

## STATE OF MAINE

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IN THE YEAR OF OUR LORD  
TWO THOUSAND TWENTY-ONE

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H.P. 185 - L.D. 264

**Resolve, Directing the Board of Pesticides Control To Gather Information  
Relating to Perfluoroalkyl and Polyfluoroalkyl Substances in the State**

**Sec. 1. Board of Pesticides Control to amend rules relating to registered pesticides. Resolved:** That the Department of Agriculture, Conservation and Forestry, Board of Pesticides Control shall amend its rules governing the registration of pesticides in the State to require manufacturers and distributors to provide affidavits stating whether the registered pesticide has ever been stored, distributed or packaged in a fluorinated high-density polyethylene container and to require manufacturers to provide an affidavit stating whether a perfluoroalkyl or polyfluoroalkyl substance is in the formulation of the registered pesticide.

**Sec. 2. Board of Pesticides Control to gather information relating to perfluoroalkyl and polyfluoroalkyl substances. Resolved:** The Department of Agriculture, Conservation and Forestry, Board of Pesticides Control shall conduct a study to determine if fluorinated adjuvants are being used or sold in the State. The board shall explore what is needed to regulate fluorinated adjuvants in the State and shall explore what is necessary to impose a prohibition on the distribution or application of pesticides or adjuvants containing perfluoroalkyl or polyfluoroalkyl substances in the State. The board shall develop a feasible definition of perfluoroalkyl or polyfluoroalkyl adulteration in a pesticide. The board shall submit a report based on the study with findings and recommendations to the Joint Standing Committee on Agriculture, Conservation and Forestry no later than January 15, 2022. The joint standing committee may submit a bill to the 130th Legislature relating to the subject matter of the report.



STATE OF MAINE  
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY  
BOARD OF PESTICIDES CONTROL  
28 STATE HOUSE STATION  
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JANET T. MILLS  
GOVERNOR

AMANDA E. BEAL  
COMMISSIONER

To: Board Members  
From: Staff prepared by Pamela J. Bryer, Ph.D., Pesticides Toxicologist  
Re: LD 264 Directives  
Date: August 19, 2021

In Section 1 of LD 264 the legislature directs the Board of Pesticides Control to amend its registration rules to add the requirement of affidavits declaring the absence of PFAS chemicals in pesticide products.

#### Background

In 2020, testing of pesticide products led to the discovery of 8 different PFAS in a small number of mosquito adulticides used in public health aerial spray programs in other states. The scope of PFAS contamination in other pesticide products is currently unknown. Early testing of a limited number of products shows a pattern of PFAS chemicals appearing in pesticide products due to packaging in HDPE containers that have been reinforced with a fluorination process.

Initially, EPA's Office of Pesticide Programs (OPP) stated that there were no PFAS used as active or other "inert" ingredients in any currently registered pesticides. EPA OPP has since revised its definition of PFAS and currently says that there probably are a handful of active ingredients that can be categorized as PFAS. This difference stems from how PFAS is defined. Table 1 of this memo lists several different lists and definitions of PFAS chemicals. Currently, using the broadest definition of PFAS at EPA there are approximately 9,252 unique chemicals in this category. Cross checking this list (the Master List) against all chemicals currently in registered pesticide products produces approximately 190 chemicals.

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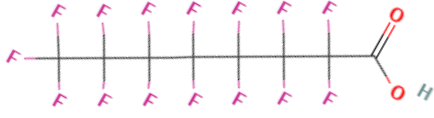
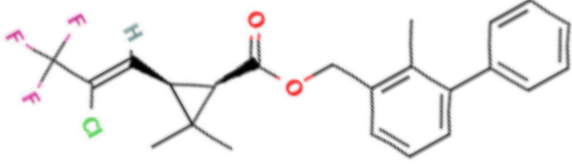
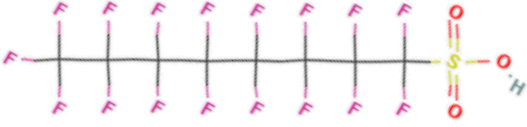
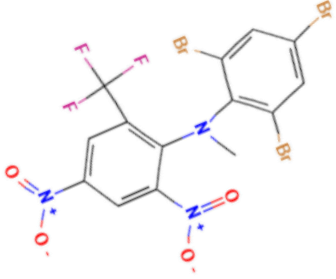
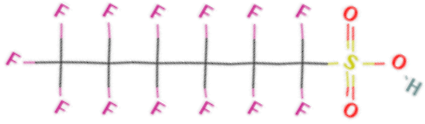
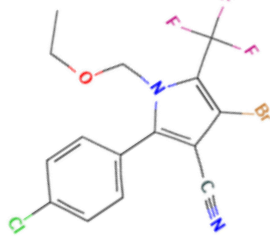
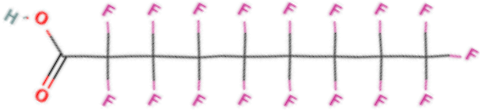
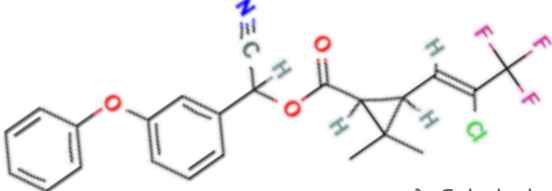
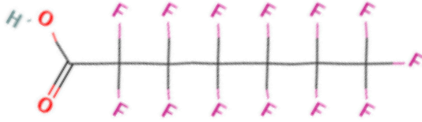
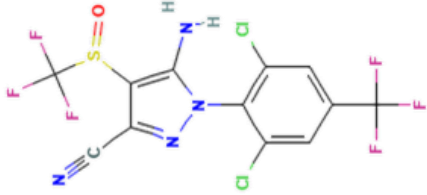


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Table 1. Summary of multiple definitions of PFAS chemicals relevant to pesticide regulation.

Origin of Definition	Number of Chemicals	Definition	Notes on the Used Definition
<b>1) EPA's PFAS Master List</b>	9,252	A List of Lists: Per- and polyfluorinated alkyl substances (PFAS) represent a growing, increasingly diverse inventory of chemicals of interest to the general public, scientific researchers, and regulatory agencies world-wide. Accompanying data-gathering, testing, and environmental monitoring exercises, in turn, have led to the publication and sharing of various lists of PFAS chemicals, some exceeding several thousand substances.	US EPA "PFAS Master List of PFAS Substances (Version 2)"; serves as consolidated list of substances spanning and bounded by the lists, defining a practical boundary of PFAS chemical space (within DSSTox) of current interest to researchers and regulators worldwide.
<b>2) EPA Drinking Water Test</b>	18	Compounds positively identified by Method 537.1. Method 537.1 is one of the standard tests used for drinking water throughout the US.	Method 537.1: Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) (2018/2020)
<b>3) Found in Pesticide Container Testing</b>	8	Testing done at EPA's Ft Mead in 2020 using a Modified Method 537.1	PFAS compounds detected on/in the containers
<b>4) In Maine: "Sum of 6 PFAS" / "regulated PFAS contaminants"</b>	6	"Perfluoroalkyl and polyfluoroalkyl substances" or "PFAS" means a perfluoroalkyl substance or polyfluoroalkyl substance that is detectable in drinking water using standard analytical methods established by the United States Environmental Protection Agency, including regulated PFAS contaminants.	Resolve 2021, Ch.82 - LD129: To Protect Consumers of Public Drinking Water by Establishing Maximum Contaminant Levels for Certain Substances and Contaminants
<b>5) EPA OPPT</b>	190	"...a structure that contains the unit R-CF2-CF(R')(R''), where R, R', and R'' do not equal "H" and the carbon-carbon bond is saturated (note: branching, heteroatoms, and cyclic structures are included)...."	EPA OPP's "working definition"; This list captures the pesticide active ingredients that fit the "one fully fluorinated carbon" definition seen in recent legislation. This list includes pesticides active and other ingredients.
<b>6) EPA with National Toxicology Program</b>	75	Individual chemicals prioritized for future toxicity testing.	Per- and Polyfluoroalkyl Substances (PFAS) list corresponds to 75 samples (Set 1) submitted for the initial testing screens conducted by EPA researchers in collaboration with researchers at the National Toxicology Program.

This group of 190 chemicals is a combination of active ingredients and all other “inert” ingredients included in pesticide products. A quick scan of this list finds several commonly used active ingredients, including bifenthrin, bromethalin, chlorfenapyr, cyhalothrin (alpha gamma lambda) fipronil, fluvalinate, indoxacarb, proflumicarb, tefluthrin, tetraniliprole, trifloxystrobin, trifluralin, and trifluralin. Under this broad definition any chemical with a carbon bound to as few as two fluorine atoms qualifies as a PFAS. This categorization pulls in many commonly used chemicals. As an example of the scope of this recategorization, an inert found with the ‘fully fluorinated carbon’ approach, 1,1,1,2-tetrafluorocarbon, is also found on EPA’s List [4b](#). EPA’s List 4b is considered to represent inert ‘ingredients of minimal concern’ a status that makes them available for use in the National Organic Program. Table 2 provides examples of compounds that fit the original definition of PFAS and several of the pesticide active ingredients that fall into this broader ‘one fully fluorinated carbon’ category.

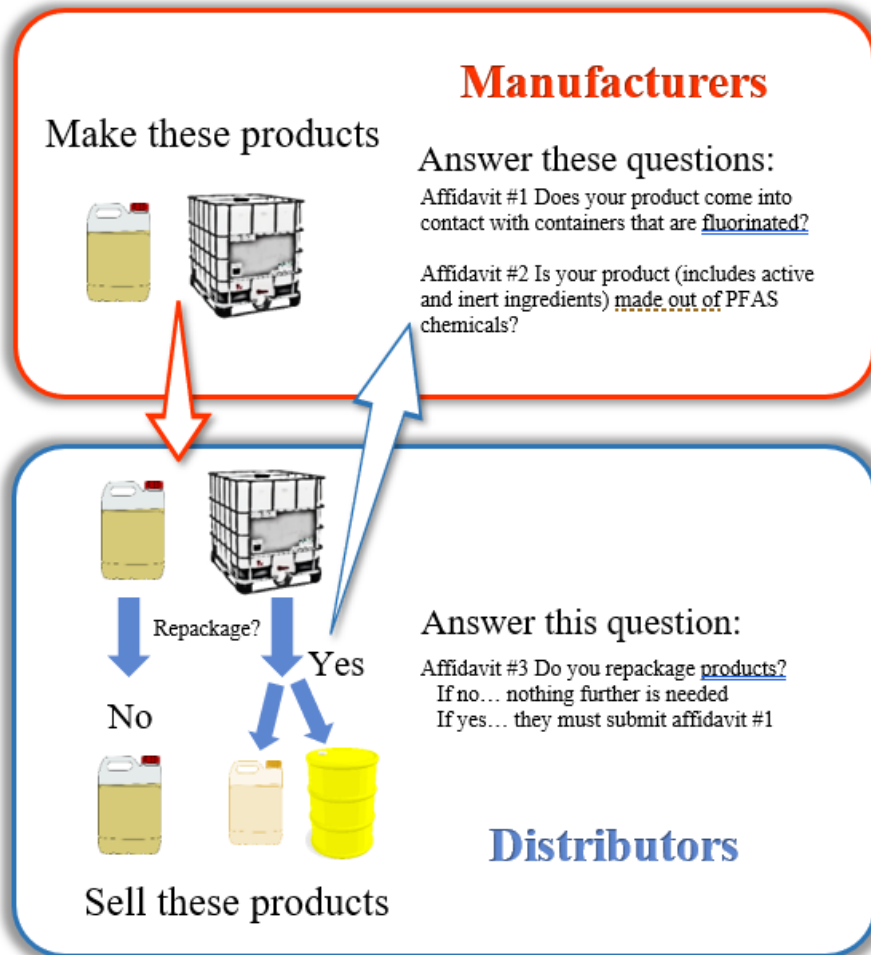
Active ingredients that have been through the registration process are unlikely to possess the same toxicological properties as these originally identified PFAS. A major concern with PFAS is their persistence in the environment and in organisms. Both of these metrics are measured as requirements for registration. However, the health effects linked to PFAS are not explicitly tested as part of registration. PFAS exposures in humans may be linked to elevated cholesterol, dampened immune response to vaccination, changes in liver enzyme production, decreased birth weight, high blood pressure or pre-eclampsia in pregnant women, and increased risk of kidney or testicular cancer. Pesticide registration testing typically includes studies evaluating life-long exposures and responses like blood parameters (which may include liver enzymes), pregnancy health metrics, and several tests for carcinogenicity. It is currently unknown the degree to which PFAS exposures are affecting the general population. To date, the effects seen in humans focus on areas with high rates of contamination, mainly via drinking water contamination, from fire-fighting foams used at military bases, manufacturing plant pollution, and biosolids spreading in agriculture.

<p><b>“Sum of Six” PFAS Compounds (Those traditionally considered as PFAS)</b></p>	<p><b>Six current use pesticide product ingredients fitting the definition of “one fully fluorinated carbon”</b></p>
 <p>Perfluorooctanoic acid</p>	 <p>Bifenthrin</p>
 <p>Perfluorooctanesulfonic acid</p>	 <p>Bromethalin</p>
 <p>Perfluorohexanesulfonic acid</p>	 <p>Chlorfenapyr</p>
 <p>Perfluorononanoic acid</p>	 <p>λ-Cyhalothrin</p>
 <p>Perfluoroheptanoic acid</p>	 <p>Fipronil</p>
 <p>Perfluorodecanoic acid</p>	 <p>Sedaxane</p>

LD 264 directs the creation of two separate affidavits.

- One affidavit to be required as part of the registration process is for pesticide manufacturers to state “whether the registered pesticide has ever been stored, distributed or packaged in a fluorinated high-density polyethylene container”.
- A second required affidavit is for manufacturers to indicate if, “a perfluoroalkyl or polyfluoroalkyl substance is in the formulation of the registered pesticide”.

The BPC proposes a third affidavit document in order to capture distributors more effectively. The distributor of a product is likely not going to be able to proclaim details about products prior to taking possession. This third affidavit asks distributors to state whether they have, “repackaged the product”. If the pesticide product remains as received from the manufacturer no further information needs to be collected, because that information would have been satisfied by the manufacturer. Below is an infographic showing this arrangement of affidavits.



Affidavits for manufacturers and distributors proposed to be required at registration

Section 2 of LD 264 directs staff to study whether or not fluorinated spray adjuvants are being used and sold in Maine; how regulation of spray adjuvants can be regulated; and how to impose a prohibition on the distribution or application of pesticides and spray adjuvants containing PFAS. Further, a “feasible definition of PFAS adulteration” needs to be developed. The activities prescribed in Section 2 of LD 264 need to be summarized in a report due January 15, 2022.

Action items for Board review:

- Review proposed affidavit concerning fluorination-free containers
- Review proposed affidavit concerning declaration of PFAS-free products
- Review proposed affidavit for distributors concerning repackaging

The following pages list the CAS number and chemical name for each of the chemicals in the different definitions mentioned in Table 1, with the exception of EPA’s Master List of 9,252 individual compounds.

**Definition 2. EPA Drinking (Potable) Water Test (Total of 18 chemicals) - Method 537.1**

<u>CAS Number</u>	<u>Chemical Name</u>	<u>Acronym</u>
13252-13-6	Hexafluoropropylene oxide dimer acid	HFPO-DA
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA
375-73-5	Perfluorobutanesulfonic acid	PFBS
335-76-2	Perfluorodecanoic acid	PFDA
307-55-1	Perfluorododecanoic acid	PFDoA
375-85-9	Perfluoroheptanoic acid	PFHpA
355-46-4	Perfluorohexanesulfonic acid	PFHxS
307-24-4	Perfluorohexanoic acid	PFHxA
375-95-1	Perfluorononanoic acid	PFNA
1763-23-1	Perfluorooctanesulfonic acid	PFOS
335-67-1	Perfluorooctanoic acid	PFOA
376-06-7	Perfluorotetradecanoic acid	PFTA
72629-94-8	Perfluorotridecanoic acid	PFTTrDA
2058-94-8	Perfluoroundecanoic acid	PFUnA
763051-92-9	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	9Cl-PF3ONS
919005-14-4	4,8-dioxa-3H-perfluorononanoic acid	ADONA

**Definition 3. Found in Pesticide Container Testing (Total of 8 chemicals)**

<u>CAS Number</u>	<u>Chemical Name</u>	<u>Acronym</u>
375-22-4	Perfluoro-butanoic acid	PFBA
2706-90-3	Perfluoro-pentanoic acid	PFPeA
307-24-4	Perfluoro-hexanoic acid	PFHxA
375-85-9	Perfluoro-heptanoic acid	PFHpA
335-67-1	Perfluoro-octanoic acid	PFOA
375-95-1	Perfluoro-nananoic acid	PFNA
335-76-2	Perfluoro-decanoic acid	PFDA
2058-94-8	Perfluoro-undecanoic acid	PFUdA

**Definition 4. In Maine: “Sum of 6 PFAS”/”regulated PFAS contaminants” (Total of 6 chemicals)**

<u>CAS Number</u>	<u>Chemical Name</u>	<u>Acronym</u>
335-67-1	Perfluorooctanoic acid	PFOA
1763-23-1	Perfluorooctanesulfonic acid	PFOS
355-46-4	Perfluorohexanesulfonic acid	PFHxS



375-95-1	Perfluorononanoic acid	PFNA
375-85-9	Perfluoroheptanoic acid	PFHpA
335-76-2	Perfluorodecanoic acid	PFDA

**Definition 5. EPA OPPT (Total of 190 chemicals)**

<u>CAS Number</u>	<u>Chemical Name</u>
811-97-2	1,1,1,2-Tetrafluoroethane
75-37-6	1,1-Difluoroethane
29118-24-9	1-Propene, 1,3,3,3-tetrafluoro-, (1E)-
50594-66-6	5-(2-Chloro-4-(trifluoromethyl)phenoxy)-2-nitrobenzoic acid
82657-04-3	Bifenthrin
2164-17-2	Fluometuron
811-97-2	1,1,1,2-Tetrafluoroethane
1582-09-8	Trifluralin
88-30-2	3-Trifluoromethyl-4-nitrophenol
62476-59-9	Acifluorfen-sodium
67485-29-4	Hydramethylnon
1861-40-1	Benfluralin
68085-85-8	alpha-Cyhalothrin
59756-60-4	1-Methyl-3-phenyl-5-(3-(trifluoromethyl)phenyl)-4-pyridone
56425-91-3	Flurprimidol
66332-96-5	Flutolanil
69409-94-5	Fluvalinate
72178-02-0	Fomesafen
69806-40-2	Haloxypop-methyl
77501-63-4	Lactofen
27314-13-2	Norflurazon
42874-03-3	Oxyfluorfen
97886-45-8	Dithiopyr
55283-68-6	N-Ethyl-N-(2-methyl-2-propenyl)-2,6-dinitro-4-(trifluoromethyl)benzenamine
29457-72-5	Lithium perfluorooctanesulfonate
117718-60-2	Thiazopyr
68694-11-1	Triflumizole
126535-15-7	Triflusulfuron-methyl
122453-73-0	Chlorfenapyr
79622-59-6	Fluazinam
142459-58-3	Flufenacet
62924-70-3	Flumetralin
91465-08-6	λ-Cyhalothrin
79538-32-2	Tefluthrin
141517-21-7	Trifloxystrobin

63333-35-7	Bromethalin
33245-39-5	Fluchloralin
4151-50-2	N-Ethylperfluorooctanesulfonamide
173584-44-6	Indoxacarb
29091-21-2	Prodiamine
290332-10-4	Trifloxysulfuron-sodium monohydrate
53780-36-2	Mefluidide-diolamine
64628-44-0	Triflumuron
103055-07-8	Lufenuron
134605-64-4	Butafenacil
76703-62-3	gamma-Cyhalothrin
120068-37-3	Fipronil
104040-78-0	Flazasulfuron
158062-67-0	Flonicamid
69806-50-4	Fluazifop-butyl
181274-17-9	Flucarbazono-sodium
188489-07-8	Flufenpyr-ethyl
239110-15-7	Fluopicolide
53780-34-0	Mefluidide
141112-29-0	Isoxaflutole
83601-83-6	Mefluidide-potassium
61444-62-0	Nifluridide
116714-46-6	Novaluron
121451-02-3	Noviflumuron
219714-96-2	Penoxsulam
79241-46-6	Fluazifop-P-butyl
94125-34-5	Prosulfuron
179101-81-6	Pyridalyl
108731-70-0	Fomesafen-sodium
15457-05-3	Fluorodifen
29091-05-2	Dinitramine
62441-54-7	Fentripanil
139968-49-3	Metaflumizone
144171-61-9	(+/-)-Indoxacarb
454-92-2	3-(Trifluoromethyl)benzoic acid
83164-33-4	Diflufenican
122454-29-9	Tralopyril
76-05-1	Trifluoroacetic acid
50594-67-7	Acifluorfen-methyl
101007-06-1	Acrinathrin
79241-47-7	Butyl (S)-2-[4-[[5-(trifluoromethyl)-2-pyridinyl]oxy]phenoxy]propionate
71422-67-8	Chlorfluazuron
3615-21-2	Chlorflurazole

23576-24-1	Desmethylnorflurazon
14255-88-0	Fenazaflor
101463-69-8	Flufenoxuron
47000-92-0	Fluoridamid
77501-90-7	Fluoroglycofen-ethyl
4776-06-1.	Fluorosalan
61213-25-0	Flurochloridone
69806-34-4	Haloxypop
23576-23-0	Metflurazon
101929-89-9	Methyl 3-hydroxy-4-(4-((5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)valerate
42874-01-1	Nitrofluorofen
7159-99-1	Parafluron
35367-31-8	Penfluron
37924-13-3	Perfluidone
104206-65-7	2-(2-Nitro-4-trifluoromethylbenzoyl)-1,3-cyclohexanedione
365400-11-9	Pyrasulfotole
422556-08-9	Pyroxsulam
33252-63-0	5-(Trifluoromethyl)pyridin-2(1H)-one
26399-36-0	Profluralin
146653-56-7	4-{2-Oxo-2-[3-(trifluoromethyl)phenyl]ethyl}benzonitrile
37526-59-3	2-(Trifluoromethoxy)benzenesulfonamide
335104-84-2	Tembotrione
117428-22-5	Picoxystrobin
272451-65-7	Flubendiamide
13577-71-4	Fluoromidine
173980-17-1	Bencarbazon
181587-01-9	Ethiprole
183675-82-3	Penthiopyrad
337458-27-2	Pyrifluquinazon
352010-68-5	Bicyclopyrone
372137-35-4	Saflufenacil
400882-07-7	Cyflumetofen
447399-55-5	Pyroxasulfone
658066-35-4	Fluopyram
958647-10-4	Flutianil
38827-31-5	Fluoridamid, diethanolamine salt
77207-01-3	Acifluorfen, ethyl ester
946578-00-3	Methyl[1-(2-trifluoromethylpyridin-5-yl)ethyl]-N-cyanosulfoximine
120068-36-2	Fipronil Sulfone
654-66-0	3-Trifluoromethyl-4-nitrophenol sodium salt
1263133-33-0	Triflumezopyrim
360-64-5	2-Trifluoromethylbenzamide

158063-66-2	4-Trifluoromethylnicotinic acid
158062-71-6	4-Trifluoromethylnicotinamide
849020-87-7	6-Hydroxy-4-trifluoromethylnicotinic acid
180409-60-3	Cyflufenamid
34486-06-1	6-(Trifluoromethyl)-2-pyridinone
877681-12-4	5-(Trifluoromethoxy)-1,3-dihydro-2H-benzimidazol-2-one
84352-75-0	5-(Trifluoromethyl)-1,3,4-thiadiazol-2(3H)-one
207502-65-6	4-(Trifluoromethyl)nicotinoyl glycine
1000522-34-8	[3-Chloro-5-(trifluoromethyl)pyridin-2-yl]acetic acid
25475-73-4	2-Methyl-4-[3-(trifluoromethyl)phenyl]-1,2,4-oxadiazinane-3,5-dione
111246-15-2	5-Amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-3-(trifluoromethyl)-1H-pyrazole-4-carbonitrile
120067-83-6	Fipronil sulfide
142994-06-7	2-Methylsulfonyl-4-trifluoromethylbenzoic acid
433-97-6	2-(Trifluoromethyl)benzoic acid
1220411-29-9	Tiafenacil
205650-69-7	Fipronil amide
1003318-67-9	Oxathiapiprolin
120068-68-0	5-Amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-4-(ethylsulfonyl)-1H-pyrazole-3-carbonitrile
1207727-04-5	Broflanilide
1229654-66-3	Tetraniliprole
1254304-22-7	Fluazaindolizine
1417782-03-6	Mefentrifluconazole
1477919-27-9	N-[3-Chloro-1-(3-pyridinyl)-1H-pyrazol-4-yl]-N-ethyl-3-[(3,3,3-trifluoropropyl)thio]propanamide
143701-75-1	RPA 202248
400882-00-0	alpha-Cyano-alpha-[4-(1,1-dimethylethyl)phenyl]- beta-oxo-2-(trifluoromethyl)-Benzenepropanoic acid-1-methylethyl ester
82971-90-2	(4-(Trifluoromethoxy)phenyl)urea
942515-63-1	N-(2',3'-Difluoro[1,1'-biphenyl]-2-yl)-3-(trifluoromethyl)pyrazine-2-carboxamide
620633-77-4	AB-13 (impurity of OK-5101)
2044706-66-1	4-Chloro-N2-[3-chloro-5-(trifluoromethyl)-2-pyridinyl]-3-nitro-5-(trifluoromethyl)-1,2-benzenediamine
623151-90-6	5-Amino-1-(2,6-dichloro-4-trifluoromethylphenyl)-4-ethylsulfinyl-3-pyrazolecarboxamide
907215-84-3	5-[[[2-(2,2-Difluoroethoxy)-6-(trifluoromethyl)phenyl]sulfonyl]amino]-1H-1,2,4-triazole-3-carboxylic acid
1041752-27-5	2-(2,2-Difluoroethoxy)-6-(trifluoromethyl)benzenesulfonic acid
158062-96-5	N-(2-Amino-2-oxoethyl)-4-(trifluoromethyl)nicotinamide
1228631-54-6	1-(6-(Trifluoromethyl)pyridin-3-yl)ethanol

210230-99-2	2,4-Dihydro-5-methoxy-2-methyl-4-[2-[[[(E)-[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-3H-1,2,4-triazol-3-one
80194-18-9	3-Chloro-5-(trifluoromethyl)pyridine-2-carboxylic acid
1384870-13-6	3-(Methylsulfinyl)-5-(trifluoromethyl)-2-pyridinecarboxylic acid
915102-00-0	4-{5-Hydroxy-3-oxo-4-[4-(trifluoromethoxy)phenyl]-6-[3-(trifluoromethyl)phenyl]-2,3,4,5-tetrahydro-1,2,4-triazin-5-yl}benzotrile
75-45-6	Chlorodifluoromethane
75-71-8	Dichlorodifluoromethane
70124-77-5	Flucythrinate
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane
131341-86-1	Fludioxonil
86209-51-0	Primisulfuron-methyl
128639-02-1	Carfentrazone-ethyl
86479-06-3	Hexaflumuron
122836-35-5	Sulfentrazone
129630-19-9	Pyraflufen-ethyl
112281-77-3	Tetraconazole
27954-37-6	Tetrafluron
188027-78-3	5H-1,3-Dioxolo[4,5-f]benzimidazole, 6-chloro-5-[(3,5-dimethyl-4-isoxazolyl)sulfonyl]-2,2-difluoro
1072957-71-1	Benzovindiflupyr
129630-17-7	Pyraflufen
221205-90-9	Pyrimisulfan
318290-98-1	Fluensulfone
581809-46-3	Bixafen
874967-67-6	Sedaxane
881685-58-1	Isopyrazam
907204-31-3	Fluxapyroxad
381-73-7	Difluoroacetic acid
176969-34-9	3-(Difluoromethyl)-1-methyl-1H-pyrazole-4-carboxylic acid
925689-10-7	3-(Difluoromethyl)-1-methyl-1H-pyrazole-4-carboxamide
22232-16-2	2,2-Difluorohexane-1,6-diamine
128621-72-7	Carfentrazone
951659-40-8	Flupyradifurone
1228284-64-7	Pydiflumetofen
1352994-67-2	Inpyrfluxam
1383809-87-7	Fluindapyr
151734-02-0	1H-3-Difluoromethylpyrazole-4-carboxylic acid
1134834-71-1	4-(2,2-Difluoroethylamino)furan-2(5H)-one

**Definition 6. EPA with National Toxicology Program (Total of 74 chemicals)**

<u>CAS Number</u>	<u>Chemical Name</u>
1691-99-2	N-Ethyl-N-(2-hydroxyethyl)perfluorooctanesulfonamide
678-39-7	8:2 Fluorotelomer alcohol
375-73-5	Perfluorobutanesulfonic acid
307-24-4	Perfluorohexanoic acid
375-95-1	Perfluorononanoic acid
1763-23-1	Perfluorooctanesulfonic acid
335-67-1	Perfluorooctanoic acid
4151-50-2	N-Ethylperfluorooctanesulfonamide
2795-39-3	Potassium perfluorooctanesulfonate
29420-49-3	Potassium perfluorobutanesulfonate
3825-26-1	Ammonium perfluorooctanoate
3871-99-6	Potassium perfluorohexanesulfonate
754-91-6	Perfluorooctanesulfonamide
163702-08-7	Perfluoroisobutyl methyl ether
647-42-7	6:2 Fluorotelomer alcohol
333-36-8	Flurothyl
28523-86-6	Sevoflurane
2144-53-8	6:2 Fluorotelomer methacrylate
19430-93-4	3,3,4,4,5,5,6,6,6-Nonafluorohexene
1652-63-7	Perfluorooctanesulfonamido ammonium iodide
335-99-9	1H,1H,7H-Dodecafluoro-1-heptanol
355-80-6	1H,1H,5H-Perfluoropentanol
356-24-1	Heptafluorobutyryl methyl ester
375-01-9	1H,1H-Heptafluorobutanol
375-22-4	Perfluorobutanoic acid
376-90-9	Hexafluoroamylene glycol
662-50-0	Heptafluorobutyramide
1623-05-8	Perfluoro(propyl vinyl ether)
2043-47-2	4:2 Fluorotelomer alcohol
31506-32-8	N-Methylperfluorooctanesulfonamide
163702-05-4	Ethyl perfluorobutyl ether
406-58-6	1,1,1,3,3-Pentafluorobutane
56860-81-2	Difluoromethyl 1H,1H-perfluoropropyl ether
1763-28-6	3,3-Bis(trifluoromethyl)-2-propenoic acid
375-02-0	Perfluorobutyraldehyde
678-78-4	Perfluoroglutaryl difluoride
1694-30-0	3H-Perfluoro-4-hydroxy-3-penten-2-one
374-41-4	Methyl perfluoroethyl ketone
355-66-8	Octafluoroadipamide

424-18-0	Methyl perfluorohexanoate
2648-47-7	5H-Perfluoropentanal
355-81-7	Perfluoropentanamide
15242-17-8	Allyl perfluoroisopropyl ether
55621-21-1	Perfluoro-3,6-dioxaoctane-1,8-dioic acid
423-65-4	11:1 Fluorotelomer alcohol
330562-41-9	Perfluoro-3,6,9-trioxatridecanoic acid
3792-02-7	4:4 Fluorotelomer alcohol
355-27-1	1H,1H-Perfluoropentylamine
74427-22-8	2,2-Difluoroethyl triflate
679-02-7	3-(Perfluoropropyl)propanol
355-95-3	1-Propenylperfluoropropane
77953-71-0	3H-Perfluoro-2,2,4,4-tetrahydroxypentane
239795-57-4	2-Vinylperfluorobutane
813-03-6	5H-Octafluoropentanoyl fluoride
1767-94-8	6H-Perfluorohex-1-ene
243139-64-2	3-(Perfluoroisopropyl)-2-propenoic acid
129301-42-4	1H,1H,8H,8H-Perfluoro-3,6-dioxaoctane-1,8-diol
883498-76-8	Bis(1H,1H-perfluoropropyl)amine
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid
31253-34-6	2-Aminohexafluoropropan-2-ol
125070-38-4	3-(Perfluoro-2-butyl)propane-1,2-diol
58244-27-2	tris(Trifluoroethoxy)methane
13485-61-5	Nonafluoropentanamide
132424-36-3	Methyl 2H,2H,3H,3H-perfluoroheptanoate
329710-76-1	2-(Trifluoromethoxy)ethyl trifluoromethanesulfonate
1619-92-7	2-Amino-2H-perfluoropropane
863090-89-5	Perfluoro(4-methoxybutanoic) acid
375-72-4	Perfluorobutanesulfonyl fluoride
356-42-3	Pentafluoropropanoic anhydride
914637-49-3	2H,2H,3H,3H-Perfluorooctanoic acid
374-40-3	1-Pentafluoroethylethanol
13252-13-6	Perfluoro-2-methyl-3-oxahexanoic acid
757124-72-4	4:2 Fluorotelomer sulfonic acid
679-12-9	4H-Perfluorobutanoic acid