

DS8000 Series Part B Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

This safety data sheet applies to the following products:

- DS8014 Part B - Joint Overwrap Part B
- DS8024 Part B
- DS8069 Part B
- DS8088 Part B

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Epoxy adhesive curing agent; amine mixture
- This product is intended to be mixed only with DS8000 Series Part A adhesives and Green Thread Layup Compound Part A

1.3 Details of the supplier of the safety data sheet

- NOV Fiber Glass Systems
17115 San Pedro Avenue, Suite 200
San Antonio, Texas 78232 USA
Tel: 1-210-477-7500
Fax: 1-210-231-5915
E-mail: Mike.Thayer@nov.com

1.4 Emergency telephone number(s)

- Chemwatch, 24-Hour Support (Account Number: 61395733100)

USA 1-855-237-5573
Canada 1-833-269-5440

For international, including Australia, please call +61 2 9186 1132

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Physical

- Not classified

Health

- Acute toxicity, Category 4 (oral)
- Acute toxicity, Category 4 (dermal)
- Acute toxicity, Category 1 (eyes)
- Skin corrosion/irritation, Category 1
- Skin sensitizer, Category 1B
- Reproductive toxicity, Category 1B
- Specific target organ systemic toxicity – single exposure, Category 3 (respiratory tract irritation)

Environmental

- Chronic aquatic toxicity, Category 3

2.2 Label elements

Signal Word(s)

- DANGER

Pictogram(s)



Hazard Statements

- Physical
 - Not classified
- Health
 - H317: May cause an allergic skin reaction.
 - H318: Causes serious eye damage.
 - H335: May cause respiratory irritation.
 - H360: May damage fertility or the unborn child.
 - H302+H312: Harmful if swallowed or in contact with skin.
- Environmental
 - H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements

- Prevention
 - P202: Do not handle until all safety precautions have been read and understood.
 - P261: Avoid breathing dust/fumes/gas/mist/vapors/spray.
 - P262: Do not get in eyes, on skin, or on clothing.
 - P263: Avoid contact during pregnancy and while nursing.
 - P264: Wash all exposed skin thoroughly after handling.
 - P270: Do not eat, drink, or smoke while using this product.
 - P271: Use only outdoors or in a well-ventilated area
 - P273: Avoid release to the environment.
 - P280: Wear protective gloves/protective clothing/eye protection/face protection.

- Response
 - P301+P12: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 - P302+P352: IF ON SKIN: Wash with plenty of water.
 - P304+312: IF INHALED: Call a POISON CENTER/doctor if you feel unwell.
 - P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 - P308+P313: IF exposed or concerned: Get medical advice/attention.
 - P333+313: If skin irritation or rash occurs: Get medical advice/attention.
 - P361+364: Take off immediately all contaminated clothing and wash it before reuse.
- Storage
 - P403+P233: Store in a well-ventilated place. Keep container tightly closed.
- Disposal
 - P501: Dispose of contents/container in accordance with regulatory requirements.

2.3 Other Hazards

- PBT and vPvB assessment
 - None of the ingredients are considered to be either PBT or vPvB.

SECTION 3: Composition/information on Ingredients

3.1 Substances

- Not applicable

3.2 Mixtures

Chemical Identity	CAS No.	EC No.	Concentration Range (weight %)
Triethylenetetramine	000112-24-3	203-950-6	< 99
Aminoethylethanolamine	000111-41-1	203-867-5	< 2
1-(2-Aminoethyl)piperazine	000140-31-8	205-411-0	< 2
Tetraethylenepentamine	000112-57-2	203-986-2	< 2
Diethylenetriamine	000111-40-0	203-865-4	< 1

SECTION 4. First-aid measures

4.1 Description of first-aid measures

Inhalation

- Move to fresh air.
- If difficulty in breathing or respiratory irritation; seek immediate medical attention.
- If breathing has stopped; seek immediate medical attention, perform artificial respiration.

Skin contact

- Wash affected area thoroughly with soap and water for at least 30 minutes.
- Immediately remove any contaminated clothing.
- If irritation develops or persists; seek medical attention.

Eye contact

- Immediately flush with water for at least 30 minutes.
- Remove contact lenses, if present.
- If irritation develops or persists, seek medical attention.

Ingestion

- Do not induce vomiting unless directed to do so by medical personnel.
- Never give anything by mouth to an unconscious person.
- If conscious, rinse out mouth with water; drink 1 to 2 glasses of milk or water.
- If symptoms persist, seek immediate medical attention.

4.2 Most Important symptoms and effects, both acute and delayed

Acute

- Irritation.

Delayed

- Pre-existing skin problems may be aggravated by prolonged or repeated contact.
- Repeated and/or prolonged exposure to low concentrations of vapors may cause sore throat.

4.3 Indication of any immediate medical attention and special treatment needed

- Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist.
- If burn is present, treat as any thermal burn, after decontamination.
- Swallowing may result in burns/ulceration of mouth, stomach, and lower gastrointestinal tract.
- Aspiration of vomit may cause lung injury.
- Suggest endotracheal/esophageal control if lavage is done.
- Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Water fog or spray, alcohol-resistant foam, carbon dioxide, dry chemical.
- Direct water stream may spread fire.

5.2 Specific hazards arising from the substance or mixture

- Smoke may contain original material in addition to combustion products of varying composition and toxicity.
- Combustion products may include and are not limited to: nitrogen oxides, carbon monoxide, carbon dioxide.
- Heat is generated when product mixes with water.

5.3 Advice for firefighters

- Avoid contact with skin.
 - Wear self-contained breathing apparatus and protective clothing, as necessary.
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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Due to the relatively small end-use container size, significant spills are unlikely to occur.
- If a spilled in an enclosed area, ventilate and remove all sources of ignition.
- Use only non-sparking tools during cleanup and place discarded material into a suitable container.

6.2 Environmental precautions

- Do not allow spilled materials to enter storm sewers, sanitary sewers, or impact groundwater.
- Do not allow spilled materials to remain on the ground.

6.3 Methods and materials for containment and cleaning up

- Contain spilled material, if possible.
- Small spills: Absorb with materials such as clay, dirt, sand. Do NOT use absorbent materials such as cellulose, sawdust, peat moss, ground corn cobs.
- Large spills: Dike area to contain spill and collect in compatible containers.

6.4 Reference to other sections

- See also, *SECTION 8: Control parameters* and *SECTION 13: Disposal considerations*.
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SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Avoid contact with skin and eyes and inhalation of vapors.
- Do not eat, drink, or smoke when using this product.
- Thoroughly wash exposed skin after working with this product.
- Only use this product in a well-ventilated area.
- Use spark-free tools.
- Empty containers may contain product residue and may be hazardous.

7.2 Conditions for safe storage, including any incompatibilities

- Do not store in copper, copper alloys, brass, bronze containers.
- Keep containers tightly closed in a dry, cool, and well-ventilated location.
- Store in original containers or in containers of the same construction material as original containers.

7.3 Specific end use(s)

- No additional data available.
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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Triethylenetetramine CAS No. 000112-24-3

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
Canada - Ontario	0.5 ppm	None established	Regulation 883, Control of Exposure to Biological or Chemical Agents
Poland	1 mg/m ³	3 mg/m ³	Principles and Methods of Assessing the Working Environment
Sweden	1 ppm	2 ppm	Occupational Exposure Limit Values and Measures Against Air Contaminants (AFS 2005:17)

Aminoethylethanolamine CAS No. 000111-41-1

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
Latvia	2 mg/m ³	None established	Standard LVS 89:2004 'Occupational exposure limit values of chemical substances in work environment'/ Aroda ekspozīcijas robežvērtības (AER)

1-(2-Aminoethyl)piperazine CAS No. 000140-31-8

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
No OELs were found for this ingredient.			

Tetraethylenepentamine CAS No. 000112-57-2

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
No OELs were found for this ingredient.			

Diethylnetriamine CAS No. 000111-40-0

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
Australia	1 ppm	None established	Workplace Exposure Standards for Airborne Contaminants

Austria	1 ppm	None established	Maximum Workplace Concentrations (MAK) Technical Guidance Concentrations (TRK)
Belgium	1 ppm	None established	limites d'exposition professionnelle – VLEP/ Grenswaarden voor beroepsmatige blootstelling – GWBB
Canada – Alberta	1 ppm	None established	Occupational Safety and Health Code
Canada – British Columbia	1 ppm	None established	Occupational Health and Safety Regulation, Table of Exposure Limits for Chemical and Biological Substances
Canada - Ontario	1 ppm	None established	Regulation 883, Control of Exposure to Biological or Chemical Agents
Canada - Quebec	1 ppm	None established	Regulation respecting occupational safety and health
Canada - Saskatchewan	1 ppm	2 ppm	The Occupational Safety and Health Regulations
Denmark	1 ppm	2 ppm	Grænseværdier for stoffer og materialer
France	1 ppm	None established	Institut National de Recherche et de Sécurité (INRS)
Hungary	4 mg/m ³	4 mg/m ³	Chemical Safety of Workplaces
Ireland	1 ppm	None established	Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations
New Zealand	1 ppm	None established	Workplace Exposure Standards and Biological Exposure Indices
Poland	4 mg/m ³	12 mg/m ³	Principles and Methods of Assessing the Working Environment
Singapore	1 ppm	None established	Workplace Safety and Health (General Provisions) Regulations
South Korea	1 ppm	None established	[Need reference]
Spain	1 ppm	None established	Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT)
Sweden	1 ppm	2 ppm	Occupational Exposure Limit Values and Measures Against Air Contaminants (AFS 2005:17)
Switzerland	1 ppm	None established	Verordnung über die Verhütung von Unfällen und Berufskrankheiten (VUV)", Art. 50 Abs.3
USA (ACGIH)	1 ppm	None established	None
USA (NIOSH)	1 ppm	None established	NIOSH Pocket Guide to Chemical Hazards (Recommendations Only)
United Kingdom	1 ppm	None established	EH40 Workplace exposure limits

8.2 Exposure controls

Appropriate engineering controls

- Provide adequate general and local exhaust ventilation to control airborne concentrations to below the occupational exposure limit values.
- Provide readily accessible eye wash stations and safety showers.

Personal protective equipment

- Eye and face protection

- Approved safety glasses with side shields (e.g., ANSI Z87, EN166)
- Skin protection
 - Hand protection: PVC, Nitrile rubber or Neoprene gloves are generally recommended. Different glove materials, thicknesses, and from different glove manufacturers may provide varying degrees of protection. Temperature and specific use can impact glove effectiveness. Some gloves may be intended to be used only once and then discarded, while others may be used for longer periods of time. The glove supplier should provide the user with information regarding permeability and breakthrough time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
 - Other skin protection: Such clothing as to minimize or eliminate the chance of skin contact with the product.
- Respiratory protection
 - If ventilation is insufficient to keep airborne concentrations below the occupation exposure limit levels, full or half-mask respirator fitted with organic vapor cartridges and/or particulate filters (for sanding, grinding, cutting, etc. cured material). Filter masks may be of limited use in cases of high or unknown exposure.

Environmental exposure controls

- Do not flush into surface water or sanitary sewer system.
- Do not place directly onto ground.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance	Yellow liquid
- Odor	Amine
- Odor threshold	No data available
- pH	11.5 (1% aqueous solution)
- Melting point/freezing point	No data available
- Initial boiling point and boiling range	No data available
- Flash point	148°C / 298°F (ASTM D93)
- Evaporation rate	No data available
- Flammability (solid, gas)	No data available
- Upper/lower flammability or explosive limits	9.5% / 1.0%
- Vapor pressure	< 0.01 kPa @ 20°C / 68°F
- Vapor density (air = 1)	5.0 @ 20°C / 68°F
- Relative density	0.98
- Solubility(ies)	100% @ 20°C / 68°F in water
- Partition coefficient: n-octanol/water	- 2.65, estimated
- Auto-ignition temperature	294°C / 561°F
- Decomposition temperature	No data available
- Viscosity	26 mPa @ 20°C / 68°F, dynamic
- Explosive properties	No data available

- Oxidizing properties No data available

9.2 Other information

- No data available.
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SECTION 10: Stability and reactivity

10.1 Reactivity

- No hazardous decomposition expected if product is stored and used as directed.
- Exothermic reactions are expected when mixed with epoxy adhesive.

10.2 Chemical stability

- Product is stable under normal conditions of storage and use.

10.3 Possibility of hazardous reactions

- Exothermic reactions are expected when mixed with epoxy adhesive.

10.4 Conditions to avoid

- Avoid unintended mixing with epoxy adhesive.
- Exposure to elevated temperatures can cause product to decompose.
- Generation of gas during decomposition can cause pressure in closed systems.
- Reaction with carbon dioxide may form an amine carbonate.
- Smoke may be generated depending on vapor pressure of mixture.
- Product absorbs carbon dioxide from the air.

10.5 Incompatible materials

- Heat is generated when mixed with water; spattering and boiling can occur.
- Avoid contact with oxidizing materials.
- Avoid contact with: acids, acrylates, alcohols, aldehydes, halogenated hydrocarbons, ketones, nitriles.
- Avoid contact with metals, such as: brass, bronze, copper, copper alloys.
- Avoid contact with absorbent materials, such as: ground corn cobs, most organic absorbents, peat moss, sawdust.

10.6 Hazardous decomposition products

- Decomposition products depend upon temperature, air supply, and the presence of other materials.
 - Decomposition products can include, but are not limited to: ammonia, ethylenediamine, volatile amines.
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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

- Data for ingredients not listed were not found or not sufficient for classification.

Triethylenetetramine (CAS No. 000112-24-3)

- Oral Rat: LD50 2780-4340 mg/kg
- Inhalation --- LC50 Not determined
- Dermal Rabbit LD50 550 - 805 mg/kg

Aminoethylethanolamine (CAS No. 000111-41-1)

- Oral Rat: LD50 2000-4000 mg/kg
- Inhalation --- LC50 Not determined
- Dermal Rabbit LD50 2000-3560 mg/kg

1-(2-Aminoethyl)piperazine (CAS No. 000140-31-8)

- Oral Rat: LD50 1470-2140 mg/kg
- Inhalation --- LC50 Not determined
- Dermal Rabbit LD50 880 mg/kg

Tetraethylenepentamine (CAS No. 000112-57-2)

- Oral Rat: LD50 2100-3990 mg/kg
- Inhalation --- LC50 Not determined
- Dermal Rabbit LD50 660 mg/kg

Diethylenetriamine (CAS No. 000111-40-0)

- Oral Rat: LD50 819-2690 mg/kg
- Inhalation --- LC90 (4-hour) 1.8 mg/L
- Dermal Rabbit LD50 672-1240 mg/kg

Skin corrosion/irritation

- Data for ingredients not listed were not found or not sufficient for classification.

Triethylenetetramine (CAS No. 000112-24-3)

- Irritating. Brief contact may cause severe skin burns.

Aminoethylethanolamine (CAS No. 000111-41-1)

- Rabbit Corrosive

1-(2-Aminoethyl)piperazine (CAS No. 000140-31-8)

- Rabbit Corrosive, Highly irritating

Tetraethylenepentamine (CAS No. 000112-57-2)

- Rabbit Highly irritating

Diethylenetriamine (CAS No. 000111-40-0)

- Rabbit Highly corrosive

Serious eye damage/irritation

- Data for ingredients not listed were not found or not sufficient for classification.

Triethylenetetramine (CAS No. 000112-24-3)

- Rabbit Severe damage to the cornea

Aminoethylethanolamine (CAS No. 000111-41-1)

- Rabbit Highly corrosive

1-(2-Aminoethyl)piperazine (CAS No. 000140-31-8)

- Rabbit Moderately irritating

Tetraethylenepentamine (CAS No. 000112-57-2)

- Rabbit Moderately irritating

Diethylenetriamine (CAS No. 000111-40-0)

- Rabbit Highly corrosive

Respiratory or skin sensitization

- Data for ingredients not listed were not found or not sufficient for classification.

Triethylenetetramine (CAS No. 000112-24-3)

- Inhalation — No data found
- Skin Human Sensitizing

Aminoethylethanolamine (CAS No. 000111-41-1)

- Inhalation — No data found
- Skin Guinea pig Sensitizing

1-(2-Aminoethyl)piperazine (CAS No. 000140-31-8)

- Inhalation — No data found
- Skin Guinea pig Sensitizing

Tetraethylenepentamine (CAS No. 000112-57-2)

- Inhalation — No data found
- Skin Human Sensitizing

Diethylenetriamine (CAS No. 000111-40-0)

- Inhalation — No data found
- Skin Guinea pig Sensitizing

Germ cell mutagenicity

- Data for ingredients were not found or not sufficient for classification.

Carcinogenicity

- Data for ingredients were not found or not sufficient for classification.

Reproductive toxicity

- Data for ingredients were not found or not sufficient for classification.

STOT-single exposures

- One or more ingredients may present the following:

Respiratory system. Skin. Eyes. Asthma. Adverse respiratory effects (such as cough, tightness of chest or shortness of breath). Eye disease. Skin disorders. Allergies. Adverse skin effects (such as rash, irritation, corrosion). Adverse eye effects (such as conjunctivitis, corneal damage).

STOT-repeated exposures

- Data for ingredients not listed were not found or not sufficient for classification.

Aspiration hazard

- Data for ingredients were not found or not sufficient for classification.

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity

- Data for ingredients not listed were not found or not sufficient for classification.

Triethylenetetramine (CAS No. 000112-24-3)

- Fish:	<i>Pimephales promelas</i>	LC50 (96-hour)	495 mg/L
- Crustacea	<i>Daphnia magna</i>	EC50 (48-hour)	31 mg/L
- Algae / Aquatic plants	<i>Scenedesmus subspicatus</i>	EC50 (72-hour)	2.5 mg/L
- Bacteria	<i>Pseudomonas fluorescens</i>	EC10 (24-hour)	500 mg/L

Aminoethylethanolamine (CAS No. 000111-41-1)

- Fish:	<i>Pimephales promelas</i>	LC50 (96-hour)	728 mg/L
- Crustacea	<i>Daphnia magna</i>	EC50 (48-hour)	190 mg/L
- Algae / Aquatic plants	<i>Scenedesmus subspicatus</i>	EC50 (72-hour)	210 mg/L
- Bacteria	<i>Pseudomonas putida</i>	E1C0 (17-hour)	135 mg/L

1-(2-Aminoethyl)piperazine (CAS No. 000140-31-8)

- Fish:	<i>Onorhynchus mykiss</i>	LC50 (96-hour)	> = 100 mg/L
- Crustacea	<i>Daphnia magna</i>	EC50 (48-hour)	18 mg/L
- Algae / Aquatic plants	<i>Selenastrum capricornutum</i>	EC50 (72-hour)	495 mg/L
- Bacteria	<i>Pseudomonas putida</i>	EC10 (17-hour)	> 1000 mg/L

Tetraethylenepentamine (CAS No. 000112-57-2)

- Fish:	<i>Poecilia reticulata</i>	LC50 (96-hour)	420 mg/L
- Crustacea	<i>Daphnia magna</i>	EC50 (48-hour)	24.1 mg/L
- Algae / Aquatic plants	<i>Selenastrum capricornutum</i>	EC50 (72-hour)	2.1 mg/L
- Bacteria	<i>Pseudomonas putida</i>	EC10 (17-hour)	> 186 mg/L

Diethylenetriamine (CAS No. 000111-40-0)

- Fish:	<i>Poecilia reticulata</i>	LC50 (96-hour)	1014 mg/L
- Crustacea	<i>Daphnia magna</i>	EC50 (48-hour)	17 mg/L
- Algae / Aquatic plants	<i>Selenastrum capricornutum</i>	EC50 (72-hour)	1164 mg/L
- Bacteria	<i>Pseudomonas putida</i>	EC10 (17-hour)	96 mg/L

Chronic toxicity

- Data for ingredients not listed were not found or not sufficient for classification.

12.2 Persistence and degradability

- Not expected to be readily biodegradable.

12.3 Bioaccumulative potential

- Data for ingredients were not found or not sufficient for classification.

12.4 Mobility in soil

- Data for ingredients were not found or insufficient for classification.

12.5 Results of PBT and vPvB assessment

- None of the ingredients are listed.

12.6 Other adverse effects

- No additional data is available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Must be disposed of in accordance with local regulatory requirements.
- Land disposal of uncured product is discouraged and illegal in many jurisdictions.
- Sewer disposal is discouraged.
- Empty containers may contain hazardous residue and must be disposed accordingly.

SECTION 14: Transport information

US Department of Transportation (Road and Rail)

International Carriage of Dangerous Goods by Road (ADR)
 International Carriage of Dangerous Goods by Rail (RID)
 International Civil Aviation Organization (ICAO) Technical Instructions
 International Maritime Dangerous Goods (IMDG) Code
 International Carriage of Dangerous Goods by Inland Waterways

- UN2259 TRIETHYLENETETRAMINE, 8, PG II

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The regulatory information provided below may not be comprehensive.

Canada

Controlled Products Regulation (CPR)

- This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Ingredient Disclosure List (IDL)

- All components of this mixture that are on the IDL above their specified concentration are disclosed in this SDS.

United States

EPCRA			CERCLA	RCRA	CAA	OSHA
Section 302 (EHS) TPQ (LB/KG)	Section 304 RQ (LB/KG)	Section 313	RQ (LB/KG)	P/U Codes	112(r) TQ (LB/KG)	Highly Hazardous Chemical
None of the ingredients are listed						

15.2 Chemical safety assessment

- No chemical safety assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Revision history

Revision Number	Revision Date	Revision Description
1	25-JUL-2013	Initial SDS creation in conformance with OSHA hazard communication standard (29 CFR 1910.1200) and UN Globally Harmonized System (GHS).
2	27-NOV-2013	Reformatted entire SDS.
3	1-AUG-2014	Reformatted entire SDS and added information in conformance with Regulation (EC) No. 1907/2006 (REACH).
4	20-APR-2015	Added references to Joint Overwrap Part B (Section 1.1) and Green Thread Layup Compound Part A (Section 1.2)
5	18-MAY-2015	Updated Section 14 – Transportation Information

6	26-JAN-2017	General review. Updated precautionary statements in Section 2.
7	18-FEB-2020	General review. No changes.

Legend to abbreviations and acronyms used

- ACGIH American Conference of Governmental Industrial Hygienists
- ANSI American National Standards Institute
- CAA Clean Air Act
- cP centipoise
- CFR Code of Federal Regulations (US)
- EN European Standard (French: *Européenne Norme*)
- EPCRA Emergency Planning and Community Right-to-Know Act
- IARC International Agency for Research on Cancer
- IBC Code International Bulk Chemical Code
- LOEC Lowest Observed Effects Concentration
- MARPOL Marine Pollution
- NOEL No Observed Effects Concentration
- NIOSH National Institute for Occupational Safety and Health
- OSHA Occupational Safety and Health Administration (US)
- PBT Persistent Bioaccumulative and Toxic
- RCRA Resource Conservation and Recovery Act
- vPvB very Persistent and very Bioaccumulative

Key literature references and sources for data

- ESIS. European chemical Substances Information System. <http://esis.jrc.ec.europa.eu/>.
- USEPA. 2006. List of Lists, Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA 550-B-01-003. October 2006.