SAFETY DATA SHEET

Olin Corporation (OCAP)
Safety Data Sheet according to Reg. (EU) No 2015/830

Product name: D.E.H.™ 485 Epoxy Hardener

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Olin Corporation (OCAP) encourages and expects you to read and understand the entire SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Product name: D.E.H.™ 485 Epoxy Hardener

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Hardener for epoxy resin.

1.3 Details of the supplier of the safety data sheet
COMPANY IDENTIFICATION
Olin Corporation (OCAP)
190 Carondelet Plaza, Suite 1530
Clayton
MO
USA
63105

Customer Information Number: +14233364850
INFO@OLIN.COM

1.4 EMERGENCY TELEPHONE NUMBER
Local Emergency Contact: +32 3 575 55 55
In case of emergency, contact Belgium Poison Center: 070/245.245

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:
Acute toxicity - Category 4 - Oral - H302
Skin corrosion - Sub-category 1B - H314
Serious eye damage - Category 1 - H318
Skin sensitisation - Category 1 - H317
Long-term (chronic) aquatic hazard - Category 2 - H411
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms

Signal word: DANGER

Hazard statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P391	Collect spillage.

Contains Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane; Polyoxypropylene diamine; 3-aminomethyl-3,5,5-trimethylcyclohexylamine; Styrenated phenol

2.3 Other hazards

This product contains no substances assessed to be PBT or vPvB at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 38294-64-3 **EC-No.** 500-101-4 **Index-No.** –	01-2119965165-33	>= 30,0 - < 40,0 %	Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane	Skin Corr. - 1B - H314 Eye Dam. - 1 - H318 Skin Sens. - 1A - H317 Aquatic Chronic - 3 - H412
CASRN 9046-10-0 **EC-No.** 618-561-0 **Index-No.** –	01-2119557899-12	>= 20,0 - < 25,0 %	Polyoxypropylene diamine	Skin Corr. - 1C - H314 Eye Dam. - 1 - H318 Aquatic Chronic - 3 - H412
CASRN 100-51-6 **EC-No.** 202-859-9 **Index-No.** 603-057-00-5	01-2119492630-38	>= 10,0 - < 20,0 %	Benzyl alcohol	Acute Tox. - 4 - H302 Acute Tox. - 4 - H332
CASRN 2855-13-2 **EC-No.** 220-666-8 **Index-No.** 612-067-00-9	01-2119514687-32	>= 10,0 - < 20,0 %	3-aminomethyl-3,5,5-trimethylcyclohexylamine	Acute Tox. - 4 - H302 Acute Tox. - 4 - H312 Skin Corr. - 1B - H314 Skin Sens. - 1 - H317 Aquatic Chronic - 3 - H412
CASRN 38640-62-9 **EC-No.** 254-052-6 **Index-No.** –	01-2119565150-48	>= 2,5 - < 10,0 %	Naphthalene, bis(1-methylethyl)-	Asp. Tox. - 1 - H304 Aquatic Chronic - 1 - H410

CASRN 61788-44-1 **EC-No.** 262-975-0 **Index-No.** –	01-2119980970-27	>= 2,5 - < 10,0 %	Styrenated phenol	Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319 Skin Sens. - 1A - H317 Aquatic Chronic - 2 - H411
CASRN 69-72-7 **EC-No.** 200-712-3 **Index-No.** –	01-2119486984-17	>= 1,0 - < 3,0 %	Salicylic acid	Acute Tox. - 4 - H302 Eye Dam. - 1 - H318 Repr. - 2 - H361d

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures
General advice:
First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Seek medical attention if symptoms occur or irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be immediately available.

Eye contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

4.2 Most important symptoms and effects, both acute and delayed:
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed
Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Respiratory symptoms, including pulmonary edema, may be delayed.

Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. 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. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Water fog or fine spray.. Dry chemical fire extinguishers.. Carbon dioxide fire extinguishers.. Foam.. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective..

Unsuitable extinguishing media: Do not use direct water stream.. May spread fire..

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.. Combustion products may include and are not limited to:. Carbon monoxide.. Carbon dioxide.. Nitrogen oxides..

Unusual Fire and Explosion Hazards: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids..

5.3 Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry.. Burning liquids may be extinguished by dilution with water.. Do not use direct water stream. May spread fire.. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires.. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage..

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).. Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location.. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections..

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep upwind of spill. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up: Absorb with materials such as: Sand. Avoid contact with absorbent materials such as: Sawdust. Ground corn cobs. Moist organic absorbents. Peat moss. Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

6.4 Reference to other sections: References to other sections, if applicable, have been provided in the previous sub-sections.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Do not get in eyes, on skin, on clothing. Avoid prolonged contact with eyes, skin and clothing. Wash thoroughly after handling. Do not swallow. Avoid breathing vapor. Avoid breathing mist. Use with adequate ventilation. Keep container closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

7.2 Conditions for safe storage, including any incompatibilities: Store in a cool, dry place. Avoid contact with metals such as: Brass. Bronze. Copper. Copper alloys.

7.3 Specific end use(s): See the technical data sheet on this product for further information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value
Benzyl alcohol	US WEEL	TWA	10 ppm

Exposure limits have not been established for those substances listed in the composition, if any have been disclosed.

Recommended monitoring procedures
Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with the Occupational Exposure Limits and the adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples should be analysed by an accredited laboratory. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy); European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents);

European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods. Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods. Health and Safety Executive (HSE), United Kingdom: Methods for the Determination of Hazardous Substances. Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany. L'Institut National de Recherche et de Securité, (INRS), France.

8.2 Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles. When handling hot material: Wear a face-shield which allows use of chemical goggles, or wear a full-face respirator, to protect face and eyes when there is any likelihood of splashes.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. When handling hot material, protect skin from thermal burns as well as from skin absorption.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

Environmental exposure controls
See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	
Physical state	liquid
Color	Orange to brown
Odor	Amine
Odor Threshold	Not applicable
pH	> 10 *Literature*
Melting point/range	Not applicable
Freezing point	No data available
Boiling point (760 mmHg)	> 250 °C at 760 mmHg *Literature*
Flash point	94 °C *Estimated.* closed cup
Evaporation Rate (Butyl Acetate = 1)	Not applicable to solids
Flammability (solid, gas)	Not applicable to liquids
Flammability (liquids)	Not expected to be a static-accumulating flammable liquid.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	Not applicable
Relative Density (water = 1)	1,02 at 25 °C
Water solubility	Partially miscible
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	Not applicable
Decomposition temperature	No data available
Dynamic Viscosity	300 mPa.s *ISO 3219*
Kinematic Viscosity	310 cSt *ISO 3219*
Explosive properties	No data available
Oxidizing properties	No

9.2 Other information

Molecular weight	Not determined

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: No data available

10.2 Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

10.3 Possibility of hazardous reactions: Polymerization will not occur.
Can occur. Polymerization can be catalyzed by: Acids. Amines. Strong bases. Masses of more than one pound (0.5 kg) of product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.

10.4 Conditions to avoid: 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 carbamate. Smoke may be generated depending on vapor pressure of mixture. Product absorbs carbon dioxide from the air.

10.5 Incompatible materials: Avoid contact with oxidizing materials. Avoid contact with: Acids. Acrylates. Alcohols. Aldehydes. Halogenated hydrocarbons. Avoid contact with metals such as: Brass. Bronze. Copper alloys. Avoid contact with absorbent materials such as: Moist organic absorbents. Peat moss. Ground corn cobs. Sawdust.

10.6 Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials.. Decomposition products can include and are not limited to:. Carbon dioxide.. Carbon monoxide.. Ammonia.. Amines.. Ethylenediamine.. Nitrogen oxides..

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

11.1 Information on toxicological effects

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute oral toxicity
Low toxicity if swallowed. Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):
LD50, Rat, > 1 900 mg/kg Estimated.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane
Single dose oral LD50 has not been determined.

Polyoxypropylene diamine
LD50, Rat, male and female, 2 880 mg/kg

Benzyl alcohol
LD50, Rat, male, 1 620 mg/kg

3-aminomethyl-3,5,5-trimethylcyclohexylamine
LD50, Rat, 1 030 mg/kg

Naphthalene, bis(1-methylethyl)-
LD50, Rat, > 3 900 mg/kg

Styrenated phenol
LD50, Rat, > 2 000 mg/kg No deaths occurred at this concentration.

Salicylic acid
LD50, Rat, male, 891 mg/kg

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):
LD50, Rat, > 2 000 mg/kg Estimated.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane
The dermal LD50 has not been determined.

Polyoxypropylene diamine
LD50, Rabbit, male and female, 2 980 mg/kg

Benzyl alcohol
LD50, Rabbit, > 2 000 mg/kg No deaths occurred at this concentration.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
LD50, Rat, male and female, > 2 000 mg/kg No deaths occurred at this concentration.

Naphthalene, bis(1-methylethyl)-
LD50, Rat, > 4 500 mg/kg No deaths occurred at this concentration.

Styrenated phenol
LD50, Rabbit, > 7 000 mg/kg

Salicylic acid
LD50, Rat, > 2 000 mg/kg Estimated.

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility; vapor from heated material may cause respiratory irritation.

Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

As product: The LC50 has not been determined.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane
The LC50 has not been determined.

Polyoxypropylene diamine
At room temperature, exposure to vapor is minimal due to low volatility; vapor from heated material may cause respiratory irritation. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. Excessive exposure may cause lung injury.

The LC50 has not been determined.

Benzyl alcohol
LC50, Rat, 4 Hour, vapour, 11 mg/l

3-aminomethyl-3,5,5-trimethylcyclohexylamine
LC50, Rat, 4 Hour, dust/mist, > 5,01 mg/l

Naphthalene, bis(1-methylethyl)-
LC50, Rat, 4 Hour, dust/mist, > 5,64 mg/l

Styrenated phenol
Mist may cause irritation of upper respiratory tract (nose and throat).

Salicylic acid
The LC50 has not been determined.

Skin corrosion/irritation
Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Polyoxypropylene diamine
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Benzyl alcohol
Brief contact is essentially nonirritating to skin.
Prolonged contact may cause skin irritation with local redness.
May cause tingling/numbness in exposed areas (paresthesia).

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

Naphthalene, bis(1-methylethyl)-
Brief contact may cause slight skin irritation with local redness.

Styrenated phenol
Brief contact may cause skin irritation with local redness.
Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

Salicylic acid
Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Polyoxypropylene diamine
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Mist may cause eye irritation.
Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

Benzyl alcohol
May cause moderate eye irritation.
May cause corneal injury.
Effects may be slow to heal.
Vapor may cause lacrimation (tears).

3-aminomethyl-3,5,5-trimethylcyclohexylamine
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Naphthalene, bis(1-methylethyl)-
Essentially nonirritating to eyes.

Styrenated phenol
May cause eye irritation.

Salicylic acid
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization

Based on information for component(s):
Has caused allergic skin reactions in humans.
Has demonstrated the potential for contact allergy in mice.
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chloromethyl)oxirane
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Polyoxypropylene diamine
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Benzyl alcohol
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Skin contact may cause an allergic skin reaction.
Has caused allergic skin reactions when tested in guinea pigs.
Has caused allergic skin reactions in humans.

For respiratory sensitization:
No relevant data found.

Naphthalene, bis(1-methylethyl)-
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Styrenated phenol
Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

Salicylic acid
Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chloromethyl)oxirane
Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

Polyoxypropylene diamine
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Benzyl alcohol
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Naphthalene, bis(1-methylethyl)-
Available data are inadequate to determine single exposure specific target organ toxicity.

Styrenated phenol
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Salicylic acid
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Aspiration Hazard
Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chloromethyl)oxirane
Based on physical properties, not likely to be an aspiration hazard.

Polyoxypropylene diamine
Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Benzyl alcohol
Based on physical properties, not likely to be an aspiration hazard.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Naphthalene, bis(1-methylethyl)-
May be fatal if swallowed and enters airways.

Styrenated phenol
Based on physical properties, not likely to be an aspiration hazard.

Salicylic acid
Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Contains component(s) which have been reported to cause effects on the following organs in animals:
Lung.
Respiratory tract.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chloromethyl)oxirane
In animals, effects have been reported on the following organs:
Liver.

Polyoxypropylene diamine
No relevant data found.

Benzyl alcohol
In animals, effects have been reported on the following organs after inhalation:
Central nervous system.
Muscles.
Thymus.
Urinary tract.
Based on available data, repeated exposures to small amounts are not anticipated to cause significant adverse effects.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
In animals, effects have been reported on the following organs:
Respiratory tract.

Naphthalene, bis(1-methylethyl)-
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Styrenated phenol
In animals, effects have been reported on the following organs:
Nervous system.
Gastrointestinal tract.
Respiratory tract.

Salicylic acid
In animals, effects have been reported on the following organs:
Kidney.
Liver.

Carcinogenicity
Contains component(s) which did not cause cancer in laboratory animals.

Information for components:

Polyoxypropylene diamine
No relevant data found.

Benzyl alcohol
Did not cause cancer in laboratory animals.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
No relevant data found.

Naphthalene, bis(1-methylethyl)-
Did not cause cancer in laboratory animals.

Styrenated phenol
No relevant data found.

Salicylic acid
Did not cause cancer in laboratory animals.

Teratogenicity
Contains component(s) which caused birth defects in laboratory animals.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane
Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Polyoxypropylene diamine
No relevant data found.

Benzyl alcohol
Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Did not cause birth defects in laboratory animals.

Naphthalene, bis(1-methylethyl)-
Did not cause birth defects in laboratory animals.

Styrenated phenol
No relevant data found.

Salicylic acid
Has caused birth defects in laboratory animals at doses nontoxic to the mother. Has been toxic to the fetus in lab animals at doses nontoxic to the mother.

Reproductive toxicity

No relevant data found.

Information for components:

Polyoxypropylene diamine
No relevant data found.

Benzyl alcohol
No relevant data found.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
No relevant data found.

Naphthalene, bis(1-methylethyl)-
No relevant data found.

Styrenated phenol
No relevant data found.

Salicylic acid
In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Mutagenicity
Based on information for component(s): In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

Information for components:

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chloromethyl)oxirane
In vitro genetic toxicity studies were negative.

Polyoxypropylene diamine
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Benzyl alcohol
In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Naphthalene, bis(1-methylethyl)-
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Styrenated phenol
No relevant data found.

Salicylic acid
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

12.1 Toxicity

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chloromethyl)oxirane

Acute toxicity to fish
Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).
LL50, Rainbow trout (Oncorhynchus mykiss), static test, 96 Hour, 70,7 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
EL50, water flea Daphnia magna, static test, 48 Hour, 11,1 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
EL50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth inhibition (cell density reduction), 79,4 mg/l, OECD Test Guideline 201

Toxicity to bacteria
EC50, activated sludge, aerobic, 3 Hour, Respiration rates., > 1 000 mg/l, activated sludge test (OECD 209)

Polyoxypropylene diamine

Acute toxicity to fish
Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).
LC50, Fish, semi-static test, 96 Hour, > 15 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 80 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Algae, static test, 72 Hour, Growth rate, 15 mg/l, OECD Test Guideline 201 or Equivalent
EC10, Algae, static test, 72 Hour, Growth rate, 1,4 mg/l, OECD Test Guideline 201

Toxicity to bacteria
EC50, activated sludge, Respiration inhibition, 3 Hour, 750 mg/l, OECD Test Guideline 209
NOEC, activated sludge, Respiration inhibition, 3 Hour, 310 mg/l, OECD Test Guideline 209

Benzyl alcohol

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
LC50, Pimephales promelas (fathead minnow), Static, 96 Hour, 460 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, 230 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), Static, 72 Hour, Growth rate, 770 mg/l, OECD Test Guideline 201

Toxicity to bacteria
EC50, activated sludge, Respiration inhibition, 49 Hour, Respiration rates., 2 100 mg/l, OECD 209 Test

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna, semi-static test, 21 d, 51 mg/l

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Acute toxicity to fish
Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).
LC50, Leuciscus idus (Golden orfe), semi-static test, 96 Hour, 110 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 23 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
EbC50, alga Scenedesmus sp., 72 Hour, Biomass, 37 mg/l

Toxicity to bacteria
EC10, Bacteria, Static, 18 Hour, 1 120 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 3 mg/l

Naphthalene, bis(1-methylethyl)-

Acute toxicity to fish
Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).
LC0, Fish, 96 Hour, > 0,5 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, > 0,16 mg/l, Method Not Specified.
EL50, Daphnia magna (Water flea), 48 Hour, 1,7 mg/l, OECD Test Guideline 202 or Equivalent

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, 0,013 mg/l

Styrenated phenol

Acute toxicity to fish
Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

LL50, Brachydanio rerio (zebrafish), semi-static test, 96 Hour, 14,8 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
EL50, Daphnia magna, Static, 48 Hour, > 1 - 10 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
EL50, Desmodesmus subspicatus (green algae), Static, 72 Hour, 3,14 mg/l, OECD Test Guideline 201

Chronic toxicity to fish
NOEC, Oryzias latipes (Orange-red killifish), flow-through, 14 d, 1,9 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna, 21 d, 0,2 mg/l

Salicylic acid

Acute toxicity to fish
Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).
LC50, emerald shiner (Notropis atherinoides), 96 Hour, > 150 mg/l, Method Not Specified.
LC50, Leuciscus idus (Golden orfe), static test, 48 Hour, 90 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 24 Hour, 105 - 230 mg/l, Method Not Specified.

Toxicity to bacteria
EC50, activated sludge, 3 Hour, > 3 200 mg/l, OECD 209 Test

12.2 Persistence and degradability

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chloromethyl)oxirane

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
10-day Window: Fail
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Polyoxypropylene diamine

Biodegradability: Material is not readily biodegradable according to OECD/EEC guidelines.
10-day Window: Fail
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Benzyl alcohol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 92 - 96 %

Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent
10-day Window: Not applicable
Biodegradation: 42 %
Exposure time: 3 Hour
Method: OECD Test Guideline 303A or Equivalent

Naphthalene, bis(1-methylethyl)-
Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
10-day Window: Fail
Biodegradation: 21 - 30 %
Exposure time: 56 d
Method: OECD Test Guideline 310 or Equivalent

Styrenated phenol
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
For similar material(s):
Biodegradation: 4 %
Method: OECD Test Guideline 310

Salicylic acid
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 88,1 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1,62 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 0,823 d
Method: Estimated.

12.3 Bioaccumulative potential

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane
Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 3,6 at 25 °C

Polyoxypropylene diamine
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1,34 Measured

Benzyl alcohol
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1,10 Measured

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0,79 Measured

Naphthalene, bis(1-methylethyl)-
Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water(log Pow): > 4

Styrenated phenol
Bioaccumulation: No relevant data found.

Salicylic acid
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2,26 Measured

12.4 Mobility in soil

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chlormethyl)oxirane
Expected to be relatively immobile in soil (Koc > 5000).
Partition coefficient (Koc): > 5000

Polyoxypropylene diamine
No relevant data found.

Benzyl alcohol
Potential for mobility in soil is very high (Koc between 0 and 50).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient (Koc): 16 Estimated.

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Potential for mobility in soil is medium (Koc between 150 and 500).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient (Koc): 340 Estimated.

Naphthalene, bis(1-methylethyl)-
No relevant data found.

Styrenated phenol
No relevant data found.

Salicylic acid

Potential for mobility in soil is very high (Koc between 0 and 50).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient (Koc): 24 Estimated.

12.5 Results of PBT and vPvB assessment

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chloromethyl)oxirane

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Polyoxypropylene diamine

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Benzyl alcohol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

3-aminomethyl-3,5,5-trimethylcyclohexylamine

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Naphthalene, bis(1-methylethyl)-

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Styrenated phenol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Salicylic acid

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Phenol, 4,4'-(1-Methylethylidene)bis-, polymer with 5-Amino-1,3,3-trimethylcyclohexanemethanamine and 2-(Chloromethyl)oxirane

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Polyoxypropylene diamine

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Benzyl alcohol

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

3-aminomethyl-3,5,5-trimethylcyclohexylamine

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Naphthalene, bis(1-methylethyl)-

No relevant data found.

Styrenated phenol

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Salicylic acid

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14: TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

14.1	**UN number**	UN 2735
14.2	**UN proper shipping name**	AMINES, LIQUID, CORROSIVE, N.O.S.(5-Amino-1,3,3-trimethylcyclohexanemethanamine reaction products with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[ox, 3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine))
14.3	**Transport hazard class(es)**	8
14.4	**Packing group**	II
14.5	**Environmental hazards**	Naphthalene, bis(1-methylethyl)-, Styrenated phenol
14.6	**Special precautions for user**	Hazard Identification Number: 80

Classification for SEA transport (IMO-IMDG):

14.1	**UN number**	UN 2735
14.2	**UN proper shipping name**	AMINES, LIQUID, CORROSIVE, N.O.S.(5-Amino-1,3,3-trimethylcyclohexanemethanamine reaction products with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[ox, 3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine))
14.3	**Transport hazard class(es)**	8
14.4	**Packing group**	II
14.5	**Environmental hazards**	Naphthalene, bis(1-methylethyl)-, Styrenated phenol

14.6	**Special precautions for user**	EmS: F-A, S-B
14.7	**Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code**	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

14.1	**UN number**	UN 2735
14.2	**UN proper shipping name**	Amines, liquid, corrosive, n.o.s.(5-Amino-1,3,3-trimethylcyclohexanemethanamine reaction products with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[ox, 3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine))
14.3	**Transport hazard class(es)**	8
14.4	**Packing group**	II
14.5	**Environmental hazards**	Not applicable
14.6	**Special precautions for user**	No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	Conditions of restriction for the following entries should be considered: Number on list 3

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Listed in Regulation: ENVIRONMENTAL HAZARDS
Number in Regulation: E2
200 t
500 t

Further information

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment
Chemical Safety Assessments have been carried out for these substances.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H361d	Suspected of damaging the unborn child.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008
Acute Tox. - 4 - H302 - Based on product data or assessment
Skin Corr. - 1B - H314 - Based on product data or assessment
Eye Dam. - 1 - H318 - Based on product data or assessment
Skin Sens. - 1 - H317 - Based on product data or assessment
Aquatic Chronic - 2 - H411 - Calculation method

Product Literature
Additional information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure. Additional information on this and other products may be obtained by visiting our web page.

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

TWA	8-hr TWA
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)
Acute Tox.	Acute toxicity
Aquatic Chronic	Long-term (chronic) aquatic hazard
Asp. Tox.	Aspiration hazard
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation

Repr.	Reproductive toxicity
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitisation

Full text of other abbreviations
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

Olin Corporation (OCAP) urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and

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BE