CARBOXYLIC ACIDS	8	8
1269217-82-4		Thieno[3,4-b]thiophene, homopolymer, 2-[1-[difluoro[(1,2,2-trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoroethanesulfonic acid-tetrafluoroethylene polymer-doped	poly/perfluorinated POLYMERS		
97553-95-2		Thiocyanic acid, .gamma.-.omega.-perfluoro-C4-20-alkyl esters	poly/perfluorinated TIOLS	4	20
26650-09-9	607-977-8	Thiocyanic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester	poly/perfluorinated TIOLS	6	6
26650-10-2		Thiocyanic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester	poly/perfluorinated TIOLS	8	8
68140-21-6		Thiols, C10-20, .gamma.-.omega.-perfluoro	poly/perfluorinated TIOLS	10	20
68140-18-1		Thiols, C4-10, .gamma.-.omega.-perfluoro	poly/perfluorinated TIOLS	4	10
68140-19-2		Thiols, C4-20, .gamma.-.omega.-perfluoro	poly/perfluorinated TIOLS	4	20
151686-30-5		Thiols, C4-20, .gamma.-.omega.-perfluoro, reaction products with hexakis(methoxymethyl)melamine and vinyl tert-decanoate	poly/perfluorinated POLYMERS	4	20
1078712-88-5		Thiols, C4-20, .gamma.-.omega.-perfluoro, telomers with acrylamide and acrylic acid, sodium salts	Fluorinated (meth)acrylate polymers	4	20
113089-67-1		Thiols, C4-20, γ-ω-perfluoro, reaction products with methylated formaldehyde1,3,5-triazine-2,4,6-triamine polymer (AICS)	poly/perfluorinated POLYMERS	2	18
68140-20-5		Thiols, C6-12, .gamma.-.omega.-perfluoro	poly/perfluorinated TIOLS	6	12
70969-47-0		Thiols, C8-20, .gamma.-.omega.-perfluoro, telomers with acrylamide	Fluorinated (meth)acrylate polymers	8	20
42060-64-0	255-641-0	Thiophene, octafluorotetrahydro-, 1,1-dioxide	poly/perfluorinated SULFONIC/SULFINIC ACIDS	4	4
3709-71-5		Trans-4-(Trifluoromethyl)perfluoro-2-pentene	poly/perfluorinated ALKANES/ALKENES	6	6
959462-54-5		TRI-Block waxes	poly/perfluorinated ALKANES/ALKENES	6	6

376-04-5		Tridecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13heptacosafluoro-13-iodo-	poly/perfluorinated IODIDES	13	13
376-03-4		Tridecane, octacosafluoro-	poly/perfluorinated ALKANES/ALKENES	13	13
72629-94-8		Tridecanoic acid, pentacosafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	13	13
	435-230-4	triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)silane	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
158658-62-9		Trimethyl{3-{4-[3,4,4,4-tetrafluoro-2-(perfluoroisopropyl)-1,3-bis(trifluoromethyl)-1-butenyloxy]phenylsulfonylamino}propyl}ammonium iodide	poly/perfluorinated IODIDES	1	3
94237-07-7		Trisiloxane, 1,1,1,5,5,5-hexamethyl-3-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-3-[(trimethylsilyl)oxy]-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
163921-85-5		Trisiloxane, 2-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-1,1,1,3,5,5,5-heptamethyl-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	8	8
94237-06-6		Trisiloxane, 3-chloro-1,1,1,5,5,5-hexamethyl-3-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-	poly/perfluorinated SILOXANES/SILICONES/SILANES/SILICATES	6	6
114-96-3		Ú,Úó 2-Tris(6-isocyanatohexyl)imidodicarbonic diamide, ¡-fluoro-¶-(2-hydroxyethyl)poly(difluoromethylene), heteromonocycle-methanol and 1-octadecanol adduct	Fluorinated urethanes polymers		2
424-18-0		Undecafluorohexanoic acid, methyl ester	poly/perfluorinated ESTERS	5	5
307-50-6		Undecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-tricosafluoro-11-iodo-	poly/perfluorinated IODIDES	11	11
65510-56-7		Undecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-nonadecafluoro-11-iodo-	poly/perfluorinated IODIDES	9	9
200112-75-0		Undecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-11-iodo-	poly/perfluorinated IODIDES	7	7
94231-58-0		Undecane, 11-(ethenyloxy)-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-eicosafluoro-	poly/perfluorinated ETHERS	11	11
307-49-3		Undecane, tetracosafluoro-	poly/perfluorinated ALKANES/ALKENES	11	11
1765-48-6	217-184-5	Undecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-eicosafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	11	11
5081-02-7		Undecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-eicosafluoro-, ammonium salt	poly/perfluorinated CARBOXYLIC ACIDS	10	10
307-71-1		Undecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-eicosafluoro-, potassium salt	poly/perfluorinated CARBOXYLIC ACIDS	10	10
53281-37-1		Undecanoic acid, 3,5,7,9,11,11-hexachloro-2,2,3,4,4,5,6,6,7,8,8,9,10,10,11-pentadecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	9	10
34598-33-9	252-108-4	Undecanoic acid, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	8	8
83310-58-1	280-373-6	Undecanoic acid, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-, potassium salt	poly/perfluorinated CARBOXYLIC ACIDS	8	8
2058-94-8	218-165-4	Undecanoic acid, heneicosafluoro-	poly/perfluorinated CARBOXYLIC ACIDS	11	11
28497-93-0		Vinyl chloride-1,1,5-Trihydroperfluoroamyl acrylate copolymer	poly/perfluorinated COOPOLYMERS	5	5
172074-69-0		Vinyl chloride-1-chloro-1-fluoroethylene copolymer	Polyvinylidene fluoride (PVDF)		
172074-65-6		Vinyl chloride-2,2,3,3-Tetrafluoropropyl acrylate copolymer	poly/perfluorinated COOPOLYMERS	2	2
25120-58-5		Vinyl fluoride-Hexafluoropropylene copolymer	Polyvinylidene fluoride (PVDF)		
25101-38-6		Vinyl fluoride-Vinylidene fluoride-Chlorotrifluoroethylene copolymer	poly/perfluorinated COOPOLYMERS		
32802-40-7		Vinyl fluoride-Vinylidene fluoride-Tetrafluoroethylene copolymer	poly/perfluorinated COOPOLYMERS	4	4
107221-31-8		Vinylidene fluoride-Hexafluoropropylene copolymer	poly/perfluorinated POLYMERS		
107812-05-5		Zinc, bis[hydrogen 4-[(heptadecafluorononenyl)oxy]benzylphosphonate]	poly/perfluorinated PHOSPHOORGANICS	8	8
3107-32-2		α,α,ω-Trihydroperfluoroalkyl(C7)phosphate disodium salt	poly/perfluorinated PHOSPHOORGANICS	7	7
96353-69-4		α-[2-Hydroxy-3-[α-perfluoroisopropylpoly(degree of polymerization 7-15)(difluoromethylene)]propyl]-ω-methoxy-poly(degree of polymerization 1-25)(oxyethylene)	poly/perfluorinated POLYMERS	3	3
104075-36-7		α-[5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,13,13,13-Octadecafluoro-2-hydroxy-12-(trifluoromethyl)tridecyl]-ω-hydroxy-poly(oxy-1,2-ethanediyl)	OTHER poly/perfluorinated ORGANICS	10	10
152286-25-4		α-Fluoro-ω-[2-[(1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), polymer with α-octyl-ω-(2-metyl-1-oxo-2-propenyl)poly[oxy-1,2-ethanediyl-oxy(methyl-1,2-ethanediyl)] and α-(2-methyl-1-oxo-2-propenyl)-ω-hydroxy-poly[oxy(methyl-1,2-ethanediyl)]	poly/perfluorinated POLYMERS		
218286-10-3			Polyfluoro siloxanes and silicones polymers	8	8

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