Proposed Removal of Low Volume or Discontinued Active Pharmaceutical Substances from the Revised In Commerce List

Health Canada

March 2020

Cat. No.: En14-407/2-2020E-PDF

ISBN 978-0-660-34390-7

Aussi disponible en français

Synopsis

Since September 2001, new substances used in products regulated under the Food and Drugs Act (F&DA) have been subject to the *New Substances Notification Regulations (Chemicals and Polymers)* [NSNR(C&P)] and *the New Substances Notification Regulations (Organisms)* under the *Canadian Environmental Protection Act, 1999* (CEPA). In 2001, Health Canada initiated a process to identify F&DA substances already on the Canadian market between January 1, 1987 and September 13, 2001 and place them on an administrative list which is now known as the Revised In Commerce List (R-ICL). Health Canada and Environment and Climate Change Canada may take appropriate action under CEPA at any time when they consider a R-ICL substance to pose a risk to human health or the environment.

As part of the Chemicals Management Plan (CMP), Health Canada has prioritized substances on the R-ICL to identify substances that require further evaluation to determine whether they present a risk to human health or the environment. The scope of the R-ICL prioritization is limited to the use of substances in F&DA regulated products.

The potential for environmental or indirect human exposure was identified as key considerations in the approach for prioritization of active pharmaceutical substances whose biological activity is presumed to be inherent.

R-ICL substances no longer in commerce, or known to be in commerce only in limited quantities, are considered unlikely to cause harm to human health or the environment due to limited exposure.

A mandatory survey pursuant to section 71 of CEPA was published in the Canada Gazette, Part I in January 2017 with the objective of collecting data on the commercial status of 675 R-ICL substances listed in Part 4 of Schedule 1 of the survey. Most of the substances in this survey were not thought to be used as pharmaceutical ingredients, however, a number of substances with potential pharmaceutical applications were included. The scope of information gathering was limited to quantities and use patterns

in F&DA product applications. The 100 kg/yr reporting threshold of the survey, which aligns with the 100 kg/yr minimum trigger quantity for Schedule 4 of the NSNR(C&P), was intended to provide a transparent and pragmatic measure of commercial activity. Based on the results of the survey, 45 pharmaceutical substances listed on the R-ICL were not reported as currently being imported or manufactured for use in F&DA products, or are potentially in use but at annual volumes below the NSNR triggers for reporting. The substances are, therefore, candidates for removal from the R-ICL. These substances are listed in Appendix A of the present document.

In addition to the 45 substances mentioned above, 125 substances on the R-ICL were identified in Health Canada records as active pharmaceutical ingredients that have been discontinued, or have never been marketed, or have been approved for limited use such as substances used in research or provided through a compassionate drug access program. These substances are listed in Appendix B of the present document.

It is proposed that the pharmaceutical substances listed in Appendix A and Appendix B be removed from the R-ICL.

Table of Contents

1. Introduction

The *Canadian Environmental Protection Act, 1999* (CEPA) (Canada 1999) is considered the cornerstone of the Government of Canada's environmental legislation. Since September 2001, new substances used in products regulated under the F&DA have been subject to the *New Substances Notification Regulations (Chemicals and Polymers)* [NSNR(C&P)] and *the New Substances Notification Regulations (Organisms)* (Canada 2005a, 2005b) of CEPA.

In 2001, Health Canada initiated a process to identify F&DA substances on the market between January 1, 1987 and September 13, 2001 and place them on an administrative list now known as the Revised In Commerce List (R-ICL). Health Canada and Environment and Climate Change Canada may take appropriate action under CEPA at any time when they consider a R-ICL substance to pose a risk to human health or the environment.

The R-ICL contains substances used in a wide variety of applications including pharmaceuticals, medical devices, veterinary drugs, biologics (such as vaccines), natural health products, cosmetics, and food additives. The R-ICL was initially compiled from Health Canada records in 2001 and subsequently refined through a substance identity verification exercise. Substances were also added to the list through industry nominations, and the list has been periodically updated to reflect changes.

Under the Chemicals Management Plan (CMP), Health Canada committed to prioritizing all substances on the R-ICL to identify those substances that require assessment to determine if they pose a significant risk to the environment or to human health. Identification of substances as lower priority or requiring no further consideration in the context of the R-ICL prioritization exercise was based on readily available hazard and exposure information. A detailed document describing the approach to R-ICL prioritization was published on the CMP website on November 27, 2015 (Health Canada 2017).

During prioritization of the R-ICL, 675 substances potentially used in products subject to the F&DA, were prioritized for further consideration based on an indication of hazard for human or environmental health and limited information on exposure which could mitigate those concerns. Most of the substances in this survey were not thought to be active pharmaceutical ingredients, however, a number of substances with potential pharmaceutical applications were included. The scope of information gathering was limited to quantities and use patterns for F&DA product applications. Based on the available information, a number of pharmaceutical substances were not reported as being manufactured or imported in Canada in F&DA product applications above the 100 kg/yr reporting threshold, which is the trigger volume for notification under Schedule 4 of the NSNR(C&P). These substances are identified in Appendix A.

In addition to the substances identified in Appendix A, up to 125 substances on the R-ICL were identified in Health Canada records as active pharmaceutical substances that have been discontinued, have never been marketed, or have been approved with limited use in Canada; for example, this could include substances used in research or provided through a compassionate drug access program. These substances are listed in Appendix B.

Due to the limited use or absence from commerce of these particular substances, no significant exposure of organisms in the environment or exposure of the Canadian general population through environmental media is expected. As such, these substances are not expected to pose a risk to human health or the environment at this time, and they are proposed for removal from the R-ICL. The Chemical Abstracts Service Registry Numbers[1] (CAS RN) as well as the substance names (CAS names) are listed in the Appendices.

[1] The Chemical Abstracts Service Registry Number (CAS RN) is the property of the American Chemical Society, and any use or redistribution, except as required in supporting regulatory requirements and/or for reports to the Government of Canada when the information and the reports are required by law or administrative policy, is not permitted without the prior written permission of the American Chemical Society.

2. Assessment of Commercial Activity in Canada of Pharmaceuticals on the Revised In Commerce List

2.1 Section 71 Survey - Inventory Update

In January 2017, a mandatory survey pursuant to section 71 of CEPA was published. The purpose of this survey was to collect more recent information on the commercial status of the substances in Canada (Canada Gazette 2017). More recent information for substances on the R-ICL was critical to support priority setting and decision making. Part 4 of Schedule 1 of the survey lists 675 R-ICL substances for which the government was seeking further information. The scope of the survey for R-ICL substances was limited to use in F&DA products, and information requirements pertained to use patterns and quantities in use. Most of the substances in this survey were not believed to be pharmaceuticals, however, a number of substances with potential for pharmaceutical applications were included. These substances were incorporated in order to confirm the scope of their potential use patterns.

Regulated parties that imported or manufactured substances listed in Part 4 of the section 71 notice at a total quantity greater than 100 kg during either the 2014 or 2015 calendar year were required to respond to the survey. In the case of imported finished products containing the substance, there was no percent concentration cut-off to limit reporting. Figure 3 from the January 2017 section 71 notice summarizes the reporting requirements for these R-ICL substances, and is replicated in Figure 1 (Environment and Climate Change Canada 2017).

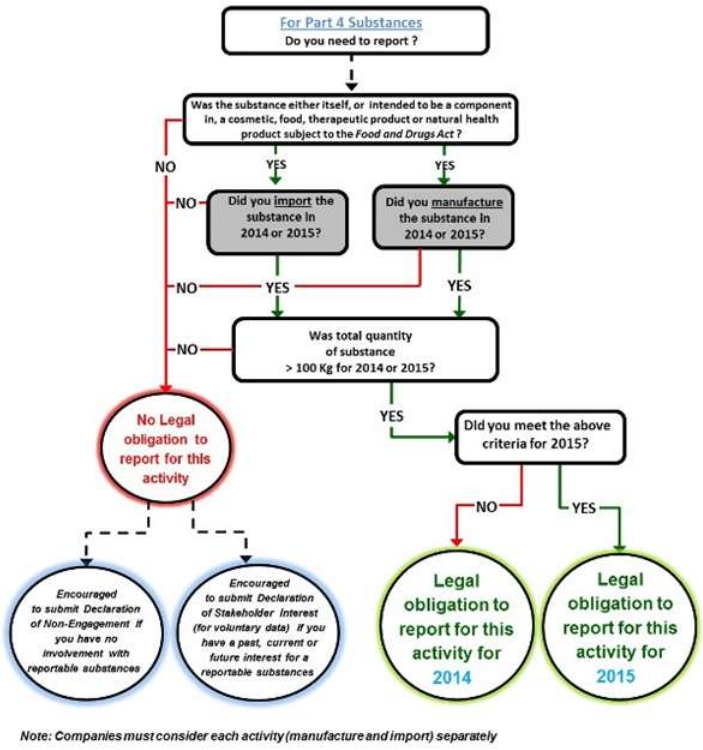

Figure 1: Reporting diagram for each substance listed in Part 4 of the Section 71 survey

Based on the available information, a number of substances with potential for use as pharmaceutical ingredients were identified as having no manufacture or import in Canada, or reported quantities in F&DA products applications were less than 100 kg/yr. The substances are, therefore, candidates for removal from the R-ICL.

2.2 Identification of Discontinued Pharmaceuticals

Various internal and external sources of information were used to identify substances on the R-ICL as active pharmaceutical substances used in products which have been discontinued, never marketed, or with low quantities used in Canada. These sources were considered for pharmaceutical substances that had not been included in Part 4 of the 2017 section 71 notice (Canada Gazette 2017). These included:

- Searching the Licensed Drug Product Database to identify substances no longer marketed or never approved for market in Canada (Health Canada 2019);

- Searching chemical databases maintained by the federal government, such as the NSNR notifications, and other available information to identify use patterns and quantities.

The scope of the R-ICL prioritization is limited to F&DA products and, in this context of limited exposure, there is no anticipated concern to the environment or human health.

3. Conclusion

Listing on the R-ICL facilitates interim management of substances used in F&DA regulated products. R-ICL substances listed in Appendix A are potential pharmaceutical substances that are of low volume based on results from a 2017 section 71 notice. In this context of limited exposure, there is no anticipated concern to the environment or human health. The substances are, therefore, candidates for removal from the R-ICL. It is proposed that the substances listed in Appendix A be removed from the R-ICL.

The drug substances listed in Appendix B are currently shown in Health Canada's records as discontinued, not marketed, or approved for limited use in Canada. In this context of limited exposure, there is no anticipated concern to the environment or human health. The substances are, therefore, candidates for removal from the R-ICL. It is proposed that the substances listed in Appendix B be removed from the R-ICL.

Consequently, it is proposed that the substances listed in Appendix A and Appendix B be removed from the R-ICL.

4. References

Canada. 1999. *Canadian Environmental Protection Act, 1999*. S.C. 1999, c.33. Canada Gazette Part III, vol. 22, no. 3.

Canada. 2005a. *New Substances Notification Regulations (Chemicals and Polymers).*

Canada. 2005b. *New Substances Notification Regulations (Organisms).*

Canada Gazette. 2017. Vol. 151, No. 2 – January 14, 2017.

Environment and Climate Change Canada. 2017. Guidance for responding to the Notice with respect to substances included as part of the 2017 Inventory Update.

Health Canada. 2017. Results of the prioritization of the Revised In Commerce List.

Health Canada. 2019. Drug Product Database.

Appendix A

Active pharmaceutical substances proposed for removal from the R-ICL based on results of a mandatory survey pursuant to section 71 of the *Canadian Environmental Protection Act*

The Chemical Abstracts Service (CAS) Registry Number (CAS RN)	Substance name
53-43-0	Androst-5-en-17-one, 3-hydroxy-, (3β)-
60-31-1	Ethanaminium, 2-(acetyloxy)-N,N,N-trimethyl-, chloride
116-38-1	Benzenaminium, N-ethyl-3-hydroxy-N,N-dimethyl-, chloride (1:1)
122-11-2	Benzenesulfonamide, 4-amino-N-(2,6-dimethoxy-4-pyrimidinyl)-
145-13-1	Pregn-5-en-20-one, 3-hydroxy-, (3β)-
148-79-8	1H-Benzimidazole, 2-(4-thiazolyl)-
153-61-7	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[(acetyloxy)methyl]-8-oxo-7-[[2-(2-thienyl)acetyl]amino]-, (6R,7R)-
362-74-3	Adenosine, N-(1-oxobutyl)-, cyclic 3',5'-(hydrogen phosphate) 2'-butanoate
522-48-5	1H-Imidazole, 4,5-dihydro-2-(1,2,3,4-tetrahydro-1-naphthalenyl)-, monohydrochloride
522-51-0	Quinolinium, 1,1'-(1,10-decanediyl)bis[4-amino-2-methyl-, dichloride
530-43-8	Hexadecanoic acid, (2R,3R)-2-[(2,2-dichloroacetyl)amino]-3-hydroxy-3-(4-nitrophenyl)propyl ester
538-02-3	Cyclopentaneethanamine, N,α-dimethyl-, hydrochloride
611-75-6	Benzenemethanamine, 2-amino-3,5-dibromo-N-cyclohexyl-N-methyl-, monohydrochloride
2919-66-6	Pregna-4,6-diene-3,20-dione, 17-(acetyloxy)-6-methyl-16-methylene-
3521-84-4	D-Glucitol, 1-deoxy-1-(methylamino)-, 3,3'-[(1,6-dioxo-1,6-hexanediyl)diimino]bis[2,4,6-triiodobenzoate] (2:1) (salt)
3599-32-4	1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-

The Chemical Abstracts Service (CAS) Registry Number (CAS RN)	Substance name
	1,1-dimethyl-3-(4-sulfobutyl)-, hydroxide, inner salt, sodium salt
16561-29-8	Tetradecanoic acid, (1aR,1bS,4aR,7aS,7bS,8R,9R,9aS)-9a-(acetyloxy)-1a,1b,4,4a,5,7a,7b,8,9,9a-decahydro-4a,7b-dihydroxy-3-(hydroxymethyl)-1,1,6,8-tetramethyl-5-oxo-1H-cyclopropa[3,4]benz[1,2-e]azulen-9-yl ester
17879-97-9	Benzenepropanoic acid, 3-amino-α-ethyl-2,4,6-triiodo-, (R)-
26538-44-3	1H-2-Benzoxacyclotetradecin-1-one, 3,4,5,6,7,8,9,10,11,12-decahydro-7,14,16-trihydroxy-3-methyl-, [3S-(3R,7S)]-
28855-27-8	Benzenemethanaminium, ar-dodecyl-ar,N,N,N-tetramethyl-, chloride
31282-04-9	D-Streptamine, O-6-amino-6-deoxy-L-glycero-D-galacto-heptopyranosylidene-(1→2-3)-O-β-D-talopyranosyl-(1→5)-2-deoxy-N3-methyl-
34965-01-0	Pyrrolidine, 1-[2-(dodecyloxy)ethyl]-, hydrochloride
37286-92-3	Benzenesulfonic acid, ethenyl-, homopolymer, calcium salt
39456-59-2	Phosphoric acid, mixt. with sodium fluoride (NaF)
41927-88-2	Sodium iodide ($Na^{123}I$)
50800-85-6	Indium chloride ($^{111}InCl_3$)
51781-21-6	2(1H)-Quinolinone, 5-[3-[(1,1-dimethylethyl)amino]-2-hydroxypropoxy]-3,4-dihydro-, hydrochloride (1:1)
55837-20-2	4(3H)-Quinazolinone, 7-bromo-6-chloro-3-[3-[(2R,3S)-3-hydroxy-2-piperidinyl]-2-oxopropyl]-, rel-
59587-08-5	1,3-Dioxolo[4,5-g]quinoline-7-carboxylic acid, 5-ethyl-5,8-dihydro-8-oxo-, sodium salt (1:1)
60662-14-8[2]	Indate(2-)-^{111}In, [N,N-bis[2 [bis(carboxymethyl)amino]ethyl]glycinato(5-)]-, disodium
64924-67-0	4(3H)-Quinazolinone, 7-bromo-6-chloro-3-[3-[(2R,3S)-3-hydroxy-2-piperidinyl]-2-oxopropyl]-, monohydrobromide, rel-
65389-08-4	Indium-^{111}In, tris(8-quinolinolato-κN^1,κO^8)-

[2] This substance was erroneously identified as CAS RN 139096-04-1 in Part 4 of Schedule 1 of the mandatory survey that was issued pursuant to section 71 of CEPA, as published in the Canada Gazette, Part I in January 2017 (Canada Gazette 2017). The correct CAS RN is listed in the table, namely CAS RN 60662-14-8.

Proposed Removal of Low Volume or Discontinued Active Pharmaceutical Substances on the Revised In Commerce List

The Chemical Abstracts Service (CAS) Registry Number (CAS RN)	Substance name
66575-29-9	1H-Naphtho[2,1-b]pyran-1-one, 5-(acetyloxy)-3-ethenyldodecahydro-6,10,10b-trihydroxy-3,4a,7,7,10a-pentamethyl-, [3R-(3-α,4a-β,5-β,6-β,6a-α,10-α,10a-β,10b-α)]-
75018-70-1	Ethanesulfonic acid, 2-[[[[(3α,5β,7α,12α,20S)-3,7,12-trihydroxy-20-methylpregnan-21-yl]seleno-75Se]acetyl]amino]-
84366-81-4	Riboflavin 5'-(trihydrogen diphosphate), P'→5'-ester with adenosine, disodium salt
86050-77-3	D-glucitol, 1-deoxy-1-(methylamino)-, [N,N-bis[2-[bis[(carboxy-κO)methyl]amino-κN]glycinato(5-)-κN,κO]gadolinate(2-) (2:1)
101831-37-2	Benzeneacetonitrile, 2,6-dichloro-α-(4-chlorophenyl)-4-(4,5-dihydro-3,5-dioxo-1,2,4-triazin-2(3H)-yl)-
108050-54-0	Tylosin, 4A-O-de(2,6-dideoxy-3-C-methyl-α-L-ribo-hexopyranosyl)-20-deoxo-20-[(3R,5S)-3,5-dimethyl-1-piperidinyl]-
113507-06-5	Milbemycin B, 5-O-demethyl-28-deoxy-25-[(1E)-1,3-dimethyl-1-butenyl]-6,28-epoxy-23-(methoxyimino)-, (6R,23E,25S)-
117704-25-3	Avermectin A1a, 25-cyclohexyl-5-O-demethyl-25-de(1-methylpropyl)-
120066-54-8	Gadolinium, [10-[2-(hydroxy-κO)propyl]-1,4,7,10-tetraazacyclododecane-1,4,7-triacetato(3-)-$\kappa N^{1},\kappa N^{4},\kappa N^{7},\kappa N^{10},\kappa O^{1},\kappa O^{4},\kappa O^{7}$]-
123997-26-2	Avermectin B1, 4"-(acetylamino)-4"-deoxy-, (4"R)-
129496-10-2	Milbemycin, oxime
131410-48-5	Gadolinium, [5,8-bis[(carboxy-κO)methyl]-11-[2-(methylamino)-2-(oxo-κO)ethyl]-3-(oxo-κO)-2,5,8,11-tetraazatridecan-13-oato(3-)-$\kappa N^{5},\kappa N^{8},\kappa N^{11},\kappa O^{13}$]-
220119-17-5	Avermectin A1a, 25-cyclohexyl-4'-O-de(2,6-dideoxy-3-O-methyl-α-L-arabino-hexopyranosyl)-5-demethoxy-25-de(1-methylpropyl)-22,23-dihydro-5-(hydroxyimino)-, (5Z)-

Appendix B

Active pharmaceutical substances proposed for removal from the R-ICL based on them having never been marketed, being discontinued or approved for limited use in Canada according to information in Health Canada records

The Chemical Abstracts Service (CAS) Registry Number (CAS RN)	Substance name
51-15-0	Pyridinium, 2-[(hydroxyimino)methyl]-1-methyl-, chloride
59-46-1	Benzoic acid, 4-amino-, 2-(diethylamino)ethyl ester
60-41-3	Strychnidin-10-one, sulfate (2:1)
63-89-8	3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)-
64-73-3	2-Naphthacenecarboxamide, 7-chloro-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-1,11-dioxo-, monohydrochloride, (4S,4aS,5aS,6S,12aS)-
71-81-8	Benzenepropanaminium, γ-(aminocarbonyl)-N-methyl-N,N-bis(1-methylethyl)-γ-phenyl-, iodide
83-73-8	8-Quinolinol, 5,7-diiodo-
86-75-9	8-Quinolinol, 8-benzoate
90-39-1	7,14-Methano-2H,6H-dipyrido[1,2-a:1',2'-e][1,5]diazocine, dodecahydro-, (7S,7aR,14S,14aS)-
96-83-3	Benzenepropanoic acid, 3-amino-α-ethyl-2,4,6-triiodo-
103-16-2	Phenol, 4-(phenylmethoxy)-
115-76-4	1,3-Propanediol, 2,2-diethyl-
126-27-2	Acetamide, 2,2'-[(2-hydroxyethyl)imino]bis[N-(1,1-dimethyl-2-phenylethyl)-N-methyl-

The Chemical Abstracts Service (CAS) Registry Number (CAS RN)	Substance name
138-39-6	Benzenesulfonamide, 4-(aminomethyl)-
299-39-8	7,14-Methano-2H,6H-dipyrido[1,2-a:1',2'-e][1,5]diazocine, dodecahydro-, (7S,7aR,14S,14aS)-, sulfate (1:1)
302-96-5	1'H-Androstano[3,2-c]pyrazol-17-ol, 17-methyl-, ((5α,17β)-
316-42-7	2H-Benzo[a]quinolizine, 3-ethyl-1,3,4,6,7,11b-hexahydro-9, 10-dimethoxy-2-[[(1R)-1,2,3,4-tetrahydro-6,7-dimethoxy-1-isoquinolinyl]methyl]-, hydrochloride (1:2), (2S,3R,11bS)-
357-07-3	Morphinan-6-one, 4,5-epoxy-3,14-dihydroxy-17-methyl-, hydrochloride, (5α)-
481-06-1	Naphtho[1,2-b]furan-2,8(3H,4H)-dione, 3a,5,5a,9b-tetrahydro-3,5a,9-trimethyl-, (3S,3aS,5aS,9bS)-
483-18-1	2H-Benzo[a]quinolizine, 3-ethyl-1,3,4,6,7,11b-hexahydro-9,10-dimethoxy-2-[[(1R)-1,2,3,4-tetrahydro-6,7-dimethoxy-1-isoquinolinyl]methyl]-, (2S,3R,11bS)-
491-58-7	9(10H)-Anthracenone, 1,8-dihydroxy-3-methyl-
513-10-0	Ethanaminium, 2-[(diethoxyphosphinyl)thio]-N,N,N-trimethyl-, iodide
522-40-7	Phenol, 4,4'-[(1E)-1,2-diethyl-1,2-ethenediyl]bis-, 1,1'-bis(dihydrogen phosphate)
552-94-3	Benzoic acid, 2-hydroxy-, 2-carboxyphenyl ester
644-62-2	Benzoic acid, 2-[(2,6-dichloro-3-methylphenyl)amino]-
645-05-6	1,3,5-Triazine-2,4,6-triamine, N^2,N^2,N^4,N^4,N^6,N^6-hexamethyl-
977-79-7	Pregna-4,6-diene-3,20-dione, 6,17-dimethyl-
1176-08-5	Ethanamine, N,N-dimethyl-2-[2-(phenylmethyl)phenoxy]-, 2-hydroxy-1,2,3-propanetricarboxylate (1:1)

The Chemical Abstracts Service (CAS) Registry Number (CAS RN)	Substance name
1415-73-2	9(10H)-Anthracenone, 10-β-D-glucopyranosyl-1,8-dihydroxy-3-(hydroxymethyl)-, (10S)-
1953-02-2	Glycine, N-(2-mercapto-1-oxopropyl)-
1972-08-3	6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)-
2152-34-3	2-amino-5-phenyl-1,3-oxazol-4-one
2451-01-6	Cyclohexanemethanol, 4-hydroxy-α,α,4-trimethyl-, monohydrate, cis-
3385-03-3	Pregna-1,4-diene-3,20-dione, 6-fluoro-11,21-dihydroxy-16,17-[(1-methylethylidene)bis(oxy)]-, (6α,11β,16α)-
3902-71-4	7H-Furo[3,2-g][1]benzopyran-7-one, 2,5,9-trimethyl-
4419-92-5	Benzoic acid, 2-hydroxy-, compd. with N-ethylethanamine (1:1)
4697-14-7	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[2-carboxy-2-(3-thienyl)acetyl]amino]-3,3-dimethyl-7-oxo-, sodium salt (1:2), (2S,5R,6R)-
5175-83-7	Phenol, 2,4,6-tribromo-, bismuth(3+) salt (3:1)
5588-33-0	10H-Phenothiazine, 10-[2-(1-methyl-2-piperidinyl)ethyl]-2-(methylsulfinyl)-
5714-73-8	Glycine, N-benzoyl-, compd. with 1,3,5,7-tetraazatricyclo[3.3.1.13,7]decane (1:1)
5936-28-7	1(3H)-Isobenzofuranone, 6,7-dimethoxy-3-[(5R)-5,6,7,8-tetrahydro-6-methyl-1,3-dioxolo[4,5-g]isoquinolin-5-yl]-, hydrochloride, (3S)-
7187-62-4	Quinolinium, 6-(dimethylamino)-2-[2-(2,5-dimethyl-1-phenyl-1H-pyrrol-3-yl)ethenyl]-1-methyl-

The Chemical Abstracts Service (CAS) Registry Number (CAS RN)	Substance name
7492-32-2	Benzenepropanaminium, γ-(aminocarbonyl)-N-methyl-N,N-bis(1-methylethyl)-γ-phenyl-
7732-97-0	Estra-1,3,5(10)-triene-3,17-diol (17β)-, diheptanoate
8015-61-0	Aloin
9002-64-6	Parathormone
9006-52-4	Tannins, albumin complexes
9039-53-6	Kinase (enzyme-activating), uro-
10417-86-4	Pregnane-3,11,20-trione, 21-hydroxy-, (5β)-
10418-03-8	2'H-Androst-2-eno[3,2-c]pyrazol-17-ol, 17-methyl-, (5α,17β)-
11116-97-5	Calcium, (D-gluconato)(2-hydroxypropanoato)-
13103-34-9	Androsta-1,4-dien-3-one, 17-[(1-oxo-10-undecenyl)oxy]-, (17β)-
13412-64-1	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[[3-(2,6-dichlorophenyl)-5-methyl-4-isoxazolyl]carbonyl]amino]-3,3-dimethyl-7-oxo-, monosodium salt, monohydrate, (2S,5R,6R)-
13838-16-9	Ethane, 2-chloro-1-(difluoromethoxy)-1,1,2-trifluoro-
13870-90-1	Cobinamide, Co-(5'-deoxyadenosin-5'-yl)-, f-(dihydrogen phosphate), inner salt, 3'-ester with (5,6-dimethyl-1-α-D-ribofuranosyl-1H-benzimidazole-κN^3)
14028-44-5	Dibenz[b,f][1,4]oxazepine, 2-chloro-11-(1-piperazinyl)-
14769-73-4	Imidazo[2,1-b]thiazole, 2,3,5,6-tetrahydro-6-phenyl-, (6S)-
15686-51-8	Pyrrolidine, 2-[2-[(1R)-1-(4-chlorophenyl)-1-phenylethoxy]ethyl]-1-methyl-, (2R)-
20537-88-6	Ethanethiol, 2-[(3-aminopropyl)amino]-, 1-(dihydrogen phosphate)

The Chemical Abstracts Service (CAS) Registry Number (CAS RN)	Substance name
20559-55-1	Carbamic acid, (5-propoxy-1H-benzimidazol-2-yl)-, methyl ester
21256-18-8	2-Oxazolepropanoic acid, 4,5-diphenyl-
22194-22-5	Ethane, 2-chloro-1-(difluoromethoxy)-1,1,2-trifluoro-, (2R)-
23288-49-5	Phenol, 4,4'-[(1-methylethylidene)bis(thio)]bis[2,6-bis(1,1-dimethylethyl)-
29457-07-6	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[(2R)-2-carboxy-2-(3-thienyl)acetyl]amino]-3,3-dimethyl-7-oxo-, sodium salt (1:2), (2S,5R,6R)-
32093-35-9	Imidazo[2,1-b]thiazole, 2,3,5,6-tetrahydro-6-phenyl-, (6S)-, phosphate (1:1)
33089-61-1	Methanimidamide, N'-(2,4-dimethylphenyl)-N-[[(2,4-dimethylphenyl)imino]methyl]-N-methyl-
35711-34-3	1H-Pyrrole-2-acetic acid, 1-methyl-5-(4-methylbenzoyl)-, sodium salt (1:1)
37203-87-5	Formaldehyde, mixt. with methylphenol
37270-89-6	Heparin, calcium salt
38916-34-6	Somatostatin (sheep)
40958-31-4	Somatostatin (sheep reduced)
42116-76-7	Carbamothioic acid, N-[2-(2-methyl-5-nitro-1H-imidazol-1-yl) ethyl]-, O-methyl ester
49697-38-3	Androsta-1,4-dien-3-one, 11-hydroxy-16,17-dimethyl-17-(1-oxopropyl)-, (11β,16α,17β)-
50679-08-8	1-Piperidinebutanol, α-[4-(1,1-dimethylethyl)phenyl]-4-(hydroxydiphenylmethyl)-

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52128-35-5	2,4-Quinazolinediamine, 5-methyl-6-[[(3,4,5-trimethoxyphenyl)amino]methyl]-
54527-84-3	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 3-methyl 5-[2-[methyl(phenylmethyl)amino] ethyl] ester, hydrochloride (1:1)
56211-40-6	3-Pyridinesulfonamide, N-[[(1-methylethyl)amino]carbonyl]-4-[(3-methylphenyl)amino]-
56767-76-1	[1,1'-Biphenyl]-4-acetic acid, 2-fluoro-α-methyl-, sodium salt (1:1)
59708-52-0	4-Piperidinecarboxylic acid, 4-[(1-oxopropyl)phenylamino]-1-(2-phenylethyl)-, methyl ester
60106-89-0	2-Propanol, 1-[(1-methylethyl)amino]-3-(2-propylphenoxy)-
64211-45-6	Ethanone, 1-(2,4-dichlorophenyl)-2-(1H-imidazol-1-yl)-, O-[(2,4-dichlorophenyl)methyl]oxime, (1Z)-
65473-14-5	1-Naphthalenemethanamine, N-methyl-N-[(2E)-3-phenyl-2-propen-1-yl]-, hydrochloride (1:1)
65899-73-2	1H-Imidazole, 1-[2-[(2-chloro-3-thienyl)methoxy]-2-(2,4-dichlorophenyl)ethyl]-
68373-14-8	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-, 4,4-dioxide, (2S,5R)-
68401-82-1	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[(2Z)-2-(2-amino-4-thiazolyl)-2-(methoxyimino)acetyl]amino]-8-oxo-, sodium salt (1:1), (6R,7R)-
68844-77-9	1H-Benzimidazol-2-amine, 1-[(4-fluorophenyl)methyl]-N-[1-[2-(4-methoxyphenyl)ethyl]-4-piperidinyl]-

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69712-56-7	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[4-(2-amino-1-carboxy-2-oxoethylidene)-1,3-dithietan-2-yl]carbonyl]amino]-7-methoxy-3-[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, (6R,7S)-
71109-09-6	1-Naphthaleneacetic acid, 4-cyclohexyl-α-methyl-
82030-87-3	Somatotropin (human), N-L-methionyl-
82752-99-6	3H-1,2,4-Triazol-3-one, 2-[3-[4-(3-chlorophenyl)-1-piperazinyl]propyl]-5-ethyl-2,4-dihydro-4-(2-phenoxyethyl)-, monohydrochloride
87233-61-2	1H-Benzimidazole, 1-(2-ethoxyethyl)-2-(hexahydro-4-methyl-1H-1,4-diazepin-1-yl)-
94218-72-1	Interleukin 2 (human clone pTIL2-21a protein moiety)
96684-40-1	β-Cyclodextrin, compd. with 4-hydroxy-2-methyl-N-2-pyridinyl-2H-1,2-benzothiazine-3-carboxamide 1,1-dioxide (5:2)
98530-76-8	Blood-coagulation factor XIVa (human protein moiety)
105816-04-4	D-Phenylalanine, N-[[trans-4-(1-methylethyl)cyclohexyl] carbonyl]-
107753-78-6	Carbamic acid, N-[3-[[2-methoxy-4-[[[(2-methylphenyl)sulfonyl]amino]carbonyl]phenyl]methyl]-1-methyl-1H-indol-5-yl]-, cyclopentyl ester
112362-50-2	3H-21,18-Nitrilo-1H,22H-pyrrolo[2,1-c][1,8,4,19]dioxadiazacyclotetracosine-1,7,16,22(4H,17H)-tetrone, 26-[[2-(diethylamino)ethyl]sulfonyl]-8,9,14,15,24,25,26,26a-octahydro-14-hydroxy-4,12-dimethyl-3-(1-methylethyl)-, (3R,4R,5E,10E,12E,14S,26R,26aS)-

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115956-13-3	1H-Indole-3-carboxylic acid, (6R,9aS)-octahydro-3-oxo-2,6-methano-2H-quinolizin-8-yl ester, rel-, methanesulfonate (1:1) (CAS name to be changed)
118390-30-0	Interferon α1 (human lymphoblast reduced), N-L-methionyl-22-L-arginine-76-L-alanine-78-L-aspartic acid-79-L-glutamic acid-86-L-tyrosine-90-L-tyrosine-156-L-threonine-157-L-asparagine-158-L-leucine-
120138-50-3	Virginiamycin S1, 4-[4-(dimethylamino)-N-methyl-L-phenylalanine]-5-[(2S,5R)-5-[[[(3S)-1-azabicyclo[2.2.2]oct-3-yl]thio]methyl]-4-oxo-2-piperidinecarboxylic acid]-
120373-24-2	5-Heptenoic acid, 7-[(1R,2R,3R,5S)-3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-, 1-methylethyl ester, (5Z)-
125494-59-9	Cyclobutanemethanamine, 1-(4-chlorophenyl)-N,N-dimethyl-α-(2-methylpropyl)-, hydrochloride, hydrate (1:1:1)
133652-38-7	173-527-Plasminogen activator (human tissue-type), 173-L-serine-174-L-tyrosine-175-L-glutamine-
133814-18-3	Isoquinolinium, 2,2'-[(1,4-dioxo-1,4-butanediyl)bis(oxy-3,1-propanediyl)]bis[1,2,3,4-tetrahydro-6,7,8-trimethoxy-2-methyl-1-[(3,4,5-trimethoxyphenyl)methyl]-, (1R,1'S,2S,2'R)-rel-
133814-19-4	Isoquinolinium, 2,2'-[[(4E)-1,8-dioxo-4-octene-1,8-diyl]bis(oxy-3,1-propanediyl)]bis[1,2,3,4-tetrahydro-6,7-dimethoxy-2-methyl-1-[(3,4,5-trimethoxyphenyl)methyl]-, (1R,1'R)-
136279-32-8	Interleukin 2 (human), N-L-methionyl-
138068-37-8	Hirudin (Hirudo medicinalis isoform HV1), 1-L-leucine-2-L-threonine-63-desulfo-

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140678-14-4	Manganate(6-), [[N,N'-1,2-ethanediylbis[N-[[3-(hydroxy-κ*O*)-2-methyl-5-[(phosphonooxy)methyl]-4-pyridinyl]methyl]glycinato-κ*N*,κ*O*]](8-)]-, trisodium trihydrogen, (OC-6-13)-
143201-11-0	6-Heptenoic acid, 7-[4-(4-fluorophenyl)-5-(methoxymethyl)-2,6-bis(1-methylethyl)-3-pyridinyl]-3,5-dihydroxy-, sodium salt (1:1), (3R,5S,6E)-
143653-53-6	Immunoglobulin G1, anti-(human integrin $\alpha_{IIb}\beta_3$) Fab fragment (human-mouse monoclonal c7E3 clone p7E3V_Hh$C_{\gamma 1}$ γ1-chain), disulfide with human-mouse monoclonal c7E3 clone p7E3V_κhC_κ κ-chain
144025-09-2	1H-Imidazole, 1-[2-[(2-chloro-3-thienyl)methoxy]-2-(2,4-dichlorophenyl)ethyl]-, (-)-
147059-72-1	1,8-Naphthyridine-3-carboxylic acid, 7-[(1α,5α,6α)-6-amino-3-azabicyclo[3.1.0]hex-3-yl]-1-(2,4-difluorophenyl)-6-fluoro-1,4-dihydro-4-oxo-
147221-93-0	Methanesulfonamide, N-[2-[[4-[3-[(1-methylethyl)amino]-2-pyridinyl]-1-piperazinyl]carbonyl]-1H-indol-5-yl]-, methanesulfonate (1:1)
150378-17-9	D-erythro-Pentonamide, 2,3,5-trideoxy-N-[(1S,2R)-2,3-dihydro-2-hydroxy-1H-inden-1-yl]-5-[(2S)-2-[[(1,1-dimethylethyl)amino]carbonyl]-4-(3-pyridinylmethyl)-1-piperazinyl]-2-(phenylmethyl)-
152923-56-3	Immunoglobulin G1, anti-(human interleukin 2 receptor) (human-mouse monoclonal clone 1H4 $_{\gamma 1}$-chain), disulfide with human-mouse monoclonal clone 1H4 light chain, dimer

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153259-65-5	Cyclohexanecarboxylic acid, 4-cyano-4-[3-(cyclopentyloxy)-4-methoxyphenyl]-, cis-
153559-49-0	Benzoic acid, 4-[1-(5,6,7,8-tetrahydro-3,5,5,8,8-pentamethyl-2-naphthalenyl)ethenyl]-
162011-90-7	2(5H)-Furanone, 4-[4-(methylsulfonyl)phenyl]-3-phenyl-
163545-26-4	1-165-Hematopoietic cell growth factor KL (human clone V19.8:hSCF162), N-L-methionyl-, dimer
165101-51-9	Becaplermin
173937-91-2	3-Pyrrolidinecarboxylic acid, 4-(1,3-benzodioxol-5-yl)-1-[2-(dibutylamino)-2-oxoethyl]-2-(4-methoxyphenyl)-, (2R,3R,4S)-
191114-48-4	2H-Oxacyclotetradecino[4,3-d]oxazole-2,6,8,14(1H,7H,9H)-tetrone, 4-ethyloctahydro-11-methoxy-3a,7,9,11,13,15-hexamethyl-1-[4-[4-(3-pyridinyl)-1H-imidazol-1-yl]butyl]-10-[[3,4,6-trideoxy-3-(dimethylamino)-β-D-xylo-hexopyranosyl]oxy]-, (3aS,4R,7R,9R,10R,11R,13R,15R,15aR)-
215647-85-1	Interferon α-2b (human), pegylated
219989-84-1	(1S,3S,7S,10R,11S,12S,16R)-7,11-Dihydroxy-8,8,10,12,16-pentamethyl-3-[(1E)-1-methyl-2 (2-methylthiazol-4-yl)ethenyl]-17-oxa-4-azabicyclo[14.1.0]heptadecane-5,9-dione
706808-37-9	[29-tyrosine,104-glutamic acid] CTLA-4 (antigen) (human extracellular domain-containing fragment) fusion protein with immunoglobulin G1(human monoclonal Fc domain-containing fragment), bimol. (120120')-disulfide