

Information received in response to Quaternary Ammonium Compounds – Phase 1

Purpose

As indicated in the [Notice with respect to certain quaternary ammonium compounds in Canadian commerce – Phase 1](#) (the Notice), and in accordance with [section 49](#) of the *Canadian Environmental Protection Act, 1999* (CEPA), the Government of Canada is providing a summary of the information received in response to the Notice, which was published in the *Canada Gazette*, Part I, on November 17, 2018 under [section 46](#) of CEPA. The Notice collected information from manufacturers and importers (e.g., quantities and uses) on approximately 800 quaternary ammonium compounds (QACs) for the 2017 calendar year. The information will be used to support priority setting, and inform future risk assessments.

This document offers an overview of the information gathered under this initiative received as of December 4, 2019, including:

- type of submission;
- reported substances;
- substances that are manufactured or imported;
- industrial sectors involved;
- substance functions and commercial applications; and
- intended use (in commercial activity, in consumer activity, and by children).

It should be noted that this document does not include an assessment of the potential risks these substances may pose to the environment or to the health of Canadians.

The summary tables below have, in some cases, sourced confidential business information (CBI). Please note that in order to protect CBI, quantity ranges and exclusion of qualitative data elements have been applied in some cases. Qualitative data includes information that characterizes and categorizes information [e.g., company names, North American Industry Classification System (NAICS) codes, specified uses, Substance Function Codes, and Application Codes]. Since the dataset does not include CBI, the figures presented may be an underestimate.

The non-confidential information received is available via the [Government of Canada Open Data Portal](#) in Excel and CSV formats that provide a more detailed view of the dataset, including a list of the substances for which no information was submitted.

Background

The Chemicals Management Plan (CMP) is a Government of Canada initiative aimed at reducing the risks posed by substances to Canadians and their environment. Under the CMP, the government gathers available information to support priority setting, risk assessment and risk management activities. A variety of approaches can be used, such as mandatory information gathering issued under CEPA,

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voluntary information gathering initiatives, research, monitoring and surveillance, as well as international cooperation.

The Quaternary Ammonium Compounds – Phase 1 (QACs – Phase 1) initiative collected information on 809 substances in commerce in 2017. The substances were divided into two parts based on the information requirements for the various substances:

- Part 1 contained 721 substances and 21 masked substances.
- Part 2 contained 67 substances.

Part 2 substances were also surveyed in the 2017 Inventory Update. The 2017 Inventory Update collected data from the 2014 and 2015 calendar years (details can be found in the [Notice](#)). Any information provided in the 2017 Inventory Update was not required to be reported on in QACs – Phase 1.

Organizations that did not meet the reporting requirements in Schedule 2 of the Notice but that had a commercial interest in the substances (whether past, future or potential) were encouraged to identify themselves as stakeholders by completing a Declaration of Stakeholder Interest.

Summary of Information Collected

Table 1 below breaks down the number of submissions received by submission type: 1) Section 46 (mandatory submissions), 2) Declarations of Stakeholder Interest (voluntary submissions), and 3) Declaration of Non-Engagement (voluntary submissions). Table 2 below breaks down the number of unique substances reported by submission type and by activity with the substance. There are 162 unique organizations that provided submissions on 358 unique substances. This information was provided through Section 46 submissions, Declarations of Stakeholder Interest, or both. Based on the results in Table 1, there are more submissions than there are organizations, since some organizations submitted both a Section 46 submission and a Declaration of Stakeholder Interest. A Declaration of Non-Engagement cannot be submitted by an organization if either of the other two submission types were completed by the organization. Declarations of Non-Engagement are not substance specific, but apply to all substances in the Notice. A Declaration of Stakeholder Interest may have been submitted by organizations with interest in or activity with substances that did not meet the reporting thresholds.

A list of substances from the Notice for which no information was received is available in the Excel report tab 'No response (Pas de réponse)'.

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Table 1: Submissions received for the QACs –Phase 1

Type of Submission	Number of Submissions Received
Section 46	106
Declaration of Stakeholder Interest	87
Declaration of Non-Engagement	135

Table 2: Reported Substances

Data Received	Number of Substances
Type of submission	
Section 46	184
Declaration of Stakeholder Interest	326 ¹
Section 46 and Declaration of Stakeholder Interest (unique substances reported overall)	358
Activity reported through Section 46 submissions	
Manufactured ²	6
Imported ³	182

Reference for Table 2: Excel report tabs ‘SHI (DPI)’, and ‘Section 5 – Activity (Activité)’ for the list of substances in stakeholder interest, and manufactured and imported substances, respectively.

¹174 of the 326 substances were reported through Declarations of Stakeholder Interest only.

² Manufactured relates to the creation or production of the substance itself and includes both intentional and incidental production of the substance. Manufactured does not refer to the manufacture of a mixture, products, or manufactured item containing the substance.

³ Imported alone, or at a concentration equal to or above 0.1% by weight (w/w%) in a mixture, product, or manufactured item.

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Table 3: Substances manufactured in 2017 with total quantity above 100 kg.

Total Quantity (range in kg)	CAS RN	Substance Name
100,000 – 1,000,000	69418-26-4	Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide
	61789-71-7	Quaternary ammonium compounds, benzylcoco alkyl dimethyl, chlorides
10,000 – 100,000	32555-39-8	2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, polymer with ethanedial and 2-propenamide
1,000 – 10,000	12217-48-0	3H-Indolium, 2-[2-[4-[(2-cyanoethyl)methylamino]phenyl]ethenyl]-1,3,3-trimethyl-, chloride
100 – 1,000	569-64-2	Methanaminium, N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, chloride
	68409-66-5	Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, molybdatephosphate

Table 4: Substances imported⁴ in 2017 with total quantities over 100,000 kg.

Total Quantity (range in kg)	CAS RN	Substance Name
>10,000,000	69418-26-4	Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide
	157905-74-3	Ethanaminium, 2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-, esters with C16-18 and C18-unsatd. fatty acids, Me sulfates (salts)
1,000,000 – 10,000,000	35429-19-7	Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide
	67-48-1	Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride

⁴ Imported alone, or at a concentration equal to or above 0.1% by weight (w/w%) in a mixture or in a product (does not include imported manufactured items).

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	68953-58-2	Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite
	26062-79-3	2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer
100,000 – 1,000,000	112-02-7	1-Hexadecanaminium, N,N,N-trimethyl-, chloride
	4292-10-8	1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[(1-oxododecyl)amino]-, hydroxide, inner salt
	55636-09-4	1,3-Propanediaminium, 2-hydroxy-N,N,N',N',N'-hexamethyl-, dichloride
	58627-30-8	1-Propanaminium, N,N,N-trimethyl-3-[(2-methyl-1-oxo-2-propenyl)amino]-, chloride, polymer with 2-propenamide
	68139-30-0	1-Propanaminium, N-(3-aminopropyl)-2-hydroxy-N,N-dimethyl-3-sulfo-, N-coco acyl derivs., hydroxides, inner salts
	68956-79-6	Quaternary ammonium compounds, C12-18-alkyl[(ethylphenyl)methyl]dimethyl, chlorides
	70955-34-9	Fatty acids, tall-oil, reaction products with 2-[(2-aminoethyl)amino]ethanol, di-Et sulfate-quaternized
	61789-40-0	1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts
	68424-85-1	Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides
	44992-01-0	Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride
	61791-10-4	Quaternary ammonium compounds, coco alkylbis(hydroxyethyl)methyl, ethoxylated, chlorides
	68391-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides
	180685-83-0	Tannins, polymers with N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]ethanaminium chloride, graft
	26590-05-6	2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, polymer with 2-propenamide
	7173-51-5	1-Decanaminium, N-decyl-N,N-dimethyl-, chloride

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	68607-28-3	Quaternary ammonium compounds, (oxydi-2,1-ethanediyl)bis[coco] alkyldimethyl, dichlorides
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Reference for Tables 3 and 4: Excel report tab 'Section 7 Quantities (Quantités)' for a list of substances and their quantities.

Table 5: Top five reported industry sectors

NAICS ⁵ Code	Sectors
446120	Cosmetics, beauty supplies and perfume stores
418410	Chemical (except agricultural) and allied product merchant wholesalers
325620	Toilet preparation manufacturing
325610	Soap and cleaning compound manufacturing
414520	Toiletries, cosmetics and sundries merchant wholesalers

Reference for Table 5: Excel report tab 'Section 6 NAICS (SCIAN)'.

Table 6: Top ten Substance Function Codes based on highest total quantity for substances that are alone, in mixtures, or in products only.

Substance Function		Number of Substances Reported	Total Quantity (range in kg)
Code	Description		
U010	Finishing agents	38	>10,000,000
U025	Processing aids, specific to petroleum production	19	1,000,000 – 10,000,000
U028	Solids separation agents	11	1,000,000 – 10,000,000
U031	Surface active agents	65	1,000,000 – 10,000,000
U015	Intermediates	6	1,000,000 – 10,000,000
U026	Processing aids, not otherwise covered in this table ⁶	9	1,000,000 – 10,000,000
U032	Viscosity adjustors	13	100,000 – 1,000,000
U007	Corrosion inhibitors and anti-scaling agents	12	100,000 – 1,000,000

⁵ [North American Industry Classification System codes.](#)

⁶ Does not include processing aids specific to petroleum production. See Excel report tab 'U codes' for the full table list to understand all exclusions.

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U062	Active ingredients in health products	18	100,000 – 1,000,000
U034	Paint additives and coating additives not otherwise covered in this table	17	100,000 – 1,000,000

Table 7: Top ten Application Codes based on highest total quantity for substances that are alone, in mixtures, or in products only.

Application		Number of Substances Reported	Total Quantity (range in kg)
Code	Description		
C106	Laundry and dishwashing	20	>10,000,000
C107	Water treatment	20	1,000,000 – 10,000,000
C463	Oil and natural gas extraction	32	1,000,000 – 10,000,000
C404	Fuels and related products, mixtures or manufactured items	7	1,000,000 – 10,000,000
C302	Paper products, mixtures or manufactured items	26	1,000,000 – 10,000,000
C108	Personal care and cosmetics	78	1,000,000 – 10,000,000
C105	Cleaning and furnishing care	34	1,000,000 – 10,000,000
C301	Food packaging	19	100,000 – 1,000,000
C202.01	Paints and coatings	18	100,000 – 1,000,000
C563	Drugs	13	100,000 – 1,000,000

Table 6 and 7 do not include U or C code 999 (other) responses. Data submitted under U or C code 999 requires a written description, and due to CBI claims and the range of descriptions received, this data is not presented. Table 6 and 7 utilize aggregated data; therefore, the associated data in the Excel report provides more detail but also presents a smaller subset of the above data to protect confidentiality.

Reference for Tables 6 and 7: Excel report tab 'Section 8 U & C Codes'.

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Table 8: Substances intended for use in commercial activities, consumer activities, and for use by or for children 14 years old or younger

Data Received	Number of Substances
Reported by organizations that manufactured the substance, or imported the substance alone or in a mixture or product⁷	
Intended for use in commercial activities	120
Intended for use in consumer activities	111
Intended for use by or for children 14 years or younger	44
Reported by organizations that imported the substance in a manufactured item⁸	
Intended for use in commercial activities	0
Intended for use in consumer activities	10
Intended for use by or for children 14 years or younger	0

Reference for Table 8: Excel report tabs ‘Section 8 U & C Codes’ and ‘Section 9’.

Tables 9, 10, and 11 below refer to substances with the highest quantities intended for commercial use, for consumer use, or for use by or for children 14 years or younger, whether alone or in mixtures, or products.

Reference for Tables 9, 10 and 11: Excel report tab ‘Section 8 U & C Codes’.

⁷ From data received in response to Section 8 of the Notice

⁸ From data received in response to Section 9 of the Notice

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Table 9: Substances with a total quantity of over 100,000 kg intended for use in commercial activities

CAS RN	Substance Name	Quantity range (kg)
67-48-1	Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride	1,000,000 – 10,000,000
69418-26-4	Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamamide	1,000,000 – 10,000,000
68953-58-2	Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	1,000,000 – 10,000,000
26062-79-3	2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer	100,000 – 1,000,000
68424-85-1	Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	100,000 – 1,000,000
55636-09-4	1,3-Propanediaminium, 2-hydroxy-N,N,N',N',N'-hexamethyl-, dichloride	100,000 – 1,000,000
61791-10-4	Quaternary ammonium compounds, coco alkylbis(hydroxyethyl)methyl, ethoxylated, chlorides	100,000 – 1,000,000
61789-40-0	1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	100,000 – 1,000,000
44992-01-0	Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride	100,000 – 1,000,000
68391-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	100,000 – 1,000,000
68139-30-0	1-Propanaminium, N-(3-aminopropyl)-2-hydroxy-N,N-dimethyl-3-sulfo-, N-coco acyl derivs., hydroxides, inner salts	100,000 – 1,000,000
112-02-7	1-Hexadecanaminium, N,N,N-trimethyl-, chloride	100,000 – 1,000,000
180685-83-0	Tannins, polymers with N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]ethanaminium chloride, graft	100,000 – 1,000,000
70955-34-9	Fatty acids, tall-oil, reaction products with 2-[(2-aminoethyl)amino]ethanol, di-Et sulfate-quaternized	100,000 – 1,000,000
157905-74-3	Ethanaminium, 2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-, esters with C16-18 and C18-unsatd. fatty acids, Me sulfates (salts)	100,000 – 1,000,000
61789-71-7	Quaternary ammonium compounds, benzylcoco alkyldimethyl, chlorides	100,000 – 1,000,000
7173-51-5	1-Decanaminium, N-decyl-N,N-dimethyl-, chloride	100,000 – 1,000,000
68956-79-6	Quaternary ammonium compounds, C12-18-alkyl[(ethylphenyl)methyl]dimethyl, chlorides	100,000 – 1,000,000
68607-28-3	Quaternary ammonium compounds, (oxydi-2,1-ethanediyl)bis[coco] alkyldimethyl, dichlorides	100,000 – 1,000,000

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Table 10: Substances with a total quantity of over 100,000 kg intended for use in consumer activities

CAS RN	Substance Name	Quantity range (kg)
157905-74-3	Ethanaminium, 2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-, esters with C16-18 and C18-unsatd. fatty acids, Me sulfates (salts)	1,000,000 – 10,000,000
69418-26-4	Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide	1,000,000 – 10,000,000
35429-19-7	Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide	1,000,000 – 10,000,000
61789-40-0	1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	100,000 – 1,000,000
26062-79-3	2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer	100,000 – 1,000,000
61791-10-4	Quaternary ammonium compounds, coco alkylbis(hydroxyethyl)methyl, ethoxylated, chlorides	100,000 – 1,000,000
68424-85-1	Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	100,000 – 1,000,000
112-02-7	1-Hexadecanaminium, N,N,N-trimethyl-, chloride	100,000 – 1,000,000
67-48-1	Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride	100,000 – 1,000,000
68391-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	100,000 – 1,000,000
4292-10-8	1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[(1-oxododecyl)amino]-, hydroxide, inner salt	100,000 – 1,000,000

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Table 11: Substances with a total quantity of over 100,000 kg intended for use by or for children 14 years old or younger

CAS RN	Substance Name	Quantity range (kg)
61789-40-0	1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	100,000 – 1,000,000
67-48-1	Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride	100,000 – 1,000,000
69418-26-4	Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide	100,000 – 1,000,000
157905-74-3	Ethanaminium, 2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-, esters with C16-18 and C18-unsatd. fatty acids, Me sulfates (salts)	100,000 – 1,000,000
68391-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	100,000 – 1,000,000

Tables 12 refers to application codes reported as intended for consumer use imported in manufactured items

Reference for Table 12: Excel report tab 'Section 9'.

Table 12: Application code most frequently reported as intended for use in consumer activities

Number of Times Reported	Application Code	Title
10	C108	Personal care and cosmetics

Contacts

For additional questions about information gathered on Quaternary Ammonium Compounds – Phase 1, please [contact us](#) via the Substances Management Information Line.