



# MacDermid Enthone

## Safety Data Sheet

### Section 1. Identification

**Product name** : ENTHONE® 50-507R  
**Product code** : 135686  
**Uses advised against** : Consumer, private households, general public  
**Product type** : Liquid.  
**Date of issue/Date of revision** : June 26 2019.

Manufacturer - Supplier	Telephone no.:	Emergency phone:
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### Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 4  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (inhalation) - Category 2  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
GERM CELL MUTAGENICITY - Category 2  
CARCINOGENICITY - Category 1B  
TOXIC TO REPRODUCTION (Fertility) - Category 2  
TOXIC TO REPRODUCTION (Unborn child) - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1  
AQUATIC HAZARD (ACUTE) - Category 1  
AQUATIC HAZARD (LONG-TERM) - Category 1

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## Section 2. Hazards identification

### GHS label elements

#### Hazard pictograms



#### Signal word

: Danger

#### Hazard statements

: Combustible liquid.  
Fatal if inhaled.  
Harmful if swallowed.  
Causes serious eye irritation.  
Causes skin irritation.  
May cause cancer.  
Suspected of damaging fertility or the unborn child.  
Suspected of causing genetic defects.  
Causes damage to organs through prolonged or repeated exposure.  
Very toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Wear respiratory protection. Keep away from flames and hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

#### Response

: Collect spillage. Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

#### Storage

: Store locked up. Store in a well-ventilated place. Keep cool.

#### Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

#### Hazards not otherwise classified

: None known.

## Section 3. Composition/information on ingredients

### Substance/mixture

: Mixture

Ingredient name	%	CAS number
Proprietary Polymer	30-40	-
barium sulfate	10-20	7727-43-7
2-(2-ethoxyethoxy)ethyl acetate	10-20	112-15-2
Cadmium (Non-pyrophoric)	1-10	7440-43-9
(2-methoxymethylethoxy)propanol	1-10	34590-94-8
2-methoxy-1-methylethyl acetate	1-10	108-65-6
selenium	1-10	7782-49-2
petroleum solvent naphtha	1-10	-
Inorganic filler	0.1-1.0	-

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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## Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 30 minutes, keeping eyelids open. Get medical attention.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that mists are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Fatal if inhaled.
- Skin contact** : Causes skin irritation.
- Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## Section 4. First aid measures

- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that mists are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
sulfur oxides  
metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- Remark** : No additional information.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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## **Section 6. Accidental release measures**

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## **Section 7. Handling and storage**

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Storage temperature: 5 to 40°C (41 to 104°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### [Control parameters](#)

#### [Occupational exposure limits](#)

Ingredient name	Exposure limits
barium sulfate	<p><b>ACGIH TLV (United States, 3/2017).</b> Notes: The value is for total dust containing no asbestos and &lt; 1% crystalline silica. TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction</p> <p><b>ACGIH TLV (United States, 2001).</b> TWA: 10 mg/m<sup>3</sup> 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 5 mg/m<sup>3</sup> 10 hours. Form: Respirable fraction TWA: 10 mg/m<sup>3</sup> 10 hours. Form: Total</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust</p> <p><b>OSHA PEL (United States, 6/2016).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust</p>
Cadmium (Non-pyrophoric)	<p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 µg/m<sup>3</sup> 8 hours. TWA: 0.2 mg/m<sup>3</sup>, (as Cd) 8 hours. Form: Dust CEIL: 0.6 mg/m<sup>3</sup>, (as Cd) Form: Dust TWA: 0.1 mg/m<sup>3</sup>, (as Cd) 8 hours. Form: Fume CEIL: 0.3 mg/m<sup>3</sup>, (as Cd) Form: Fume</p> <p><b>ACGIH TLV (United States, 9/2004).</b> TWA: 0.002 mg/m<sup>3</sup> 8 hours. Form: As Cadmium</p> <p><b>OSHA PEL Z2 (United States, 2/2013).</b> TWA: 0.2 mg/m<sup>3</sup> 8 hours. Form: Dust CEIL: 0.6 mg/m<sup>3</sup> Form: Dust TWA: 0.1 mg/m<sup>3</sup> 8 hours. Form: Fume CEIL: 0.3 mg/m<sup>3</sup> Form: Fume</p> <p><b>OSHA PEL (United States, 6/2016).</b> TWA: 5 µg/m<sup>3</sup>, (as Cd) 8 hours.</p> <p><b>ACGIH TLV (United States, 3/2017).</b> TWA: 0.01 mg/m<sup>3</sup>, (as Cd) 8 hours. Form: Inhalable fraction TWA: 0.002 mg/m<sup>3</sup>, (as Cd) 8 hours. Form: Respirable fraction</p>
(2-methoxymethylethoxy)propanol	<p><b>ACGIH TLV (United States, 3/2017). Absorbed through skin.</b> STEL: 909 mg/m<sup>3</sup> 15 minutes. STEL: 150 ppm 15 minutes. TWA: 606 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016). Absorbed through skin.</b> STEL: 900 mg/m<sup>3</sup> 15 minutes. STEL: 150 ppm 15 minutes. TWA: 600 mg/m<sup>3</sup> 10 hours. TWA: 100 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 6/2016). Absorbed through skin.</b> TWA: 600 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b> STEL: 900 mg/m<sup>3</sup> 15 minutes. STEL: 150 ppm 15 minutes. TWA: 600 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.</p>
2-methoxy-1-methylethyl acetate	<p><b>AIHA WEEL (United States, 10/2011).</b> TWA: 50 ppm 8 hours.</p>
selenium	<p><b>ACGIH TLV (United States, 3/2017). Notes: as Se</b> TWA: 0.2 mg/m<sup>3</sup>, (as Se) 8 hours.</p>

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## Section 8. Exposure controls/personal protection

<p>petroleum solvent naphtha</p> <p>Inorganic filler</p>	<p><b>NIOSH REL (United States, 10/2016). Notes: Note: The REL and PEL also apply to other selenium compounds (as Se) except Selenium hexafluoride.</b> TWA: 0.2 mg/m<sup>3</sup>, (as Se) 10 hours.</p> <p><b>Manufacturer (in Switzerland or another country) (United States, 2/2006).</b> TWA: 100 ppm 8 hours.</p> <p><b>OSHA PEL (United States, 6/2016).</b> TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust</p> <p><b>ACGIH TLV (United States, 3/2017). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. 1996 Adoption Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) : 36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A -- Carcinogens.</b> TWA: 10 mg/m<sup>3</sup> 8 hours.</p>
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### Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### Skin protection

##### Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

##### Body protection

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Other skin protection

- : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 8. Exposure controls/personal protection

- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Color** : Red.
- Odor** : Mild.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : 173.88°C (345°F)
- Flash point** : Closed cup: 65.556°C (150°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 1.3
- Solubility** : Not available.
- VOC** : 377.8 g/l
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.

### Aerosol product

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Incompatibility with various substances** : Reactive or incompatible with the following materials: oxidizing materials and acids.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Other Hazardous decomposition products** : carbon oxides (CO, CO<sub>2</sub>), sulfur oxides (SO<sub>2</sub>, SO<sub>3</sub> etc.), nitrogen oxides (NO, NO<sub>2</sub> etc.), Metallic oxides.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.



## Section 11. Toxicological information

**Routes of entry** : Dermal contact. Eye contact. Inhalation. Ingestion.

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-(2-ethoxyethoxy)ethyl acetate	LD50 Dermal	Rabbit	15000 mg/kg	-
	LD50 Oral	Rat	11000 mg/kg	-
Cadmium (Non-pyrophoric)	LD50 Oral	Rat	2330 mg/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
selenium	LD50 Oral	Rat	6700 mg/kg	-
	LD50 Oral	Rat	6700 mg/kg	-
petroleum solvent naphtha	LC50 Inhalation Vapor	Rat	>590 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	3200 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-(2-ethoxyethoxy)ethyl acetate	Eyes - Moderate irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
(2-methoxymethylethoxy) propanol	Eyes - Mild irritant	Human	-	8 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
petroleum solvent naphtha	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
Inorganic filler	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

### Sensitization

Not available.

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
Cadmium (Non-pyrophoric)	-	Subject: Mammalian-Animal	Equivocal
	-	Subject: Mammalian-Human	Equivocal

### Carcinogenicity

No applicable toxicity data

### Additional information:

### Classification

Product/ingredient name	OSHA	IARC	NTP
Cadmium (Non-pyrophoric)	+	1	Known to be a human carcinogen.
selenium	-	3	-
Inorganic filler	-	2B	-

### Reproductive toxicity

## Section 11. Toxicological information

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Cadmium (Non-pyrophoric)	-	-	Equivocal	Rat - Male	Oral: 155 mg/kg	-
	-	-	Equivocal	Rat - Female	Oral: 220 mg/kg	-
	-	Equivocal	-	Rat - Male	Intraperitoneal: 1124 µg/kg	-

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Cadmium (Non-pyrophoric)	Equivocal - Oral	Rat	23 mg/kg	-
	Equivocal - Intravenous	Rat	8 mg/kg	-

### Specific target organ toxicity

Not available.

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Cadmium (Non-pyrophoric)	Category 1	Not determined	Not determined

### Aspiration hazard

Name	Result
petroleum solvent naphtha	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.  
**Inhalation** : Fatal if inhaled.  
**Skin contact** : Causes skin irritation.  
**Ingestion** : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness  
**Inhalation** : Adverse symptoms may include the following:  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations  
**Skin contact** : Adverse symptoms may include the following:  
 irritation  
 redness  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations  
**Ingestion** : Adverse symptoms may include the following:  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations

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## Section 11. Toxicological information

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

**General** : Causes damage to organs through prolonged or repeated exposure.

**Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : Suspected of causing genetic defects.

**Teratogenicity** : Suspected of damaging the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : Suspected of damaging fertility.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	1444.4 mg/kg
Inhalation (vapors)	6.432 mg/l
Inhalation (dusts and mists)	0.07527 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
barium sulfate	Acute EC50 634 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute EC50 32000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
2-(2-ethoxyethoxy)ethyl acetate	LC50 110 mg/l	Fish	96 hours
Cadmium (Non-pyrophoric)	Acute EC50 97 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute EC50 0.095 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 200 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 13.5 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 1 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 2 µg/l Fresh water	Algae - Parachlorella kessleri - Exponential growth phase	72 hours
	Chronic NOEC 0.02 µg/l Fresh water	Fish - Cyprinus carpio	4 weeks
(2-methoxymethylethoxy) propanol	EC50 >969 mg/l	Algae	96 hours
2-methoxy-1-methylethyl acetate	Acute EC50 500 mg/l	Daphnia	48 hours
	Acute LC50 161 mg/l	Fish	96 hours
selenium	Acute EC50 99000 µg/l Fresh water	Algae - Pseudokirchneriella	3 days

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## Section 12. Ecological information

Inorganic filler	Acute EC50 96000 µg/l Fresh water	subcapitata - Exponential growth phase Algae - Pseudokirchneriella subcapitata - Exponential growth phase	4 days
	Acute EC50 2400 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute LC50 940 µg/l Fresh water	Crustaceans - Hyalella azteca - Adult	48 hours
	Acute LC50 0.43 mg/l	Daphnia	96 hours
	Acute LC50 430 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1 mg/l	Fish	96 hours
	Acute LC50 11.5 mg/l	Fish	96 hours
	Acute LC50 12.5 mg/l	Fish	96 hours
	Acute LC50 45 mg/l	Fish	96 hours
	Acute LC50 48 mg/l	Fish	96 hours
	Acute LC50 0.93 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 85 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.59 mg/l Fresh water	Fish - Heteropneustes fossilis	30 days
	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
2-(2-ethoxyethoxy)ethyl acetate	0.76	3.2	low
(2-methoxymethylethoxy) propanol	0.004	-	low
2-methoxy-1-methylethyl acetate	1.2	-	low
selenium	-	1.03	low
petroleum solvent naphtha	2.8 to 6.5	99 to 5780	high

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.

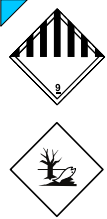
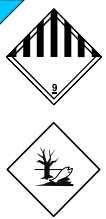
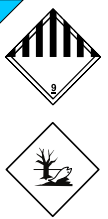
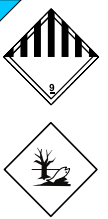
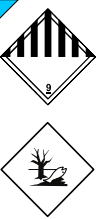
## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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## Section 13. Disposal considerations

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	UN	IMDG	IATA
UN number	Not regulated.	UN3082	UN3082	UN3082	UN3082	UN3082
UN proper shipping name	-	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cadmium (Non-pyrophoric), selenium)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cadmium (Non-pyrophoric), selenium)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cadmium (Non-pyrophoric), selenium)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cadmium (Non-pyrophoric), selenium)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cadmium (Non-pyrophoric), selenium)
Transport hazard class(es)	-	9 	9 	9 	9 	9 
Packing group	-	III	III	III	III	III
Environmental hazards	No.	Yes.	Yes.	Yes.	Yes.	Yes.

	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Additional information - Mexico Classification	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Additional information - UN Classification	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Additional information - IMDG Classification	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Additional information - IATA Classification	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

**Special precautions for user :** **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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## Section 14. Transport information

## Section 15. Regulatory information

**U.S. Federal regulations** : TSCA 5(a)2 proposed significant new use rule (SNUR): No products were found.  
TSCA 5(a)2 final significant new use rule (SNUR): No products were found.  
TSCA 12(b) one-time export notification: No products were found.  
TSCA 12(b) annual export notification: No products were found.

**United States inventory (TSCA 8b)** : All components are listed or exempted.

### SARA 302/304

#### Composition/information on ingredients

No products were found.

### SARA 311/312

**Classification** : Fire hazard  
Immediate (acute) health hazard  
Delayed (chronic) health hazard

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	2-(2-ethoxyethoxy)ethyl acetate	112-15-2	10-20
	Cadmium (Non-pyrophoric)	7440-43-9	1-10
	(2-methoxymethylethoxy)propanol	34590-94-8	1-10
	selenium	7782-49-2	1-10
<b>Supplier notification</b>	2-(2-ethoxyethoxy)ethyl acetate	112-15-2	10-20
	Cadmium (Non-pyrophoric)	7440-43-9	1-10
	selenium	7782-49-2	1-10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

### Canada

**Canada** : At least one component is not listed in DSL but all such components are listed in NDSL.

### International lists

### National inventory

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health	3
Flammability	2
Physical hazards	1

### Procedure used to derive the classification



## Section 16. Other information

Classification	Justification
Flam. Liq. 4, H227 Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 2, H341 Carc. 1B, H350 Repr. 2, H361 (Fertility) Repr. 2, H361 (Unborn child) STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

### History

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**Prepared by** : **Regulatory Affairs Department**  
enthone.msds@macdermidenthone.com

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.