

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 721

[OPPTS-50639C; FRL-6823-7]

RIN 2070-AD43

Perfluoroalkyl Sulfonates; Proposed Significant New Use Rule

AGENCY: Environmental Protection Agency (EPA).

ACTION: Supplemental proposed rule.

SUMMARY: EPA is proposing a supplemental significant new use rule (SNUR) under section 5(a)(2) of the Toxic Substances Control Act (TSCA) for the following 75 substances: Perfluorooctanesulfonic acid (PFOSH) and certain of its salts (PFOSS), perfluorooctanesulfonyl fluoride (POSF), certain higher and lower homologues of PFOSH and POSF, and certain other chemical substances, including polymers, that are derived from PFOSH and its homologues. These chemicals are collectively referred to as perfluoroalkyl sulfonates, or PFAS. This proposed rule would require manufacturers and importers to notify EPA at least 90 days before commencing the manufacture or import of these chemical substances for the significant new uses described in this document. This supplemental action takes into account comments received on an earlier proposed SNUR published in the **Federal Register** of October 18, 2000, amends the description and the list of

chemicals to which this proposed SNUR would apply, and clarifies the definitions of significant new uses. EPA believes that this action is necessary because the PFAS component of these chemical substances may be hazardous to human health and the environment. The required notice will provide EPA with the opportunity to evaluate an intended new use and associated activities and, if necessary, to prohibit or limit that activity before it occurs. Published elsewhere in today's issue of the **Federal Register** is a final rule which addresses the remainder of the chemicals listed in the original proposed SNUR.

DATES: Comments, identified by docket control number OPPTS-50639C, must be received on or before April 10, 2002.

ADDRESSES: Comments may be submitted by mail, electronically, or in person. Please follow the detailed instructions for each method as provided in Unit I. of the **SUPPLEMENTARY INFORMATION**. To ensure proper receipt by EPA, it is imperative that you identify docket control number OPPTS-50639C in the subject line on the first page of your response.

FOR FURTHER INFORMATION CONTACT: *For general information contact:* Barbara Cunningham, Acting Director, Environmental Assistance Division (74080), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (202) 554-1404; e-mail address: TSCA-Hotline@epa.gov.

For technical information contact: Mary F. Dominiak, Chemical Control Division (7405M), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (202) 564-8104; e-mail address: dominiak.mary@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this Action Apply to Me?

You may be potentially affected by this action if you manufacture (defined by statute to include import) any of the chemical substances that are listed in Table 2 of this unit. Persons who intend to import any chemical substance governed by a final SNUR are subject to the TSCA section 13 (15 U.S.C. 2612) import certification requirements, and to the regulations codified at 19 CFR 12.118 through 12.127 and 12.728. Those persons must certify that they are in compliance with the SNUR requirements. The EPA policy in support of import certification appears at 40 CFR part 707, subpart B. In addition, any persons who export or intend to export any of the chemical substances listed in Table 2 of this unit are subject to the export notification provisions of TSCA section 12(b) (15 U.S.C. 2611(b)), and must comply with the export notification requirements in 40 CFR 721.20 and 40 CFR part 707, subpart D. Potentially affected categories and entities may include, but are not limited to:

TABLE 1.—POTENTIALLY AFFECTED ENTITIES

Categories	NAICS codes	Examples of potentially affected entities
Chemical Manufacturers or Importers	325	Persons who manufacture (defined by statute to include import) one or more of the subject chemical substances
Chemical Exporters	325	Persons who export, or intend to export, one or more of the subject chemical substances

This listing is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. Other types of entities not listed in Table 1 of this unit could also be affected. The North American Industrial Classification System (NAICS) codes have been provided to assist you and others in

determining whether or not this action applies to certain entities. To determine whether you or your business is affected by this action, you should carefully examine the applicability provisions in 40 CFR 721.5 for SNUR-related obligations. Also, consult Unit III. If you have any questions regarding the applicability of this action to a

particular entity, consult the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

Some chemicals in Table 2 of this unit are identified by both premanufacture notice (PMN) and Chemical Abstract Service numbers (CAS No.). In the original proposed SNUR, only the PMN appeared with those chemicals.

TABLE 2.—CHEMICAL SUBSTANCES COVERED BY THIS PROPOSED RULE

CAS No./PMN	CAS Ninth Collective Index Name
307-35-7	1-Octanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-

TABLE 2.—CHEMICAL SUBSTANCES COVERED BY THIS PROPOSED RULE—Continued

CAS No./PMN	CAS Ninth Collective Index Name
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-heneicosafuoro-
376-14-7	2-Propenoic acid, 2-methyl-, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester
383-07-3	2-Propenoic acid, 2-[butyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester
423-50-7	1-Hexanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-
423-82-5	2-Propenoic acid, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester
754-91-6	1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-
1652-63-7	1-Propanaminium, 3-[[heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, iodide
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)-
1763-23-1	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-
2795-39-3	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, potassium salt
2991-51-7	Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, potassium salt
4151-50-2	1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-
14650-24-9	2-Propenoic acid, 2-methyl-, 2-[[heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester
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
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-
25268-77-3	2-Propenoic acid, 2-[[heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester
29081-56-9	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, ammonium salt
29117-08-6	Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-
29457-72-5	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, lithium salt
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-
38006-74-5	1-Propanaminium, 3-[[heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, chloride
38850-58-7	1-Propanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-3-[(3-sulfopropyl)[tridecafluorohexyl)sulfonyl]amino]-, inner salt
55120-77-9	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt
67584-42-3	Cyclohexanesulfonic acid, decafluoro(pentafluoroethyl)-, potassium salt
67906-42-7	1-Decanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heneicosafuoro-, ammonium salt
68156-01-4	Cyclohexanesulfonic acid, nonafluorobis(trifluoromethyl)-, potassium salt
68298-62-4	2-Propenoic acid, 2-[butyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester, telomer with 2-[butyl[(pentafluoroheptyl)sulfonyl]amino]ethyl 2-propenoate, methyloxirane polymer with oxirane di-2-propenoate, methyloxirane polymer with oxirane mono-2-propenoate and 1-octanethiol
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[(pentafluoroheptyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate and octadecyl 2-propenoate
68541-80-0	2-Propenoic acid, polymer with 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate and octadecyl 2-propenoate
68555-90-8	2-Propenoic acid, butyl ester, polymer with 2-[[heptadecafluorooctyl)sulfonyl]methylamino]ethyl 2-propenoate, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(pentafluoroheptyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate and 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate

TABLE 2.—CHEMICAL SUBSTANCES COVERED BY THIS PROPOSED RULE—Continued

CAS No./PMN	CAS Ninth Collective Index Name
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-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate and octadecyl 2-methyl-2-propenoate
68555-92-0	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-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate and octadecyl 2-methyl-2-propenoate
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-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl), 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate and 1-octanethiol
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-butanedisulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(2-hydroxyethyl)-1-heptanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-1-hexanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,5-undecafluoro-N-(2-hydroxyethyl)-1-pentanesulfonamide, polymethylenepolyphenylene isocyanate and stearyl alc.
68891-96-3	Chromium, diaquatetrachloro[.mu.-[N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]glycinato-.kappa.O:.kappa.O]]-.mu.-hydroxybis(2-methyl-1-propanol)di-
68867-60-7	2-Propenoic acid, 2-[[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[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate and .alpha.-(1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl)
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-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 1-octanethiol and .alpha.-(1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl)
68909-15-9	2-Propenoic acid, eicosyl ester, polymers with branched octyl acrylate, 2-[[heptadecafluorooctyl)sulfonyl]methylamino]ethyl acrylate, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl acrylate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl acrylate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl acrylate, 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl acrylate, polyethylene glycol acrylate Me ether and stearyl acrylate
68958-61-2	Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-methoxy-
70225-14-8	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)
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 2-propenoate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate and 2-propenoic acid
73772-32-4	1-Propanesulfonic acid, 3-[[3-(dimethylamino)propyl][(tridecafluorohexyl)sulfonyl]amino]-2-hydroxy-, monosodium salt
81190-38-7	1-Propanaminium, N-(2-hydroxyethyl)-3-[(2-hydroxy-3-sulfopropyl][(tridecafluorohexyl)sulfonyl]amino]-N,N-dimethyl-, hydroxide, monosodium salt

TABLE 2.—CHEMICAL SUBSTANCES COVERED BY THIS PROPOSED RULE—Continued

CAS No./PMN	CAS Ninth Collective Index Name
91081-99-1	Sulfonamides, C4-8-alkane, perfluoro, N-(hydroxyethyl)-N-methyl, reaction products with epichlorohydrin, adipates (esters)
94133-90-1	1-Propanesulfonic acid, 3-[[3-(dimethylamino)propyl][(heptadecafluorooctyl)sulfonyl]amino]-2-hydroxy-, monosodium salt
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
117806-54-9	1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, lithium salt
129813-71-4	Sulfonamides, C4-8-alkane, perfluoro, N-methyl-N-(oxiranylmethyl)
148240-80-6	Fatty acids, C18-unsatd., trimers, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl esters
148240-82-8	Fatty acids, C18-unsatd., trimers, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl esters
182700-90-9	1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-methyl-, reaction products with benzene-chlorine-sulfur chloride (S2Cl2) reaction products chlorides
L-92-0151	2-Propenoic acid, 2-methyl-, butyl ester, polymer with 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate and 2-propenoic acid
P-80-0183 192662-29-6	Sulfonamides, C4-8-alkane, perfluoro, N-[3-(dimethylamino)propyl], reaction products with acrylic acid
P-83-1102 306973-46-6	Fatty acids, linseed-oil, dimers, 2-[[heptadecafluorooctyl)sulfonyl]methylamino]ethyl esters
P-84-1163 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-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-1-octanesulfonamide and N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(2-hydroxyethyl)-1-heptanesulfonamide, compds. with triethylamine
P-84-1171 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 N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(2-hydroxyethyl)-1-heptanesulfonamide, compds. with morpholine
P-86-0301 306973-47-7	Sulfonamides, C4-8-alkane, perfluoro, N-(hydroxyethyl)-N-methyl, reaction products with 12-hydroxystearic acid and 2,4-TDI, ammonium salts
P-86-0958 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
P-89-0799 160901-25-7	Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl), reaction products with 2-ethyl-1-hexanol and polymethylenepolyphenylene isocyanate
P-90-0111 306974-19-6	Sulfonamides, C4-8-alkane, perfluoro, N-methyl-N-[(3-octadecyl-2-oxo-5-oxazolidinyl)methyl]
P-91-1419 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 sulfonamides-blocked
P-93-1444 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
P-94-0545 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
P-94-0927 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
P-94-2206 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

TABLE 2.—CHEMICAL SUBSTANCES COVERED BY THIS PROPOSED RULE—Continued

CAS No./PMN	CAS Ninth Collective Index Name
P-95-0120 306980-27-8	Sulfonamides, C4-8-alkane, perfluoro, N,N'-[1,6-hexanediy]bis[(2-oxo-3,5-oxazolidinediy)methylene]]bis[N-methyl-
P-96-1262 306974-45-8	Sulfonic acids, C6-8-alkane, perfluoro, compds. with polyethylene-polypropylene glycol bis(2-aminopropyl) ether
P-96-1424 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
P-96-1433 179005-06-2	Sulfonamides, C4-8-alkane, perfluoro, N-[3-(dimethyloxiidoamino)propyl], potassium salts
P-97-0790 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)
P-98-0251 306978-04-1	2-Propenoic acid, butyl ester, polymers with acrylamide, 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl acrylate and vinylidene chloride
P-98-1272 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]
P-99-0188 306978-65-4	Hexane, 1,6-diisocyanato-, homopolymer, N-(hydroxyethyl)-N-methyl perfluoro-C4-8-alkane sulfonamides- and stearyl alc.-blocked
P-99-0319 306979-40-8	Poly(oxy-1,2-ethanediy), .alpha.-[2-(methylamino)ethyl]-.omega.-[(1,1,3,3-tetramethylbutyl)phenoxy]-, N-[(perfluoro-C4-8-alkyl)sulfonyl] derivs.

B. How Can I Get Additional Information, Including Copies of this Document or Other Related Documents?

1. *Electronically.* You may obtain electronic copies of this document, and certain other related documents that might be available electronically, from the EPA Internet Home Page at <http://www.epa.gov/>. To access this document, on the Home Page select "Laws and Regulations," "Regulations and Proposed Rules," and then look up the entry for this document under the "Federal Register—Environmental Documents." You can also go directly to the **Federal Register** listings at <http://www.epa.gov/fedrgstr/>.

2. *In person.* The Agency has established an official record for this action under docket control number OPPTS-50639C. The official record consists of the documents specifically referenced in this action, any public comments received during an applicable comment period, and other information related to this action, including any information claimed as Confidential Business Information (CBI). This official record includes the documents that are physically located in the docket, as well as the documents that are referenced in those documents. The public version of the official record does not include any information claimed as CBI. The public version of the official record, which includes printed, paper versions of any electronic comments submitted during an applicable comment period, is

available for inspection in the TSCA Nonconfidential Information Center, North East Mall Rm. B-607, Waterside Mall, 401 M St., SW., Washington, DC. The Center is open from noon to 4 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Center is (202) 260-7099.

C. How and to Whom Do I Submit Comments?

You may submit comments through the mail, in person, or electronically. To ensure proper receipt by EPA, it is imperative that you identify docket control number OPPTS-50639C in the subject line on the first page of your response.

1. *By mail.* Submit your comments to: Document Control Office (7407M), Office of Pollution Prevention and Toxics (OPPT), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

2. *In person or by courier.* Deliver your comments to: OPPT Document Control Office (DCO) in Rm. 6428, EPA East, 1201 Constitution Ave., NW., Washington, DC. The DCO is open from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The telephone number for the DCO is (202) 564-8930.

3. *Electronically.* You may submit your comments electronically by e-mail to: oppt.ncic@epa.gov, or mail your computer disk to the address identified above. Do not submit any information electronically that you consider to be

CBI. Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption. Comments and data will also be accepted on standard disks in WordPerfect 6.1/8.0 or ASCII file format. All comments in electronic form must be identified by docket control number OPPTS-50639C. Electronic comments may also be filed online at many Federal Depository Libraries.

D. How Should I Handle CBI Information That I Want to Submit to the Agency?

Do not submit any information electronically that you consider to be CBI. You may claim information that you submit to EPA in response to this document as CBI by marking any part or all of that information as CBI. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. In addition to one complete version of the comment that includes any information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public version of the official record. Information not marked confidential will be included in the public version of the official record without prior notice. If you have any questions about CBI or the procedures for claiming CBI, please consult the technical person

listed under **FOR FURTHER INFORMATION CONTACT**.

E. What Should I Consider as I Prepare My Comments for EPA?

We invite you to provide your views on the various options we propose, new approaches we have not considered, the potential impacts of the various options (including possible unintended consequences), and any data or information that you would like the Agency to consider during the development of the final action. You may find the following suggestions helpful for preparing your comments:

1. Explain your views as clearly as possible.
2. Describe any assumptions that you used.
3. Provide copies of any technical information and/or data you used that support your views.
4. If you estimate potential burden or costs, explain how you arrived at the estimate that you provide.
5. Provide specific examples to illustrate your concerns.
6. Offer alternative ways to improve the proposed rule or collection activity.
7. Make sure to submit your comments by the deadline in this document.
8. To ensure proper receipt by EPA, be sure to identify the docket control number assigned to this action in the subject line on the first page of your response. You may also provide the name, date, and **Federal Register** citation.

II. Background

A. What Action is the Agency Taking?

The Agency is supplementing the proposed SNUR published in the **Federal Register** of October 18, 2000 (65 FR 62319) (FRL-6745-5), to take into account comments submitted on that proposed rule, to amend the list of chemical substances to which the proposed SNUR would apply, and to more clearly define significant new uses of these chemical substances. This supplemental proposed rule would require persons to notify EPA at least 90 days before commencing the manufacture or import of the chemical substances identified in Table 2, Unit I.A., for the significant new uses described in this document. The chemical substances identified in Table 2, Unit I.A., are 75 chemical substances, including PFOSH, PFOSS, POSF, certain higher and lower homologues of PFOSH and POSF, and certain other chemical substances, including polymers, that are derived from PFOSH and its homologues. These chemicals

are collectively referred to throughout this proposed rule as PFAS. In the original proposed SNUR, these chemicals were referred to collectively as perfluorooctylsulfonates, or PFOS, but commenters noted that this generic usage of the term PFOS was inconsistent with the use by the manufacturer, the Minnesota Mining and Manufacturing Company (3M), of PFOS to refer only to chemicals with an eight-carbon, or C8, chain length. Many of the chemicals in the proposed SNUR include a range of carbon chain lengths, although they all include C8 within the range.

Accordingly, EPA will use the generic term PFAS to refer to any carbon chain length, including higher and lower homologues as well as C8, and the term PFOS to represent only those chemical substances which are predominantly C8. The significant new uses described by this document are:

1. Any manufacture or import for any use of any chemical listed in Table 2, Unit I.A., on or after January 1, 2003, except as noted in Unit II.A.2.
2. Manufacture or import of any chemical listed in Table 2, Unit I.A., solely for one or more of the following specific uses shall not be considered as a significant new use subject to reporting under this section:
 - i. Use as an anti-erosion additive in fire-resistant phosphate ester aviation hydraulic fluids.
 - ii. Use as a component of a photoresist substance, including a photo acid generator or surfactant, or as a component of an anti-reflective coating, used in a photomicroolithography process to produce semiconductors or similar components of electronic or other miniaturized devices.
 - iii. Use as an intermediate only to produce other chemical substances to be used solely for the uses listed in Unit II.A.2.i. or ii.
 - iv. Use in a surface tension and static discharge control coating on films, papers, and printing plates, or as a surfactant or defoamer in solutions used to process films and papers, in traditional and laser medical imaging and in industrial and consumer film products.

B. What is the Agency's Authority for Taking this Action?

Section 5(a)(2) of TSCA (15 U.S.C. 2604(a)(2)) authorizes EPA to determine that a use of a chemical substance is a "significant new use." The Agency makes this determination by rule after considering all relevant factors, including those listed in TSCA section 5(a)(2). These factors include the volume of a chemical substance's production; the extent to which a use

changes the type, form, magnitude, or duration of exposure to the substance; and the reasonably anticipated manner of producing or otherwise managing the substance. Once EPA makes this determination and promulgates a SNUR, TSCA section 5(a)(1)(B) requires persons to submit a significant new use notice (SNUN) to EPA at least 90 days before they manufacture, import, or process the chemical substance for that significant new use (15 U.S.C. 2604 (a)(1)(B)).

C. Which General Provisions Apply?

General provisions for SNURs are published under 40 CFR part 721, subpart A. These provisions describe persons subject to the rule, recordkeeping requirements, exemptions to reporting requirements, and applicability of the rule to uses occurring before the effective date of the final rule. Note that because this proposed rule would designate certain manufacturing and importing activities as significant new uses, persons that solely process or use the chemical substances that would be covered by this action would not be subject to the rule. Provisions relating to user fees appear at 40 CFR part 700. Persons subject to this proposed SNUR would be required to comply with the same notice requirements and EPA regulatory procedures as submitters of PMNs under TSCA section 5(a)(1)(A). In particular, these requirements include: The information submission requirements of TSCA section 5(b) and 5(d)(1); the exemptions authorized by TSCA section 5 (h)(1), (2), (3), and (5); the export notification provisions of TSCA section 12(b); and the export notification requirements in 40 CFR part 707, subpart D. Once EPA receives a SNUN, EPA may take regulatory action under TSCA sections 5(e), 5(f), 6, or 7, if appropriate, to control the activities on which it has received the SNUN. If EPA does not take action, EPA is required under TSCA section 5(g) to explain in the **Federal Register** its reasons for not taking action.

III. Summary of this Supplemental Proposed Rule

The chemical substances subject to this supplemental proposed SNUR are listed in Table 2, Unit I.A. These chemical substances include PFOSS, PFOSS, POSF, certain higher and lower homologues of PFOSS and POSF, and certain other chemical substances, including polymers, that are derived from PFOSS and its homologues. All of these chemical substances are referred to collectively in this proposed rule as perfluoroalkyl sulfonates, or PFAS. In the original proposed SNUR (65 FR

62319, October 18, 2000), these chemicals had been referred to collectively as perfluorooctylsulfonates, or PFOS, but commenters noted that this generic usage of PFOS was inconsistent with 3M's use of PFOS to refer only to chemicals with an eight-carbon, or C8, chain length. Many of the chemicals in the proposed SNUR included a range of carbon chain lengths, although they all did include C8 within the range. Accordingly, EPA will use the generic term PFAS to refer to any chain length, including higher and lower homologues as well as C8, and the term PFOS to represent only those chemicals which are predominantly C8.

All of the chemical substances listed in this supplemental proposed SNUR have the potential to degrade to PFOSH in the environment. Information also suggests that these chemical substances may be converted to PFOSH via incomplete oxidation during the incineration of PFAS-containing materials. Once PFOSH has been released to the environment, it does not undergo further chemical (hydrolysis), microbial, or photolytic degradation. PFOSH is highly persistent in the environment and has a strong tendency to bioaccumulate. Studies have found PFOS chemicals in very small quantities in the blood of the general human population as well as in wildlife, indicating that exposure to the chemicals is widespread, and recent tests have raised concerns about their potential developmental, reproductive, and systemic toxicity (Refs. 1, 2, and 3). These facts, taken together, raise concerns for long term potential adverse effects in people and wildlife over time if PFOS should continue to be produced, released, and built up in the environment. A detailed discussion of these concerns appeared in the original proposed SNUR (65 FR 62319, October 18, 2000) and in the EPA Hazard Assessment document in the docket for the proposed SNUR (Ref. 4). In its comments on the proposed SNUR, 3M emphasized that no data indicated that adverse effects were currently being observed in humans and wildlife. 3M also noted that additional data under development might change some of the EPA's preliminary conclusions. 3M challenged the simplification in the preamble of EPA's characterization of certain of the hazard studies analyzed in the EPA Hazard Assessment, which 3M felt overstated some of the EPA's hazard conclusions. None of the other comments submitted on the proposal addressed the hazards, environmental fate, or exposures associated with these

chemicals as described in the original proposed SNUR.

The original proposed SNUR included these and 15 other chemicals, and would have identified as a significant new use: Any manufacture or import of any of these chemicals for any use on or after January 1, 2003; and any manufacture or import in excess of specified volume limits between January 1, 2001, and December 31, 2002.

At the request of prospective commenters, EPA extended the date for submitting comments from November 17, 2000, to January 1, 2001 (65 FR 69889, November 21, 2000) (FRL-6756-9). Twenty-six timely comments were submitted on the proposed SNUR. Because of the complexity of the issues and the interest expressed by the commenters, EPA announced a public meeting on the proposed SNUR (66 FR 11243, February 23, 2001) (FRL-6771-4), which was conducted on March 27, 2001, to provide commenters with the opportunity to expand upon their comments, offer clarifications, and further explain their issues and concerns. At that meeting, several participants expressed a willingness to gather and submit additional information concerning their need for and specific use of certain of these chemicals, and EPA indicated that it would consider those post-meeting submissions as a formal part of the rulemaking record. EPA requested that these submissions include specific information on PFAS exposures and releases associated with various uses, as well as documentation about the extent to which PFAS chemical substances on the proposed SNUR lists were being obtained for specific uses from sources other than 3M, and thus would not be affected by 3M's unilateral decision to discontinue production. (Ref. 5) The final such submission was received by the EPA on October 3, 2001. All of these submissions are in the docket for this proceeding.

Following review and consideration of all the comments, correspondence, and additional submissions, EPA determined that the proposed SNUR should be promulgated as final for the 13 chemicals, employed principally in coatings for textiles, carpet, apparel, leather, and paper, on which no comments were received and which 3M, the sole manufacturer, confirmed were discontinued from manufacture before December 31, 2000. EPA also removed from the rule two chemicals that had appeared by error in the original proposed SNUR. That final rule is published elsewhere in today's issue of the **Federal Register**.

EPA determined that the remaining 75 chemicals, which appear in Table 2, Unit I.A., presented issues that warranted the proposal of this supplemental SNUR. Commenters provided information confirming that, contrary to the information available to the EPA when the original proposed SNUR was published, 3M was not the sole manufacturer of certain of the chemical substances on Table 2, Unit I.A., which commenters were importing in small quantities below mandatory reporting thresholds for their specific uses from non-3M sources outside the United States prior to the publication of the proposed SNUR. The identities, amounts, and suppliers of those specific chemicals were claimed as confidential business information (CBI), and thus cannot be specifically identified in this proposed rule.

To the extent that specific PFAS chemical substances on the proposed SNUR lists were being obtained from sources other than 3M for specific uses prior to the publication of the proposed SNUR, and thus would not be affected by 3M's unilateral decision to discontinue production, those particular uses of those specific chemicals would be considered ongoing and would not be subject to a significant new use determination. These specific uses are: As a component of a photoresist substance, including a photo acid generator or surfactant, or as a component of an anti-reflective coating, used in a photomicrolithography process to produce semiconductors or similar components of electronic or other miniaturized devices.

Accordingly, this supplemental proposed SNUR identifies these specific uses of those particular chemicals as not being significant new uses of the chemicals listed in Table 2, Unit I.A., and thus as not being subject to this proposed SNUR.

Some commenters in this industry who were not importing from non-3M sources indicated that they were using certain chemicals listed in the proposed SNUR, as well as other PFAS chemicals that were not included in the proposed SNUR. Both individually and through an industry-wide submission of mass balance data tracking the use and final disposition of these PFAS chemicals, all commenters in this industry indicated that these chemicals were used in very small quantities under 2,000 kilograms (kg) (4,400 lbs) per year total in the United States, under controlled conditions that virtually eliminated occupational exposures to the chemicals and presented very low releases to the environment. They also presented information on the lack of viable

alternatives for these chemicals because of their unique performance characteristics, and described their efforts to further reduce the use of PFAS chemicals and to continually improve their handling and disposal practices to reduce or eliminate PFAS exposures and releases. (Ref. 6)

Given the extremely low volume of use and the stringent controls on exposure and releases, EPA is proposing not to include in the definition of significant new use the manufacture or import of chemicals listed in Table 2, Unit I.A., including chemicals which had not been imported from non-3M sources prior to the publication of the proposed SNUR, for use as a component of a photoresist substance, including a photo acid generator or surfactant, or a component of an anti-reflective coating, used in a photomicrolithography process to produce semiconductors or similar components of electronic or other miniaturized devices. EPA is proposing this exclusion in recognition of the industry's commitment to continue to pursue better controls to ensure that this use will not increase the type, magnitude, or duration of exposure to PFAS chemicals.

Three commenters also provided information indicating that their specific use of the 3M formulations FC93 and FC98, which contain three of the PFAS chemicals (CAS Nos. 2795-39-3, 67584-42-3, and 68156-01-4) listed in Table 2, Unit I.A., as an anti-erosion additive in fire-resistant phosphate ester aviation hydraulic fluids, was critical to the safe performance of large cargo and passenger aircraft, and that there are at present no viable alternatives to PFAS for this use. These commenters also indicated that, although 3M has been their source, the PFAS chemicals used in this application have also been produced by other foreign sources prior to the publication of the SNUR, although they have not been imported. They reported that the total aggregate use of PFAS in this application by all aviation consumers is less than 5,000 lbs per year (2,273 kg), and that because these systems are sealed at the time of manufacture, worker exposures and releases to the environment are minimal. They noted that ongoing research for possible replacement chemicals could not produce viable alternatives for several years, because of requirements that these products meet military specifications or gain approval from the Federal Aviation Administration (FAA). (Refs. 7, 8, 9, and 10) Based on the information presented, including the very low volume of use and the low potential for exposure, as

well as the critical safety nature of the use, EPA proposes to exclude the manufacture or import of these PFAS chemicals for use in this application from the definition of significant new use.

Commenters in the semiconductor and aviation hydraulics industries also indicated that, in order to produce the specific PFAS chemicals used in their applications, certain additional chemicals on the list in Table 2, Unit I.A., would be required for use as intermediate chemicals in the manufacturing process. Accordingly, EPA proposes to exclude from the significant new use definition the use of these PFAS chemicals as intermediates only to produce other chemicals used solely for the excluded semiconductor and aviation hydraulics uses.

Commenters in the photography industry, in addition to raising the semiconductor applications addressed earlier in this section, also identified as critical the use of certain PFAS chemicals in surface tension and static discharge control coatings on films, papers, and printing plates, and as surfactants and defoamers in solutions used to process films and papers, particularly in both traditional and laser medical imaging and in some industrial and consumer film products. The industry estimated the total annual use of these PFAS chemicals in medical imaging for disease diagnosis at 30,600 kg (67,320 lbs), with another 5,400 kg (11,880 lbs) used per year in industrial (i.e., oil pipeline x-ray; aerial reconnaissance photography) and some consumer applications. Some information on specific chemicals used in these applications, as well as on the sources of those chemicals, was claimed as confidential. Specific information on exposures and releases from all these uses was not provided. These commenters indicated that they were conducting research to find alternatives to these PFAS chemicals in these uses, but that they believed they would not be able to find and technically qualify viable alternatives for use before the end of the phase-out period. (Refs. 11 and 12)

EPA is proposing to exclude these photographic uses from the definition of significant new use in the SNUR, based on its understanding that the industry is actively working to move away from these PFAS chemicals and to reduce the use and release of PFAS. EPA is concerned, however, that these uses, while much lower in volume than the discontinued coating uses on textiles, apparel, carpet, furniture, and paper, are substantially greater in volume than the semiconductor and aviation uses for

which exclusions are being proposed, and much less is known about the extent of exposures and releases related to these uses. EPA is concerned that new manufacture or importation for these photographic uses may significantly affect the type, magnitude, and duration of exposure to these chemicals because of their known persistence. EPA therefore specifically requests comment on this proposed exclusion of these photographic uses from the significant new use definition, particularly addressing the anticipated exposures and releases that may result from these uses, and including information on handling and disposal controls that would control, reduce, or eliminate such exposures and releases. In the absence of such information to confirm the Agency's understanding and support the proposed exclusion, EPA may include these photographic uses in the definition of significant new uses that would be subject to this SNUR at such time as a final rule is promulgated, perhaps refining the new use based on a volume cap on new manufacture or importation intended for this use.

Accordingly, EPA proposes to require persons to notify EPA at least 90 days before commencing the manufacture or import of the chemical substances identified in Table 2, Unit I.A., for the significant new uses described in this document. The significant new uses described by this notice are:

1. Any manufacture or import for any use of any chemical listed in Table 2 of Unit I.A., on or after January 1, 2003, except as noted Unit III.2.

2. Manufacture or import of any chemical listed in Table 2, Unit I.A., solely for one or more of the following specific uses shall not be considered as a significant new use subject to reporting under this section:

- i. Use as an anti-erosion additive in fire-resistant phosphate ester aviation hydraulic fluids.

- ii. Use as a component of a photoresist substance, including a photo acid generator or surfactant, or as a component of an anti-reflective coating, used in a photomicrolithography process to produce semiconductors or similar components of electronic or other miniaturized devices.

- iii. Use as an intermediate only to produce other chemical substances to be used solely for the uses listed in Unit III.2.i. or ii.

- iv. Use in a surface tension and static discharge control coating on films, papers, and printing plates, or as a surfactant or defoamer in solutions used to process films and papers, in traditional and laser medical imaging

and in industrial and consumer film products.

IV. Applicability of Proposed Rule to Uses Occurring Before the Effective Date of the Final Rule

EPA believes that the intent of TSCA section 5(a)(1)(B) is best served by designating a use as a significant new use as of the proposal date of the SNUR, rather than as of the effective date of the final rule. If uses begun after publication of the proposed SNUR were considered to be ongoing, rather than new, it would be difficult for EPA to establish SNUR notice requirements, because any person could defeat the SNUR by initiating the proposed significant new use before the rule became final, and then argue that the use was ongoing.

Persons who begin commercial manufacture or import of the PFAS chemicals listed in Table 2, Unit I.A., for the significant new uses listed in this proposed SNUR after the proposal has been published must stop that activity before the effective date of the final rule. Persons who ceased those activities will have to meet all SNUR notice requirements and wait until the end of the notice review period, including all extensions, before engaging in any activities designated as significant new uses. If, however, persons who begin commercial manufacture or import of these chemical substances between the proposal and the effective date of the SNUR meet the conditions of advance compliance as codified at 40 CFR 721.45(h), those persons will be considered to have met the final SNUR requirements for those activities.

V. Summary and Response to Comments on Original Proposed Rule

EPA received 26 timely comments on the original proposed SNUR, and numerous additional presentations and correspondence at and following the public meeting. As described in this unit and in Unit III., all of these materials were taken into consideration in the preparation of this supplemental proposed SNUR. All of these materials have been placed in docket OPPTS-50639.

One comment addressed the use of PFOS in aqueous film-forming foam (AFFF) fire fighting products, and commended the Agency for terminating this application. 3M voluntarily exited this market, and was the only producer of PFOS-based AFFF, although non-PFOS-based AFFF products using other fluorinated surfactants remain in use and are unaffected by this proposed regulation. EPA is continuing to investigate these related fluorinated surfactants to determine whether they

may present issues and concerns similar to those associated with PFOS.

One comment indicated that certain of the chemicals on the list were in use and registered as active ingredients in pesticide formulations, and that chemicals in such use, being regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), would be excluded from the TSCA definition of a "chemical substance" and would thus not be subject to the proposed SNUR or other reporting requirements under TSCA. Pesticides are excluded from regulation under TSCA, although pesticide intermediates (chemicals manufactured for the purpose of producing regulated pesticide ingredients) are subject to TSCA regulation. Following the publication of the proposed SNUR, however, the pesticide registrants voluntarily negotiated product stewardship agreements with the EPA Office of Pesticide Programs to cancel some registered products and to phase out others.

Three commenters noted that three PFAS chemicals included in the proposed SNUR (CAS Nos. 2795-39-3, 67584-42-3, and 68156-01-4) were components of 3M products FC93 and FC 98, currently being used in very small concentrations (generally less than 500 parts per million (ppm), or 0.05% PFOS) as anti-erosion additives in fire-resistant phosphate ester aviation hydraulic fluids, and that these uses were critical to the safe functioning of control surfaces, brakes, steering, and landing gear on virtually all large cargo, military, and passenger transport aircraft. The commenters indicated that untreated phosphate ester fluids, used for their high fire resistance, support electrochemical erosion of control valves within sealed hydraulic systems, and that these PFAS chemicals were the only additives discovered in twenty years of research that could eliminate this problem. They indicated that the total aggregate use of PFAS in this application by all aviation consumers is less than 5,000 lbs (2,273 kg) per year, and that because these systems are sealed at the time of manufacture, worker exposures and releases to the environment are minimal. They noted that ongoing research for possible replacement chemicals could not produce any viable alternatives for several years, because of requirements that these products meet military specifications or gain approval from FAA. Given the low volumes involved, the minimal exposure and release potential, the aviation safety requirements, and the demonstrated lack of viable alternatives, EPA is

proposing to exclude the manufacture or importation of PFAS chemicals specifically for use as an anti-erosion additive in fire-resistant phosphate ester aviation hydraulic fluids from the definition of significant new use to which this proposed SNUR would apply. No SNUN would thus be required from a company or individual manufacturing or importing any of the PFAS chemicals on Table 2, Unit I.A., for this specific use.

Several companies in the semiconductor industry submitted comments and participated in meetings both individually and through their respective trade associations, indicating that 3M was not the only supplier of the specific PFAS chemicals used in their particular applications; some companies supplied confidential data indicating that they had been importing very small quantities of certain of these chemicals from non-3M sources. At the time the original SNUR was proposed, EPA was unaware that this importation was taking place, because the quantities involved were below the threshold for reporting such importation to the EPA. Both individually and through an industry-wide mass balance submission, the commenters indicated that these chemicals were used in very small quantities, under 2,000 kg (4,400 lbs) per year total in the United States, under controlled conditions that virtually eliminated occupational exposures to the chemicals. They also presented information concerning their search for and conversion to non-PFOS chemicals in certain applications, as well as ongoing modifications to their wastewater handling and treatment operations that would dramatically reduce their PFAS releases to the environment. They expressed an interest in continuing to work with the EPA to further reduce the use of PFAS, but indicated that, at present, viable alternatives for PFAS have not been qualified for two uses critical to both the commercial success of the industry and to its technological contributions to national security: as a component of a photoresist substance, including a photo acid generator or surfactant, or as a component of an anti-reflective coating, used in a photomicro lithography process to produce semiconductors or similar components of electronic or other miniaturized devices.

Because companies had been importing certain of the chemical substances on Table 2, Unit I.A., in very small quantities from non-3M sources for use as a component of a photoresist substance or an anti-reflective coating used in a photomicro lithography process prior to the publication of the

original proposed SNUR, EPA considers those uses of those particular substances to be ongoing, and the continuing manufacture or import of those specific PFAS chemicals for those uses, particularly in the small amounts and under the types of exposure and release controls described by the commenters, would thus not be subject to the SNUR, as reflected in this supplemental proposal. EPA further proposes to exclude from the significant new use definition these specific uses of the additional PFAS chemicals on Table 2, Unit I.A, which had not previously been imported into the United States from non-3M sources. In proposing this exclusion, EPA recognizes that the amounts involved are small, and that the industry has committed to continue to pursue better controls to ensure that this use will not increase the type, magnitude, or duration of exposure to PFAS chemicals. No SNUN would thus be required from a company or individual manufacturing or importing any of the PFAS chemicals on Table 2, Unit I.A. for this specific use.

Commenters in both the aviation and semiconductor industries also indicated that certain chemical substances listed in the SNUR are essential chemical intermediates required to make the PFAS products that are actually used in electronics manufacture and hydraulic fluids. EPA proposes to exclude from the significant new use definition the use of listed PFAS chemicals as intermediates only to produce other chemical substances to be used solely for the semiconductor and aviation uses already described.

EPA commends the aviation and semiconductor industries in particular for their diligence in providing useful tools and information and in working with the Agency to achieve a full understanding of the issues presented by PFAS in these industries. EPA further acknowledges their pledge to continue to work toward further reductions in the use and release of PFAS chemicals notwithstanding the proposed identification of these low volume, low release, and controlled exposure uses as not included within the definition of significant new uses subject to this SNUR.

Four companies and a trade association presented comments and supplementary correspondence concerning the use of PFAS chemicals in the photography industry. To the extent that those comments concerned photomicrolithography in the semiconductor context, they are addressed above in the EPA's response to the semiconductor industry in this unit. Separately from the semiconductor

issues, the photography industry also identified as critical the use of certain PFAS chemicals in surface tension and static discharge control coatings on films, papers, and printing plates, and as surfactants and defoamers in solutions used to process films and papers, particularly in both traditional and laser medical imaging and in some industrial and consumer film products. The industry estimated the total annual use of these PFAS chemicals in medical imaging for disease diagnosis at 30,600 kg (67,320 lbs), with another 5,400 kg (11,880 lbs) used per year in industrial (i.e., oil pipeline x-ray; aerial reconnaissance photography) and some consumer applications. Specific information on exposures and releases from all these uses was not provided. Some of the specific chemicals used, the sources from which those chemicals were obtained, and the amounts used by individual companies were claimed as confidential business information. The photographic industry commenters expressed willingness to work toward reducing the amount of PFAS being used in their applications, but indicated concern that viable alternatives might not be available or qualified by the phase-out date announced by 3M and reflected in the original proposed SNUR. They requested an extension of the phase-out period for their claimed critical use applications.

The phase-out dates in the original proposed SNUR were determined by 3M's voluntary commitment to discontinue production of these PFAS chemicals. The basis for EPA's original SNUR proposal was that any production of these chemicals following the 3M phaseout would by definition be new, since at the time the proposal issued, 3M had been the sole producer; and any new production would necessarily affect the type, magnitude, and duration of exposure, because these chemicals are persistent. New production would add to the base amount of these chemicals already present in the environment, and widespread exposure to these chemicals has been demonstrated through the detection of PFOS in the blood of the general population and of wildlife.

The commenters did not propose a time frame for an extended phase-out of these chemicals for their specific use. Because the amount of time that might be required is uncertain, instead of proposing a specific extension of the phase-out period, EPA is proposing to exclude these photographic uses from the definition of a significant new use under the SNUR, on the understanding that the industry is actively working to move away from these PFAS chemicals

and to reduce the use and release of PFAS. EPA is concerned, however, that these uses, while much lower in volume than the discontinued coating uses on textiles, apparel, carpet, furniture, and paper, are substantially greater than the semiconductor and aviation uses for which exclusions are also being proposed, and much less is known about the extent of exposures and releases related to these uses. EPA is concerned that these photographic uses may significantly affect the type, magnitude, and duration of exposure to these chemicals because of their known persistence. EPA therefore specifically requests comment on this proposed exclusion of these photographic uses, particularly addressing the anticipated exposures and releases that may result from these uses, and including information on handling and disposal controls that would control, reduce, or eliminate such exposures and releases. In the absence of such information to confirm the Agency's understanding and support the proposed exclusion, EPA may include these photographic uses in the definition of significant new uses that would be subject to this SNUR at such time as a final rule is promulgated, perhaps defining the new use based on a volume cap on new manufacture or importation intended for this use.

One commenter indicated that it imported small quantities of some of the chemicals listed in the original proposed SNUR for various applications, but gave no further information to identify which chemicals it imported, or whether 3M—which has production facilities abroad—was the source of the imported chemicals. Some of the uses mentioned in this comment have been addressed in this unit in the contexts of the industries which provided more details on use. Without more specific substantiation of the asserted importation, this comment cannot be further addressed.

One private citizen commended the EPA for taking action on PFOS, but noted that there must be more PFAS chemicals on the Inventory than were listed in the original SNUR, and that similar action should be taken to address those other chemicals. EPA is evaluating other PFAS and PFAS-related chemicals, but used the mechanism of the proposed SNUR to address the specific chemicals that it had sufficient reason to believe were either not currently in use or were being phased out by their sole producer. If regulatory action on other PFAS or PFAS-related chemicals is warranted, EPA will propose appropriate action when its evaluation is complete.

The National Aeronautics and Space Administration (NASA) noted that it used many chemicals in its Space Shuttle program and was not certain at the time of its initial comment submission whether those would include any of the PFAS chemicals in the proposed SNUR. EPA has not received any subsequent communications from NASA that would indicate that NASA concluded that the proposed SNUR would present issues.

3M provided comments suggesting some changes in the acronyms used in the proposed SNUR to make them consistent with the nomenclature customarily used by 3M and the industry. 3M also requested minor changes to the two tables of chemicals listed in the SNUR to correct the assignment of four chemicals to the wrong table, and to remove two chemicals that had not been included in 3M's phaseout plan. EPA adopted the 3M nomenclature and made the table adjustments. 3M emphasized that no data indicated that adverse effects were currently being observed in humans and wildlife. 3M also noted that additional data under development might change some of the EPA's preliminary conclusions. 3M challenged the simplification in the preamble of EPA's characterization of certain of the hazard studies analyzed in the EPA Hazard Assessment, which 3M felt overstated some of the hazard conclusions that were drawn in the assessment. 3M requested that these statements be rephrased more accurately in any discussion of hazard in the final rule.

VI. References

These references have been placed in the official record that was established under docket control number OPPTS-50639 for this rulemaking as indicated in Unit I.B.2. Reference documents identified with an Administrative Record number (AR) are cross-indexed to non-regulatory, publicly accessible information files maintained in the TSCA Nonconfidential Information Center. Copies of these documents can be obtained as described in Unit I.B.2.

- (AR226-0620) Sulfonated Perfluorochemicals in the Environment: Sources, Dispersion, Fate, and Effects. 3M. St. Paul, MN. March 1, 2000.
- (AR226-0547) The Science of Organic Fluorochemistry. 3M. St. Paul, MN. February 5, 1999.
- (AR226-0548) Perfluorooctane Sulfonate: Current Summary of Human Sera, Health and Toxicology Data. 3M. St. Paul, MN. January 21, 1999.
- Seed, Jennifer. Hazard Assessment and Biomonitoring Data on Perfluorooctane Sulfonate—PFOS.

USEPA/OPPT/RAD. Washington, DC. August 31, 2000.

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11. O'Donoghue, John. PFOS and Imaging. Presentation of Photographic and Imaging Manufacturers Association at EPA Public Meeting. Washington, DC. March 27, 2001.

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VII. Regulatory Assessment Requirements

Under Executive Order 12866, entitled *Regulatory Planning and Review* (58 FR 51735, October 4, 1993), the Office of Management and Budget (OMB) has determined that SNURs are not a "significant regulatory action" subject to review by OMB, because SNURs do not meet the criteria in section 3(f) of the Executive order.

Based on EPA's experience with past SNURs, State, local, and tribal governments have not been impacted by these rules, and EPA does not have any reasons to believe that any State, local, or tribal government will be impacted by this proposed rule. As such, EPA has determined that this regulatory action does not impose any enforceable duty, contain any unfunded mandate, or otherwise have any effect on small governments subject to the requirements of sections 202, 203, 204, or 205 of the Unfunded Mandates Reform Act of 1995 (UMRA) (Public Law 104-4).

This proposed rule does not have tribal implications because it is not expected to have substantial direct effects on Indian Tribes. This does not significantly or uniquely affect the communities of Indian tribal governments, nor does it involve or impose any requirements that affect

Indian Tribes. Accordingly, the requirements of section 3(b) of Executive Order 13084, entitled *Consultation and Coordination with Indian Tribal Governments* (63 FR 276755, May 19, 1998), do not apply to this proposed rule. Executive Order 13175, entitled *Consultation and Coordination with Indian Tribal Governments* (65 FR 67249, November 6, 2000), which took effect on January 6, 2001, revokes Executive Order 13084 as of that date. EPA developed this proposed rule, however, during the period when Executive Order 13084 was in effect; thus, EPA addressed tribal considerations under Executive Order 13084. For the same reasons stated for Executive Order 13084, the requirements of Executive Order 13175 do not apply to this proposed rule either. Nor will this action have a substantial direct effect on States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132, entitled *Federalism* (64 FR 43255, August 10, 1999).

This proposed rule is not subject to Executive Order 13211, entitled *Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use* (66 FR 28355, May 22, 2001), because this action is not expected to affect energy supply, distribution, or use.

In issuing this proposed rule, EPA has taken the necessary steps to eliminate drafting errors and ambiguity, minimize potential litigation, and provide a clear legal standard for affected conduct, as required by section 3 of Executive Order 12988, entitled *Civil Justice Reform* (61 FR 4729, February 7, 1996).

EPA has complied with Executive Order 12630, entitled *Governmental Actions and Interference with Constitutionally Protected Property Rights* (53 FR 8859, March 15, 1988), by examining the takings implications of this proposed rule in accordance with the "Attorney General's Supplemental Guidelines for the Evaluation of Risk and Avoidance of Unanticipated Takings" issued under the Executive order.

This action does not involve special considerations of environmental justice related issues as required by Executive Order 12898, entitled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 FR 7629, February 16, 1994).

This action is not subject to Executive Order 13045, entitled *Protection of*

Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997), because this is not an economically significant regulatory action as defined by Executive Order 12866, and this action does not address environmental health or safety risks disproportionately affecting children.

In addition, since this action does not involve any technical standards, section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104-113, section 12(d) (15 U.S.C. 272 note), does not apply to this action.

Pursuant to section 605(b) of the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*), the Agency hereby certifies that promulgation of this SNUR will not have a significant adverse economic impact on a substantial number of small entities. A SNUR applies to any person (including small or large entities) who intends to engage in any activity described in the rule as a "significant new use." Based on all information currently available to EPA, it appears that no small or large entities currently engage in such activity. Since a SNUR requires merely that any person who intends to engage in such activity in the future must first notify EPA (by submitting a SNUN), no economic impact will even occur until someone decides to engage in those activities. As a voluntary action, it is reasonable to presume that this decision would be based on a determination by the person submitting the SNUN that the potential benefits would outweigh the costs. Although some small entities may decide to conduct such activities in the future, EPA cannot presently determine how many, if any, there may be. EPA's experience to date is that, in response to the promulgation of over 530 SNURs, the Agency has received fewer than 15 SNUNs. Of those SNUNs submitted, none appear to be from small entities. In fact, EPA expects to receive few, if any, SNUNs from either large or small

entities in response to any SNUR. Therefore, EPA believes that, the economic impact of complying with a SNUR is not expected to be significant or adversely impact a substantial number of small entities. This rationale has been provided to the Chief Counsel for Advocacy of the Small Business Administration.

According to the Paperwork Reduction Act (PRA), 44 USC 3501 *et seq.*, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information that requires OMB approval under the PRA, unless it has been approved by OMB and displays a currently valid OMB control number. The OMB control numbers for EPA's regulations, after initial display in the **Federal Register** and in addition to its display on any related collection instrument, are listed in 40 CFR part 9.

The information collection requirements related to this action have already been approved by OMB pursuant to the PRA under OMB control number 2070-0038 (EPA ICR No. 1188.06). This action does not impose any burden requiring additional OMB approval. If an entity were to submit a SNUN to the Agency, the annual burden is estimated to average between 98.96 and 118.92 hours per response at an estimated reporting cost of between \$5,957 and \$7,192 per SNUN. This burden estimate includes the time needed to review instructions, search existing data sources, gather and maintain the data needed, and complete, review and submit the required SNUN, and maintain the required records. This burden estimate does not include 1 hour of technical time at \$64.30 per hour estimated to be required for customer notification of SNUR requirements, or the \$2,500 user fee for submission of a SNUN (\$100 for businesses with less than \$40 million in annual sales).

Send any comments about the accuracy of the burden estimate, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques, as instructed in Unit I.D. or to the Director, Collection Strategies Division, Office of Environmental Information, Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW., Washington, DC 20460. Please remember to include the OMB control number in any correspondence, but do not submit any completed forms to this address.

List of Subjects in 40 CFR Part 721

Environmental protection, Chemicals, Hazardous materials, Reporting and recordkeeping requirements, Significant new uses.

Dated: March 4, 2002.

William H. Sanders, III,
Director, Office of Pollution Prevention and Toxics.

Therefore, it is proposed that 40 CFR chapter I be amended as follows:

PART 721—[AMENDED]

1. The authority citation for part 721 would continue to read as follows:

Authority: 15 U.S.C. 2604, 2607, and 2625(c).

2. By revising § 721.9582 in subpart E to read as follows:

§ 721.9582 Certain perfluoralkyl sulfonates.

(a) *Chemical substances and significant new uses subject to reporting.*
(1) The chemical substances listed in Table 1 and Table 2 of this paragraph are subject to reporting under this section for the significant new uses described in paragraph (a)(2) of this section.

TABLE 1.—PFAS CHEMICALS SUBJECT TO REPORTING ON OR AFTER JANUARY 1, 2001

CAS No./PMN	CAS Ninth Collective Index Name
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-
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
57589-85-2	Benzoic acid, 2,3,4,5-tetrachloro-6-[[[3-[[heptadecafluorooctyl)sulfonyl]oxy]phenyl]amino]carbonyl]-, monopotassium salt
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]-
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-(phosphonoxy)ethyl]-, diammonium salt

TABLE 1.—PFAS CHEMICALS SUBJECT TO REPORTING ON OR AFTER JANUARY 1, 2001—Continued

CAS No./PMN	CAS Ninth Collective Index Name
68608–14–0	Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl), reaction products with 1,1'-methylenebis[4-isocyanatobenzene]
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-propenamido, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(tridecafluoroheptyl)sulfonyl]amino]ethyl 2-propenoate, and 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate
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
148240–78–2	Fatty acids, C18-unsatd., trimers, 2-[[[heptadecafluorooctyl)sulfonyl]methylamino]ethyl esters
148684–79–1	Sulfonamides, C4-8-alkane, perfluoro, N-(hydroxyethyl)-N-methyl, reaction products with 1,6-diisocyanatohexane homopolymer and ethylene glycol
178535–22–3	Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl)-, polymers with 1,1'-methylenebis[4-isocyanatobenzene] and polymethylenepolyphenylene isocyanate, 2-ethylhexyl esters, Me Et ketone oxime-blocked
P–94–2205	Polymethylenepolyphenylene isocyanate and bis(4-NCO-phenyl)methane reaction products with 2-ethyl-1-hexanol, 2-butanone, oxime, N-ethyl-N-(2-hydroxyethyl)-1-C4-C8 perfluoroalkanesulfonamide
P–96–1645 306974–63–0	Fatty acids, C18-unsatd., dimers, 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl esters

TABLE 2.—PFAS CHEMICALS SUBJECT TO REPORTING ON OR AFTER JANUARY 1, 2003

CAS No./PMN	CAS Ninth Collective Index Name
307–35–7	1-Octanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-
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-heneicosafuoro-
376–14–7	2-Propenoic acid, 2-methyl-, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester
383–07–3	2-Propenoic acid, 2-[butyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester
423–50–7	1-Hexanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-
423–82–5	2-Propenoic acid, 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl ester
754–91–6	1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-
1652–63–7	1-Propanaminium, 3-[[[heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, iodide
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)-
1763–23–1	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-
2795–39–3	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, potassium salt
2991–51–7	Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, potassium salt
4151–50–2	1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-
14650–24–9	2-Propenoic acid, 2-methyl-, 2-[[[heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester
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
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-
25268–77–3	2-Propenoic acid, 2-[[[heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester
29081–56–9	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, ammonium salt
29117–08–6	Poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-
29457–72–5	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, lithium salt

TABLE 2.—PFAS CHEMICALS SUBJECT TO REPORTING ON OR AFTER JANUARY 1, 2003—Continued

CAS No./PMN	CAS Ninth Collective Index Name
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-
38006–74–5	1-Propanaminium, 3-[[heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-, chloride
38850–58–7	1-Propanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-3-[(3-sulfopropyl)[(tridecafluorohexyl)sulfonyl]amino]-, inner salt
55120–77–9	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt
67584–42–3	Cyclohexanesulfonic acid, decafluoro(pentafluoroethyl)-, potassium salt
67906–42–7	1-Decanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heneicosafuoro-, ammonium salt
68156–01–4	Cyclohexanesulfonic acid, nonafluorobis(trifluoromethyl)-, potassium salt
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 oxirane di-2-propenoate, methyloxirane polymer with oxirane mono-2-propenoate and 1-octanethiol
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-propenoate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate, and 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate and octadecyl 2-propenoate
68541–80–0	2-Propenoic acid, polymer with 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate and octadecyl 2-propenoate
68555–90–8	2-Propenoic acid, butyl ester, polymer with 2-[[heptadecafluorooctyl)sulfonyl]methylamino]ethyl 2-propenoate, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate and 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate
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-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, and 2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate and octadecyl 2-methyl-2-propenoate
68555–92–0	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-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, and 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate and octadecyl 2-methyl-2-propenoate
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-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl), 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate, and 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate and 1-octanethiol
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-butanedisulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(2-hydroxyethyl)-1-heptanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-1-hexanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,5-undecafluoro-N-(2-hydroxyethyl)-1-pentanesulfonamide, polymethylenepolyphenylene isocyanate and stearyl alc.
68891–96–3	Chromium, diaquatetrachloro[.mu.-[N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]glycinato-.kappa.O:.kappa.O]]-.mu.-hydroxybis(2-methyl-1-propanol)di-
68867–60–7	2-Propenoic acid, 2-[[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[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate, and 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate and .alpha.-(1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl)

TABLE 2.—PFAS CHEMICALS SUBJECT TO REPORTING ON OR AFTER JANUARY 1, 2003—Continued

CAS No./PMN	CAS Ninth Collective Index Name
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-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 1-octanethiol and .alpha.-(1-oxo-2-propenyl)-.omega.-methoxypoly(oxy-1,2-ethanediy)
68909-15-9	2-Propenoic acid, eicosyl ester, polymers with branched octyl acrylate, 2-[[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl acrylate, 2-[methyl[(nonafluorobutyl)sulfonyl]amino]ethyl acrylate, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl acrylate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl acrylate, 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl acrylate, polyethylene glycol acrylate Me ether and steryl acrylate
68958-61-2	Poly(oxy-1,2-ethanediy), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-methoxy-
70225-14-8	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)
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 2-propenoate, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-propenoate, 2-[methyl[(undecafluoropentyl)sulfonyl]amino]ethyl 2-propenoate and 2-propenoic acid
73772-32-4	1-Propanesulfonic acid, 3-[[3-(dimethylamino)propyl][(tridecafluorohexyl)sulfonyl]amino]-2-hydroxy-, monosodium salt
81190-38-7	1-Propanaminium, N-(2-hydroxyethyl)-3-[(2-hydroxy-3-sulfopropyl][(tridecafluorohexyl)sulfonyl]amino)-N,N-dimethyl-, hydroxide, monosodium salt
91081-99-1	Sulfonamides, C4-8-alkane, perfluoro, N-(hydroxyethyl)-N-methyl, reaction products with epichlorohydrin, adipates (esters)
94133-90-1	1-Propanesulfonic acid, 3-[[3-(dimethylamino)propyl][(heptadecafluorooctyl)sulfonyl]amino]-2-hydroxy-, monosodium salt
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
117806-54-9	1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, lithium salt
129813-71-4	Sulfonamides, C4-8-alkane, perfluoro, N-methyl-N-(oxiranymethyl)
148240-80-6	Fatty acids, C18-unsatd., trimers, 2-[methyl[(tridecafluorohexyl)sulfonyl]amino]ethyl esters
148240-82-8	Fatty acids, C18-unsatd., trimers, 2-[methyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl esters
182700-90-9	1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-methyl-, reaction products with benzene-chlorine-sulfur chloride (S2Cl2) reaction products chlorides
L-92-0151	2-Propenoic acid, 2-methyl-, butyl ester, polymer with 2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate, 2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl 2-methyl-2-propenoate and 2-propenoic acid
P-80-0183 192662-29-6	Sulfonamides, C4-8-alkane, perfluoro, N-[3-(dimethylamino)propyl], reaction products with acrylic acid
P-83-1102 306973-46-6	Fatty acids, linseed-oil, dimers, 2-[[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl esters
P-84-1163 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-isocyanatoethyl)imidodicarbonic diamide, 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 N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-N-(2-hydroxyethyl)-1-heptanesulfonamide, compds. with triethylamine

TABLE 2.—PFAS CHEMICALS SUBJECT TO REPORTING ON OR AFTER JANUARY 1, 2003—Continued

CAS No./PMN	CAS Ninth Collective Index Name
P-84-1171 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-heptafluoro-N-(2-hydroxyethyl)-1-octanesulfonamide and N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentafluoro-N-(2-hydroxyethyl)-1-heptanesulfonamide, compds. with morpholine
P-86-0301 306973-47-7	Sulfonamides, C4-8-alkane, perfluoro, N-(hydroxyethyl)-N-methyl, reaction products with 12-hydroxystearic acid and 2,4-TDI, ammonium salts
P-86-0958 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
P-89-0799 160901-25-7	Sulfonamides, C4-8-alkane, perfluoro, N-ethyl-N-(hydroxyethyl), reaction products with 2-ethyl-1-hexanol and polymethylenepolyphenylene isocyanate
P-90-0111 306974-19-6	Sulfonamides, C4-8-alkane, perfluoro, N-methyl-N-[(3-octadecyl-2-oxo-5-oxazolidinyl)methyl]
P-91-1419 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 sulfonamides-blocked
P-93-1444 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
P-94-0545 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
P-94-0927 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
P-94-2206 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
P-95-0120 306980-27-8	Sulfonamides, C4-8-alkane, perfluoro, N,N'-[1,6-hexanediylbis[(2-oxo-3,5-oxazolidinediyl)methylene]]bis[N-methyl-
P-96-1262 306974-45-8	Sulfonic acids, C6-8-alkane, perfluoro, compds. with polyethylene-polypropylene glycol bis(2-aminopropyl) ether
P-96-1424 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
P-96-1433 179005-06-2	Sulfonamides, C4-8-alkane, perfluoro, N-[3-(dimethyloxidoamino)propyl], potassium salts
P-97-0790 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-heptafluoro-1-octanesulfonic acid (1:1)
P-98-0251 306978-04-1	2-Propenoic acid, butyl ester, polymers with acrylamide, 2-[methyl[(perfluoro-C4-8-alkyl)sulfonyl]amino]ethyl acrylate and vinylidene chloride
P-98-1272 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]
P-99-0188 306978-65-4	Hexane, 1,6-diisocyanato-, homopolymer, N-(hydroxyethyl)-N-methyl perfluoro-C4-8-alkane sulfonamides- and stearyl alc.-blocked
P-99-0319 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.

(2) The significant new uses are: (i) Any manufacture or import for any use of any chemical listed in Table 1 of paragraph (a)(1) of this section on or after January 1, 2001.

(ii) Any manufacture or import for any use of any chemical listed in Table

2 of paragraph (a)(1) of this section on or after January 1, 2003, except as noted in paragraph (a)(3) of this section.

(3) Manufacture or import of any chemical listed in Table 2 of paragraph (a)(1) of this section for the following specific uses shall not be considered as

a significant new use subject to reporting under this section:

(i) Use as an anti-erosion additive in fire-resistant phosphate ester aviation hydraulic fluids.

(ii) Use as a component of a photoresist substance, including a photo

acid generator or surfactant, or as a component of an anti-reflective coating, used in a photomicrolithography process to produce semiconductors or similar components of electronic or other miniaturized devices.

(iii) Use as an intermediate only to produce other chemical substances to be

used solely for the uses listed in paragraph (a)(3)(i) or (ii) of this section.

(iv) Use in a surface tension and static discharge control coating on films, papers, and printing plates, or as a surfactant or defoamer in solutions used to process films and papers, in traditional and laser medical imaging

and in industrial and consumer film products.

(b) [Reserved]

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