



## TOXICS RELEASE INVENTORY

### List of Toxic Chemicals within the Nicotine and Salts Category

Section 313 of EPCRA requires certain facilities manufacturing, processing, or otherwise using listed toxic chemicals to report their environmental releases of such chemicals annually. Beginning with the 1991 reporting year, such facilities also must report pollution prevention and recycling data for such chemicals, pursuant to section 6607 of the Pollution Prevention Act, 42 U.S.C. 13106. When enacted, Section 313 established an initial list of toxic chemicals that was comprised of more than 300 chemicals and 20 chemical categories. Section 313(d) authorizes EPA to add chemicals to or delete chemicals from the list, and sets forth criteria for these actions.

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## Section 1. Introduction

On November 30, 1994 EPA added 286 chemicals and chemical categories to the list of toxic chemicals under Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), 42 U.S.C. 11001 *et seq.* These additions are described at 59 FR 61432, and are effective January 1, 1995 for reports due July 1996. Six chemical categories (nicotine and salts, strychnine and salts, polychlorinated alkanes, polycyclic aromatic compounds, water dissociable nitrate compounds, and diisocyanates) are included in these additions. At the time of the addition, EPA indicated that the Agency would work with the public and the regulated community to develop, as appropriate, interpretations and guidance that the Agency determines are necessary to facilitate accurate reporting for these categories. This document constitutes such guidance for the nicotine and salts category.

EPCRA Section 313 requires threshold determinations for chemical categories to be based on the total of all chemicals in the category manufactured, processed, or otherwise used. For example, a facility that manufactures three members of a chemical category would count the total amount of all three chemicals manufactured towards the manufacturing threshold for that category. When filing reports for chemical categories, the releases are determined in the same manner as the thresholds. One report is filed for the category and all releases are reported on this form.

The nicotine and salts category is subject to the one percent *de minimis* concentration. Thus, mixtures that contain members of this category at concentrations in excess of one percent should be factored into threshold and release determinations.

Any compound that has a nicotine or a nicotine salt component is reportable. EPA is providing the following list of CAS numbers and chemical names to aid the regulated community in determining whether they need to report for the nicotine and salts category. However, this list is not exhaustive. If a facility is manufacturing, processing, or using a chemical that has a nicotine or a nicotine salt component, they must report to TRI, even if this chemical does not appear on the following list.

### Who Must Report

A plant, factory, or other facility is subject to the provisions of Section 313, if it meets all three of the following criteria:

- It conducts manufacturing operations (is included in Standard Industrial Classification (SIC) codes 20 through 39); and
- It has 10 or more full-time employees (or the equivalent 20,000 hours per year); and

- It manufactures, imports, processes, or otherwise uses any of the toxic chemicals listed on the EPCRA Section 313 list in amounts greater than the "threshold" quantities specified below.

### Thresholds

Thresholds are specified amounts of toxic chemicals used during the calendar year that trigger reporting requirements.

If a facility *manufactures* or *imports* any of the listed toxic chemicals, the threshold quantity will be:

- 25,000 pounds per toxic chemical or category over the calendar year.

If a facility *processes* any of the listed toxic chemicals, the threshold quantity will be:

- 25,000 pounds per toxic chemical or category over the calendar year.

If a facility *otherwise uses* any of the listed toxic chemicals (without incorporating it into any product or producing it at the facility), the threshold quantity is:

- 10,000 pounds per toxic chemical or category over the calendar year.

## Section 2. CAS Number List of Chemicals within the Nicotine and Salts Category

EPA is providing the following list of CAS numbers and chemical names to aid the regulated community in determining whether they need to report for the nicotine and salts category. However, this list is not exhaustive. If a facility is manufacturing, processing, or using a chemical that has a nicotine or a nicotine salt component, they must report to TRI, even if this chemical does not appear on the following list.

Listing by CAS Number of Each Individual Chemical within the Nicotine and Salts Category		
Collective Index Name	Other Name(s)	CAS Number
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-	Nicotine	54-11-5
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, sulfate (2:1)	Nicotine, sulfate (2:1); Black Leaf 40	65-30-5
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, [R-(R*,R*)]-2,3-dihydroxybutanedioate (1:2)	Nicotine, tartrate (1:2); Nicotine acid tartrate	65-31-6
Silicate(2-), hexafluoro-, dihydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:2)	Nicotine, hexafluorosilicate(2-) (2:1)	653-81-6
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, [S-(R*,R*)]-2,3-dihydroxybutanedioate (1:2)	Nicotine, D-tartrate	1421-32-5
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, hydrochloride, (S)-	Nicotine, hydrochloride	2820-51-1
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, [R-(R*,R*)]-2,3-dihydroxybutanedioate	Nicotine, tartrate	3275-73-8
Formic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (2:1)	Nicotine, diformate	4699-61-0
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, triacetate	Nicotine, triacetate	4699-62-1
Propanoic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (3:1)	Nicotine, tripropionate	4699-63-2
Butanoic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (3:1)	Nicotine, tributyrate	4699-64-3
Nicotine, triisobutyrate	---	4699-65-4
Butanoic acid, 3-methyl-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (3:1)	Nicotine, isovalerate (1:3)	4777-37-1
Nicotine, monoacetate	---	5153-64-0
Phenol, 2,4-dinitro-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Nicotine dinitrophenolate	5308-71-4
[1,1'-Biphenyl]-3-carboxylic acid, 2-hydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	5456-02-0

Listing by CAS Number of Each Individual Chemical within the Nicotine and Salts Category		
Collective Index Name	Other Name(s)	CAS Number
Nicotine, (2,4-dinitrophenyl)acetate (1:3)	Nicotine, tris[(2,4-dinitrophenyl)acetate]	5562-64-1
Benzoic acid, 2,5-dihydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Gentisic acid, compound with nicotine (1:1)	6012-21-1
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, compound with 2,4,6-trinitrophenol (1:2)	Nicotine, dipicrate	6012-23-3
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, dihydrochloride, (S)-	Nicotine dihydrochloride	6019-02-9
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, monohydriodide, (S)-	Nicotine hydroiodide	6019-03-0
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, dihydriodide, (S)-	Nicotine dihydriodide	6019-04-1
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, [R-(R*,R*)]-2,3-dihydroxybutanedioate (1:2), dihydrate	Nicotine, tartrate (1:2), dihydrate	6019-06-3
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, compound with 2,4-dihydro-5-methyl-4-nitro-2-(4-nitrophenyl)-3H-pyrazol-3-one (1:1)	Nicotine, picrolonate	6019-09-6
Aurate(1-), tetrachloro-, (SP-4-1)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (2:1)	Nicotine, bis[tetrachloroaurate(1-)]; Nicotine aurichloride	6059-25-2
1,2-Benzenedicarboxylic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Nicotine, phthalate	6159-83-7
Zincate(2-), (T-4)-, dihydrogen, compound with (S)-2-(1-methyl-2-pyrrolidinyl)pyridine (1:1), monohydrate	Nicotine, tetrachlorozincate (2-), monohydrate; Nicotine zinc chloride double salt	6169-10-4
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, compound with 2,4-dihydro-5-methyl-4-nitro-2-(4-nitrophenyl)-3H-pyrazol-3-one (1:2)	Nicotine, dipicrolonate	6191-53-3
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, sulfate	Nicotine, sulfate	6505-86-8
Hydrogen triiodide, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridinehydrochloride (1:1:1)	Nicotine hydrochloride hydriodide iodine	6509-46-2
Nicotine, compound with 2,4-dinitro-1-naphthol (1:1)	---	6549-06-0
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, [R-(R*,R*)]-2,3-dihydroxybutanedioate (1:1)	Nicotine, tartrate (1:1)	6550-19-2
Hydrogen triiodide, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Hydriodic acid, compound with nicotine and I <sub>2</sub> (1:1:1)	6591-68-0
Benzoic acid, 3,4,5-trihydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Nicotine, gallate	10020-05-0
Nicotine, 1-hydroxy-2-naphthoate	---	10047-35-5
Tungstate(4-), [orthosilicato(4-)]hexatriacontaoxododeca-, tetrahydrogen, compound with (S)-2-(1-methyl-2-pyrrolidinyl)pyridine (1:2)	Silicic acid (H <sub>4</sub> SiO <sub>4</sub> ), tungsten complex, compound with nicotine	12328-53-9

Listing by CAS Number of Each Individual Chemical within the Nicotine and Salts Category		
Collective Index Name	Other Name(s)	CAS Number
Nicotine, mono(dimethyldithiocarbamate)	---	13624-74-3
Nicotine, mono(methyldithiocarbamate)	---	13624-75-4
Nicotine, mono(tetrathio-p-benzenedicarbamate)	---	13624-76-5
Nicotine, mono(dithiocarbamate)	---	13624-77-6
Nicotine, 1,4-piperazinedicarbodithioate (1:1)	---	13624-78-7
Nicotine, mono(dithiocarbamate)	---	13624-79-8
Nicotine, compound with aluminum bromide	---	13837-13-3
Nicotine, compound with aluminum chloride	---	13837-14-4
Nicotine, compound with antimony chloride (SbCl <sub>5</sub> )	---	13890-80-7
Nicotine, compound with zinc chloride	---	13890-83-0
Nicotine, compound with cadmium chloride	---	13890-84-1
Nicotine, compound with dichloroethylaluminum	---	13890-85-2
Nicotine, compound with triethylaluminum	---	13890-86-3
Nicotine, compound with chlorodiethylaluminum	---	13890-87-4
Nicotine, compound with diethylzinc	---	13890-88-5
Nicotine, compound with mercury chloride (HgCl <sub>2</sub> )	---	14032-92-9
Nicotine, compound with antimony chloride (SbCl <sub>3</sub> )	---	14129-12-5
Nicotine, compound with aluminum iodide	---	14129-13-6
Nicotine, compound with iron chloride (FeCl <sub>3</sub> )	---	14222-24-3
Propanoic acid, 2-hydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Lactic acid, compound with nicotine (1:1)	14474-00-1
Nicotine, ethylenebis[dithiocarbamate] (1:1)	---	14480-51-4
Nicotine, compound with bis[2-[(dithiocarboxy)amino]ethyl] dithiocarbamic acid (1:1)	---	14544-85-5
Lactic acid, compound with nicotine	Nicotine, lactate	15197-02-1
Zincate(2-), [ $\mu$ -[ethanedioato(2-)-O,O':O',O'']] bis[ethanedioato(2-)-O,O']di, dihydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	15375-89-0
Benzoic acid, 3,4,5-trihydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Nicotine, monogallate	15566-33-3
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, ethanedioate (1:2)	Nicotine, oxalate (1:2)	15566-45-7

Listing by CAS Number of Each Individual Chemical within the Nicotine and Salts Category		
Collective Index Name	Other Name(s)	CAS Number
Nicotine, tris(p-nitrobenzoate)	Benzoic acid, p-nitro-, compound with nicotine (3:1)	15677-87-9
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, compound with 2,4,6-trinitrophenol	Nicotine, picrate	16426-45-2
Nicotine, di(hydriodide-d)	Hydriodic acid-d, compound with nicotine (2:1)	16488-84-9
Manganate(1-), tris(salicylate)-, hydrogen, compound with nicotine and salicylic acid (1:2:1)	---	18911-12-1
Nicotine, compound with zinc hexafluorosilicate(2-) (1:1)	---	19333-07-4
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, conjugate monoacid, (S)-	Nicotine, conjugate monoacid	19527-02-7
Nicotine, mono(4-aminosalicylate)	Salicylic acid, 4-amino-, compound with nicotine (1:1)	20334-41-2
Nicotine, monohydrochloride, compound with iodine chloride (ICI) (1:1)	Nicotine chloriodide, hydrochloride	20539-51-9
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, monohydrochloride, (S)-	Nicotine, monohydrochloride	21361-93-3
Propanoic acid, 2,2-dimethyl-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Nicotine, monopivalate; Pivalic acid nicotine salt	21583-33-5
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, compound with iodomethane (1:1)	Nicotine, monomethiodide	22083-76-7
Nicotine, monoethiodide	Nicotine ethiodide	23277-52-3
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, ethanedioate	Nicotine, oxalate	23758-42-1
Nicotine, gentisate	Nicotine gentisic acid salt	23758-43-2
Nicotine, pivalate	---	24580-89-0
Nicotine, compound with 4-(1-cyclohexylpentyl)-2,6-dinitrophenol (1:1)	---	25137-75-1
Nicotine, compound with .alpha.-(3,5-dibromo-4-hydroxyphenyl)-.alpha.-(3,5-dibromo-4-oxo-2,5-cyclohexadien-1-ylidene)-o-toluenesulfonic acid (1:2)	---	25221-70-9
2-Propenoic acid, 2-methyl-, homopolymer, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Methacrylic acid, polymers, compound with nicotine; Poly(methacrylic acid) nicotine salt	26793-60-2

Listing by CAS Number of Each Individual Chemical within the Nicotine and Salts Category		
Collective Index Name	Other Name(s)	CAS Number
2-Propenoic acid, 2-methyl-, homopolymer, isotactic, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Methacrylic acid, polymers, isotactic, compound with nicotine; Isotactic poly(methacrylic acid) nicotine salt	26793-61-3
Nicotine, diamminetetraakis(isothiocyanato)chromate(1-)	Chromate(1-), diamminetetraakis(isothiocyanato)-, hydrogen, compound with nicotine	27399-23-1
Benzoic acid, 2-hydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Nicotine, monosalicylate; Salicylic acid, compound with nicotine (1:1); Eudermol	29790-52-1
Nicotine, pivalate (1:2)	---	31269-83-7
Chromate(1-), diamminetetraakis(thiocyanato-N)-, (OC-6-11)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	36447-36-6
Alginic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, alginate; Nicotine alginate	39461-16-0
Pectin, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Nicotine pectate	39461-17-1
Phenol, pentachloro-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (2:1)	Nicotine pentachlorophenolate	41944-89-2
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, monohydriodide, monohydrochloride,(S)-	---	46002-56-6
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, [R-(R*,R*)]-2,3-dihydroxybutanedioate (2:1)	---	51385-03-6
Cuprate(2-), tetrachloro-, (T-4)-, dihydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	53224-08-1
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, (R*,R*)-(.+-.)-2,3-dihydroxybutanedioate (1:1)	Nicotine hydrogen (.+-.)-tartrate	54661-91-5
Benzenesulfonic acid, 4-[[4-(dimethylamino)phenyl]azo]-, sodium salt, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Nicotine compound with methyl orange (1:1); Nicotine-methyl orange complex (1:1)	55774-24-8
Zincate(2-), tetrachloro-, (T-4)-, dihydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	55990-77-7
Chromate(1-), bis(4-ethylbenzenamine)tetrakis(thiocyanato-N)-, (OC-6-11)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Benzenamine, 4-ethyl-, chromium complex, compound with nicotine	56110-75-9



Listing by CAS Number of Each Individual Chemical within the Nicotine and Salts Category		
Collective Index Name	Other Name(s)	CAS Number
Hydrochloric acid-d, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, mono(hydrochloride-d), (S)-	58787-03-4
.beta.-Cyclodextrin, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	58947-99-2
Chromate(1-), bis(4-methoxybenzenamine-N)tetrakis(thiocyanato-N)-,(OC-6-11)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Benzenamine, 4-methoxy-, chromium complex, compound with nicotine	59598-67-3
Chromate(1-), bis(4-ethoxybenzenamine-N)tetrakis(thiocyanato-N)-, (OC-6-11)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Benzenamine, 4-ethoxy-, chromium complex, compound with nicotine	59598-68-4
Chromate(1-), bis(benzenemethanamine-N)tetrakis(thiocyanato-N)-, (OC-6-11)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Benzenemethanamine, chromium complex, compound with nicotine	59598-69-5
Chromate(1-), bis(benzenamine)tetrakis(thiocyanato-N)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	59598-70-8
Chromate(1-), bis(pyridine)tetrakis(thiocyanato-N)-, (OC-6-12)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	59598-84-4
Chromate(1-), bis(4-methylbenzenamine)tetrakis(thiocyanato-N)-, (OC-6-11)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Benzenamine, 4-methyl-, chromium complex, compound with nicotine	59599-00-7
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, diperchlorate	---	59888-66-3
Chromate(1-), bis(4-methyl-1,3-benzenediamine-N1)tetrakis(thiocyanato-N)-,(OC-6-11)-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	1,3-Benzenediamine, 4-methyl-, chromium complex, compound with nicotine	60004-81-1
Chromate(1-), bis(2-methyl-1,4-benzenediamine-N4)tetrakis(thiocyanato-N)-,(OC-6-11)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	1,4-Benzenediamine, 2-methyl-, chromium complex, compound with nicotine	60065-70-5
Cuprate(2-), tetrachloro-, dihydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	61091-23-4
Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methyl- chloride, monohydrochloride, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine sulfate (2:2:1)	---	61566-91-4
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, ethanedioate (2:1)	---	62201-70-1
Chromate(1-), bis(1-butanamine)tetrakis(thiocyanato-N)-, (OC-6-11)-, hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	1-Butanamine, chromium complex, compound with nicotine	66915-36-4

Listing by CAS Number of Each Individual Chemical within the Nicotine and Salts Category		
Collective Index Name	Other Name(s)	CAS Number
Chromate(1-), bis(1-propanamine)tetrakis(thiocyanato-N)-, (OC-6-11)-hydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	1-Propanamine, chromium complex, compound with nicotine	66915-45-5
Butanedioic acid, 2,3-bis[(4-methylbenzoyl)oxy]-, [S-(R*,R*)]-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	68935-25-1
Butanedioic acid, 2,3-bis[(4-methylbenzoyl)oxy]-, [R-(R*,R*)]-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	68935-26-2
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, 2-hydroxy-1,2,3-propanetricarboxylate (1:1)	---	72057-10-4
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, phosphate (1:1)	---	72057-11-5
Butanedioic acid, hydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Nicotine, malate (1:1)	73057-36-0
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, 2-hydroxy-1,2,3-propanetricarboxylate	---	73086-01-8
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, phosphate	---	73086-02-9
Butanedioic acid, hydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	---	73086-03-0
Butanoic acid, 2-methyl-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (3:1)	---	88660-49-5
Hexadecanoic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (3:1)	---	88660-50-8
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, 2-hydroxy-1,2,3-propanetricarboxylate (1:2)	---	88660-51-9
Butanedioic acid, hydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (2:1)	---	88660-52-0
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, monobenzoate	Benzoic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	88660-53-1
Benzeneacetic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (3:1)	---	88660-54-2
1,2-Benzenedicarboxylic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	88660-55-3
Propanoic acid, 2-oxo-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (2:1)	---	88660-56-4
Glutamic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	88660-57-5
Aspartic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	88660-58-6

Listing by CAS Number of Each Individual Chemical within the Nicotine and Salt Category		
Collective Index Name	Other Name(s)	CAS Number
Benzoic acid, 2-hydroxy-5-sulfo-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	88660-59-7
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, pectate	Pectic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	88660-60-0
Platinate(2-), hexachloro-, (OC-6-11)-, dihydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	88660-62-2
Tungstate(4-), [.mu.12-[orthosilicato(4-)-O:O]]tetracosamu-oxododecaoxododeca-, tetrahydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	Silicic acid (H <sub>4</sub> SiO <sub>4</sub> ), tungsten complex, compound with nicotine	88660-63-3
Pentanoic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (3:1)	---	88673-56-7
Dodecanoic acid, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (3:1)	---	88673-57-8
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, compound with cellulose carboxymethyl ether	---	90937-10-3
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, compound with cellulose carboxymethyl 2-hydroxypropyl ether	---	90937-12-5
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, compound with cellulose dihydrogen phosphate	---	90937-13-6
2-Propenoic acid, homopolymer, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	---	90960-67-1
Cellulose, 4-carboxybutyl ether, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	---	91098-28-1
Alginic acid, phosphate, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	---	91198-78-6
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, 2-hydroxy-1,2,3-propanetricarboxylate (2:1)	Nicotine, citrate (2:1)56X	94006-00-5
2-Propenoic acid, 2-methyl-, polymer with diethenylbenzene, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Nicotine polacrilex	96055-45-7
Nicotine, compound with AcOH and Hg(OAc) <sub>2</sub>	---	100022-25-1
Phenol, 2,2'-sulfinyl bis 4,6-dichloro-, compound with nicotine	---	100435-91-4
Platinate(2-), tetrachloro-, (SP-4-1)-, dipotassium, polymer with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	---	102857-74-9
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, compound with molybdenum hydroxide oxide phosphate (1:1)	---	104062-50-2
Benzoic acid, p-acetamido-, compound with nicotine	---	110441-65-1

Listing by CAS Number of Each Individual Chemical within the Nicotine and Salts Category		
Collective Index Name	Other Name(s)	CAS Number
Chromic acid (H <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> ), compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	110794-22-4
Benzhydrol, 4,4'-dichloro- $\alpha$ -(dichloromethyl)-, compound with nicotine	---	118980-02-2
Nicotine, malate (2:1)	---	119328-39-1
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, conjugate diacid, (S)-	---	119427-28-0
Quinolinium, 1-ethyl-4-[2-(2-hydroxyphenyl)ethenyl]-, iodide, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	119543-59-8
Quinolinium, 2-[2-(2,4-dihydroxyphenyl)ethenyl]-1-ethyl-, iodide, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	119543-61-2
Quinolinium, 1-ethyl-2-[2-(4-hydroxyphenyl)ethenyl]-, iodide, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	119543-62-3
Quinolinium, 1-ethyl-2-[2-(2-hydroxyphenyl)ethenyl]-, iodide, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	119543-63-4
Pyridinium, 1-ethyl-2-[2-(2-hydroxyphenyl)ethenyl]-, iodide, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	119543-64-5
1,3,5-Triazine-2,4,6-(1H,3H,5H)-trione, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	---	122759-59-5
2,4-Hexadiyne-1,6-diol, 1,1,6,6-tetraphenyl-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	125947-48-0
Nicotine, bromocadmate	---	126425-22-7
Nicotine, iodocadmate	---	126425-23-8
Nicotine, tetraiodocadmate	---	126460-15-9
Nicotine, tetrabromocadmate	---	126460-16-0
Nicotine, Fe complex	Nicotine pentaiodoferrate	126460-19-3
Nicotine, pentachloroferrate	---	126460-20-6
Nicotine, Fe complex	Nicotine pentabromoferrate	126505-90-6
Nicotine, Fe complex	Nicotine tetraiodoferrate	127088-40-8
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, monohydrate, (S)-	Nicotine monohydrate	128758-70-3
2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetrachloro-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	129047-75-2
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, [S-(R*,R*)]-2,3-dihydroxybutanedioate (1:1)	---	129721-88-6

Listing by CAS Number of Each Individual Chemical within the Nicotine and Salts Category		
Collective Index Name	Other Name(s)	CAS Number
Tungstate(5-), tetracosam-oxododecaoxo[.mu.12-[tetrahydroxyborato(5-)O:O:O:O:O:O:O:O:O:O:O:O:O:O:O:O]]dodeca-, pentahydrogen, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:4)	Borate(1-), tetrahydroxy-, tungsten complex, compound with nicotine	130555-55-4
.beta.-Cyclodextrin, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	---	137740-94-4
4,6:9,12:22,24:27,30-Tetraetheno-15,18,21:33,3,36-diethenylidenedibenzo[k,a1][1,8,17,24]tetraoxacyclodotriacontin-1,2,19,20-tetracarboxylic acid, 3,8,13,18a,21,26,31,36a-octahydro-ion(3-), [3S-(3R*,18aR*,21R*,36aR*)]-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	151527-31-0
4,6:9,12:22,24:27,30-Tetraetheno-15,18,21:33,3,36-diethenylidenedibenzo[k,a1][1,8,17,24]tetraoxacyclodotriacontin-1,2,19,20-tetracarboxylic acid, 3,8,13,18a,21,26,31,36a-octahydro-ion(3-), [3R-(3R*,18aR*,21R*,36aR*)]-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1)	---	151528-73-3

### Section 3. CAS Number List of Mixtures within the Nicotine and Salts Category

EPA is providing the following list of CAS numbers and chemical names for mixtures that contain a nicotine or a nicotine salt component. This list will aid the regulated community in determining whether they need to report for the nicotine and salts category. However, this list is not exhaustive. If a facility is manufacturing, processing, or using a mixture that contains a nicotine or a nicotine salt component, they must report to TRI, even if this chemical does not appear on the following list. Threshold calculations for the nicotine and salts category should account only for the percentage of the nicotine or the nicotine salt component contained in the mixture.

Mixtures Containing Nicotine or Nicotine Salts		
Mixture Name	Nicotine Component	Mixture CAS Number
Sulfuric acid copper(2+) salt (1:1), mixture with arsenic acid ( $H_3AsO_4$ ) copper(2+) salt, (S)-3-(1-methyl-2-pyrrolidinyl)pyridine and tetrachloromethane	Nicotine 54-11-5	8065-25-6
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, mixture with 1,1'-(2,2,2-trichloroethylidene)bis[4-chlorobenzene]	Nicotine 54-11-5	8074-22-4
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, mixture with barium sulfide (BaS) and sulfur	Nicotine 54-11-5	8077-43-8
Benzoic acid, 3,4,5-trihydroxy-, compound with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine (1:1), mixture with manganese chloride ( $MnCl_2$ )	Nicotine Monogallate 15566-33-3	55874-21-0
Phosphorothioic acid, O,O-dimethyl O-(3-methyl-4-nitrophenyl) ester, mixture with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine sulfate (2:1)	Nicotine Sulfate(2:1) 65-30-5	97268-83-2
Phosphoric acid, dimethyl 1-methyl-3-(methylamino)-3-oxo-1-propenyl ester, (E)-, mixture with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine sulfate (2:1)	Nicotine Sulfate(2:1) 65-30-5	97268-84-3
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, mixture with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine [R-(R*,R*)]-2,3-dihydroxybutanedioate (1:2)	Nicotine 54-11-5; Nicotine Tartrate (1:2) 65-31-6	126898-17-7
Morphinan-3,6-diol, 7,8-didehydro-4,5-epoxy-17-methyl-, (5.alpha.,6.alpha.,14.alpha.)-, mixture with (5.alpha.,6.alpha.,14.alpha.)-7,8-didehydro-4,5-epoxy-3-methoxy-17-methylmorphinan-6-ol, 1-[(3,4-dimethoxyphenyl)methyl]-6,7-dimethoxyisoquinoline,[7(S)-(1.alpha.,2.beta.,4.beta.,5.alpha.,7.beta.)]-9-methyl-3-oxa-9-azatricyclo[3.3.1.0 <sup>2,4</sup> ]non-7-yl .alpha.-(hydroxymethyl)benzeneacetate and (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Nicotine 54-11-5	127060-78-0

Mixtures Containing Nicotine or Nicotine Salts		
Mixture Name	Nicotine Component	Mixture CAS Number
Phenol, 4-chloro-3,5-dimethyl-, mixture with 3,6-dichloropyridazine and (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Nicotine 54-11-5	143222-98-4
2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl)-, (S)-, mixture with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine	Nicotine 54-11-5	146081-02-9
1H-Pyrazole-5-carboxamide, 4-chloro-N-[[4-(1,1-dimethylethyl)phenyl]methyl]-3-ethyl-1-methyl-, mixture with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine sulfate (2:1)	Nicotine Sulfate(2:1) 65-30-5	147762-42-3
Benzoic acid, 3,5-dimethyl-, 1-(1,1-dimethylethyl)-2-(4-ethylbenzoyl)hydrazide, mixture with (S)-3-(1-methyl-2-pyrrolidinyl)pyridine sulfate (2:1)	Nicotine Sulfate(2:1) 65-30-5	149294-95-1

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