

## SAFETY DATA SHEET

### Section 1. Identification

**GHS product identifier** :  
**Document product code** :  
**Other means of identification** : Not available.  
**Product type** : Liquid.

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

Identified uses

**Supplier/Manufacturer** :

**Emergency telephone number (with hours of operation)** :

### Section 2. Hazard(s) 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 2  
 SKIN CORROSION/IRRITATION - Category 2  
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A  
 GERM CELL MUTAGENICITY - Category 1  
 CARCINOGENICITY - Category 1  
 TOXIC TO REPRODUCTION (Unborn child) - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
 ASPIRATION HAZARD - Category 1  
 AQUATIC HAZARD (ACUTE) - Category 2

GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

## Section 2. Hazard(s) identification

- Hazard statements** : H225 - Highly flammable liquid and vapor.  
H304 - May be fatal if swallowed and enters airways.  
H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H336 - May cause drowsiness or dizziness.  
H340 - May cause genetic defects.  
H350 - May cause cancer.  
H361d - Suspected of damaging the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure. (hearing organs)  
H401 - Toxic to aquatic life.
- Precautionary statements**
- Prevention** : P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P280 - Wear protective gloves, protective clothing and eye or face protection.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.  
P260 - Do not breathe vapor.  
P264 - Wash thoroughly after handling.
- Response** : P308 + P313 - IF exposed or concerned: Get medical advice or attention.  
P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.  
P301 + P310, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P302 + P352 - IF ON SKIN: Wash with plenty of water.  
P332 + P313 - If skin irritation occurs: Get medical advice or attention.  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : P405 - Store locked up.  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified (US)** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	% (w/w)	CAS number
Toluene	65 - 85	108-88-3
Benzene	0.1 - 1	71-43-2
N-methyl-2-pyrrolidone	0.1 - 1	872-50-4

**United States:** The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

**Canada:** The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with the amended HPR as of April 2018.

## 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** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes 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. Get medical attention. If necessary, call a poison center or physician. 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness



## Section 4. First aid measures

- Inhalation** : Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
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:  
nausea or vomiting  
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 fumes 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

: Highly flammable liquid and vapor. 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life. 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



## Section 5. Fire-fighting measures

**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.

## 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**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.

### 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 swallow. 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. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.



## Section 7. Handling and storage

**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. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : 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

#### United States

#### Occupational exposure limits

Ingredient name	Exposure limits
Toluene	<p><b>OSHA PEL Z2 (United States, 2/2013).</b>            TWA: 200 ppm 8 hours.            CEIL: 300 ppm            AMP: 500 ppm 10 minutes.</p> <p><b>NIOSH REL (United States, 10/2016).</b>            TWA: 100 ppm 10 hours.            TWA: 375 mg/m<sup>3</sup> 10 hours.            STEL: 150 ppm 15 minutes.            STEL: 560 mg/m<sup>3</sup> 15 minutes.</p> <p><b>ACGIH TLV (United States, 3/2019).</b>            TWA: 20 ppm 8 hours.</p>
Benzene	<p><b>ACGIH TLV (United States, 3/2019).</b>  <b>Absorbed through skin.</b>            TWA: 0.5 ppm 8 hours.            TWA: 1.6 mg/m<sup>3</sup> 8 hours.            STEL: 2.5 ppm 15 minutes.            STEL: 8 mg/m<sup>3</sup> 15 minutes.</p> <p><b>OSHA PEL Z2 (United States, 2/2013).</b>            TWA: 10 ppm 8 hours.            CEIL: 25 ppm            AMP: 50 ppm 10 minutes.</p> <p><b>NIOSH REL (United States, 10/2016).</b>            TWA: 0.1 ppm 10 hours.            STEL: 1 ppm 15 minutes.</p> <p><b>OSHA PEL (United States, 5/2018).</b>            TWA: 1 ppm 8 hours.            STEL: 5 ppm 15 minutes.</p>
N-methyl-2-pyrrolidone	<p><b>AIHA WEEL (United States, 7/2018).</b>  <b>Absorbed through skin.</b>            TWA: 10 ppm 8 hours.</p>



## Section 8. Exposure controls/personal protection

### Canada

#### Occupational exposure limits

Ingredient name	Exposure limits
Toluene	<p><b>CA Alberta Provincial (Canada, 6/2018). Absorbed through skin.</b>            8 hrs OEL: 50 ppm 8 hours.            8 hrs OEL: 188 mg/m<sup>3</sup> 8 hours.</p> <p><b>CA British Columbia Provincial (Canada, 5/2019).</b>            TWA: 20 ppm 8 hours.</p> <p><b>CA Ontario Provincial (Canada, 1/2018).</b>            TWA: 20 ppm 8 hours.</p> <p><b>CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.</b>            TWAEV: 50 ppm 8 hours.            TWAEV: 188 mg/m<sup>3</sup> 8 hours.</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.</b>            STEL: 60 ppm 15 minutes.            TWA: 50 ppm 8 hours.</p>
Benzene	<p><b>CA Alberta Provincial (Canada, 6/2018). Absorbed through skin.</b>            8 hrs OEL: 1.6 mg/m<sup>3</sup> 8 hours.            15 min OEL: 2.5 ppm 15 minutes.            15 min OEL: 8 mg/m<sup>3</sup> 15 minutes.            8 hrs OEL: 0.5 ppm 8 hours.</p> <p><b>CA British Columbia Provincial (Canada, 5/2019). Absorbed through skin.</b>            TWA: 0.5 ppm 8 hours.            STEL: 2.5 ppm 15 minutes.</p> <p><b>CA Ontario Provincial (Canada, 1/2018). Absorbed through skin.</b>            TWA: 0.5 ppm 8 hours.            STEL: 2.5 ppm 15 minutes.</p> <p><b>CA Quebec Provincial (Canada, 1/2014).</b>            TWAEV: 1 ppm 8 hours.            TWAEV: 3 mg/m<sup>3</sup> 8 hours.            STEV: 5 ppm 15 minutes.            STEV: 15.5 mg/m<sup>3</sup> 15 minutes.</p>
N-methyl-2-pyrrolidone	<p><b>CA Ontario Provincial (Canada, 1/2018).</b>            TWA: 400 mg/m<sup>3</sup> 8 hours.</p>

#### 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.



## Section 8. Exposure controls/personal protection

### 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- 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.
- 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** : Green.
- Odor** : Solvent. [Strong]
- Odor threshold** : 2 to 40 ppm
- pH** : Not available.
- Melting/freezing point** : -95°C (-139°F)
- Initial boiling point and boiling range** : 111°C (231.8°F)
- Flash point** : Closed cup: -3°C (26.6°F)
- Evaporation rate** : 2.24 (Butyl acetate = 1)
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Lower: 1.2%  
Upper: 7.1%
- Vapor pressure** : Not available.
- Vapor density** : 3.1 [Air = 1]
- Relative density** : 0.9
- Solubility** : Insoluble in water.





## Section 9. Physical and chemical properties

<b>Solubility in water</b>	: Insoluble.
<b>Partition coefficient: n-octanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	: 480°C (896°F)
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Dynamic (room temperature): 1000 mPa·s (1000 cP)
<b>Flow time (ISO 2431)</b>	: Not available.
<b>VOC = Volatile Organic Compound</b>	:

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: 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. Do not allow vapor to accumulate in low or confined areas.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials, strong reducing agents, halogen compounds.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LC50 Inhalation Vapor	Rat	49 g/m <sup>3</sup>	4 hours
Benzene	LD50 Oral	Rat	930 mg/kg	-
N-methyl-2-pyrrolidone	LD50 Dermal	Rabbit	8 g/kg	-
	LD50 Oral	Rat	3914 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes	-
	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Eyes - Severe irritant	Rabbit	-	870 µg	-
				24 hours 2	-
	Skin - Mild irritant	Pig	-	mg	-
				24 hours 250 µL	-
	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20	-



## Section 11. Toxicological information

Benzene	Skin - Moderate irritant	Rabbit	-	mg	-
	Eyes - Moderate irritant	Rabbit	-	500 mg	-
	Eyes - Severe irritant	Rabbit	-	88 mg	-
N-methyl-2-pyrrolidone	Skin - Mild irritant	Rat	-	24 hours 2	-
	Skin - Mild irritant	Rabbit	-	mg	-
	Skin - Moderate irritant	Rabbit	-	8 hours 60 µL	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 15	-
			-	mg	-
			-	24 hours 20	-
			-	mg	-
			-	100 mg	-

### Sensitization

There is no data available.

### Mutagenicity

There is no data available.

### Carcinogenicity

#### Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Benzene	+	1	Known to be a human carcinogen.

### Reproductive toxicity

There is no data available.

### Teratogenicity

There is no data available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 3	-	Narcotic effects
N-methyl-2-pyrrolidone	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 2	-	hearing organs
Benzene	Category 1	-	-

### Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.



## Section 11. Toxicological information

- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

### 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:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
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:  
nausea or vomiting  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

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

#### Short term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

#### Potential chronic health effects

- General** : May cause damage to organs through prolonged or repeated exposure.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : May cause genetic defects.
- Reproductive toxicity** : Suspected of damaging the unborn child.

## Section 11. Toxicological information

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Toluene	N/A	N/A	N/A	49	N/A
Benzene	930	N/A	N/A	N/A	N/A
N-methyl-2-pyrrolidone	3914	8000	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Toluene	Acute EC50 11600 µg/L Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
Benzene	Chronic NOEC 2 mg/L Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 1600000 µg/L Fresh water	Algae - Selenastrum sp.	96 hours
	Acute EC50 10 mg/L Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 21 mg/L Marine water	Crustaceans - Artemia salina	48 hours
	Chronic EC10 >1360 mg/L Fresh water	Algae - Scenedesmus subspicatus	96 hours
	Chronic NOEC 98 mg/L Fresh water Chronic NOEC 1.5 to 5.4 µl/L Marine water	Daphnia - Daphnia magna Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	21 days 4 weeks

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Toluene	2.73	90	low
Benzene	2.13	11	low
N-methyl-2-pyrrolidone	-0.46	-	low

### 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 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 empty 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.

### United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Toluene	108-88-3	Listed	U220

## Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
<b>UN number</b>	UN1133	UN1133	UN1133	UN1133
<b>UN proper shipping name</b>	ADHESIVES	ADHESIVES	ADHESIVES	ADHESIVES
<b>Transport hazard class(es)</b>	3 	3 	3 	3 
<b>Packing group</b>	II	II	II	II
<b>Environmental hazards</b>	No.	No.	No.	No.

AERG : 128

### Additional information

- DOT Classification** : **Reportable quantity** 1402.5 lbs / 636.75 kg [186.9 gal / 707.5 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.  
**Special provisions** 383
- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).
- IMDG** : **Emergency schedules** F-E, S-D

**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.



## Section 14. Transport information

Transport in bulk according to IMO instruments : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : TSCA 5(a)2 proposed significant new use rules: N-methyl-2-pyrrolidone  
TSCA 8(a) PAIR: 2-Methoxy-1-methylethyl acetate  
TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
Clean Water Act (CWA) 307: Toluene; Benzene; Chromium (III) oxide; Ethylbenzene  
Clean Water Act (CWA) 311: Toluene; Xylene; Benzene; n-Butyl acetate; Ethylbenzene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

### SARA 311/312

#### **Classification**

: FLAMMABLE LIQUIDS - Category 2  
SKIN CORROSION/IRRITATION - Category 2  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A  
GERM CELL MUTAGENICITY - Category 1  
CARCINOGENICITY - Category 1A  
TOXIC TO REPRODUCTION (Unborn child) - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
ASPIRATION HAZARD - Category 1

#### Composition/information on ingredients

Name	%	Classification
Toluene	≥50 - ≤75	FLAMMABLE LIQUIDS - Category 2 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
Benzene	≥0.3 - <1	FLAMMABLE LIQUIDS - Category 2



## Section 15. Regulatory information

N-methyl-2-pyrrolidone	≤0.3	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1 ASPIRATION HAZARD - Category 1 FLAMMABLE LIQUIDS - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
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### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	Toluene	108-88-3	≥50 - ≤75
	Benzene	71-43-2	≥0.3 - <1
<b>Supplier notification</b>	Toluene	108-88-3	≥50 - ≤75
	Benzene	71-43-2	≥0.3 - <1

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.

### State regulations

- Massachusetts** : The following components are listed: Toluene  
**New York** : The following components are listed: Toluene; Benzene  
**New Jersey** : The following components are listed: Toluene; Benzene  
**Pennsylvania** : The following components are listed: Toluene; Benzene

### California Prop. 65

**⚠ WARNING:** This product can expose you to chemicals including Benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Ethylbenzene, which is known to the State of California to cause cancer, and Toluene and N-methyl-2-pyrrolidone, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Toluene	-	Yes.
Benzene	Yes.	Yes.
N-methyl-2-pyrrolidone	-	Yes.
Ethylbenzene	Yes.	-

### Canadian lists

- Canadian NPRI** : The following components are listed: Toluene  
**CEPA Toxic substances** : The following components are listed: Benzene

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

## Section 15. Regulatory information

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**Canada** : All components are listed or exempted.

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

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
GERM CELL MUTAGENICITY - Category 1	Calculation method
CARCINOGENICITY - Category 1	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Expert judgment
AQUATIC HAZARD (ACUTE) - Category 2	Calculation method

### History

**Date of issue/Date of revision** : 04/15/2021

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**Prepared by** : KMK Regulatory Services Inc.

**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)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

**Internal code** : 261-061



## Section 16. Other information

### Notice to reader

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