

SAFETY DATA SHEET

BG GDI Intake Valve Cleaner



1. Product and company identification

Manufacturer : BG Products Inc.
701 S. Wichita Street
Wichita, KS, 67213, USA
www.bgprod.com

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

Identified uses

Fuel additives

MSDS # : 260
Validation date : 3/24/2016
Responsible name : Kolin Anglin, Environmental Coordinator
316-265-2686
msds@bgprod.com
In case of emergency : (800) 424-9300 (CHEMTREC)

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 2
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
ASPIRATION HAZARD - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 18.9%

GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : Highly flammable liquid and vapor.
Harmful if inhaled.
Causes serious eye irritation.
Causes skin irritation.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention

: Wear protective gloves: > 8 hours (breakthrough time): Solvent. Chemical-resistant gloves. (EN 374) thickness (minimum) (0.4 mm). Wear eye or face protection: Recommended: safety glasses with side-shields (EN 166). Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

2. Hazards identification

| | |
|---|---|
| Response | : Get medical attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. 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. |

3. Composition/information on ingredients

| | |
|--|-------------------|
| Substance/mixture | : Mixture |
| Other means of identification | : Not available. |
| <u>CAS number/other identifiers</u> | |
| CAS number | : Not applicable. |
| Product code | : 260 |

| Name | CAS number | % |
|------------------------|------------|---------|
| Isopropyl alcohol | 67-63-0 | 15 - 40 |
| xylene | 1330-20-7 | 15 - 40 |
| 2-butoxyethanol | 111-76-2 | 10 - 30 |
| toluene | 108-88-3 | 7 - 13 |
| N-methyl-2-pyrrolidone | 872-50-4 | 1 - 5 |
| morpholine | 110-91-8 | 1 - 5 |
| ethylbenzene | 100-41-4 | 1 - 5 |

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.

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 10 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Skin contact | : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. |

4. First aid measures

- 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** : Harmful if inhaled. 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
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 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.

See toxicological information (Section 11)

5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.
- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

5. Fire-fighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen 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.

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).

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.

7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. 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.

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. 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** : 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.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---------------------------------|-----------------|
| Isopropyl alcohol | - |
| xylene | - |
| Ethylene glycol monobutyl ether | - |
| toluene | - |
| N-methyl-2-pyrrolidone | - |
| morpholine | - |
| ethylbenzene | - |

- 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.

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.

- 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. Recommended: safety glasses with side-shields (EN 166)

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. 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. Recommended: Wear protective shoes. (EN ISO 20345)

8. Exposure controls/personal protection

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Personal protective equipment (Pictograms) :



9. Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 10°C (50°F) [Pensky-Martens.]

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Color : Yellow. [Light]

Odor : Solvent. [Slight]

pH : Not available.

Boiling/condensation point : 77°C (170.6°F)

Melting/freezing point : <-60°C (<-76°F)

Specific gravity : 0.8801

Vapor pressure : Not available.

Vapor density : Not available.

Odor threshold : Not available.

Evaporation rate : Not available.

Viscosity : Kinematic (40°C (104°F)): 0.025 cm²/s (2.5 cSt)

Solubility : Very slightly soluble in the following materials: cold water and hot water.

VOC content : 95.2 % (w/w)

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.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

| Product/ingredient name | Result | Species | Dose | Exposure |
|---------------------------------|-----------------------|---------|---------------------|----------|
| Isopropyl alcohol | LD50 Dermal | Rabbit | 12800 mg/kg | - |
| | LD50 Oral | Rat | 5000 mg/kg | - |
| xylene | LC50 Inhalation Gas. | Rat | 5000 ppm | 4 hours |
| | LD50 Oral | Rat | 4300 mg/kg | - |
| Ethylene glycol monobutyl ether | LC50 Inhalation Gas. | Rat | 450 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 220 mg/kg | - |
| | LD50 Oral | Rat | 250 mg/kg | - |
| toluene | LC50 Inhalation Vapor | Rat | 49 g/m ³ | 4 hours |
| | LD50 Oral | Rat | 636 mg/kg | - |
| N-methyl-2-pyrrolidone | LD50 Dermal | Rabbit | 8 g/kg | - |
| | LD50 Oral | Rat | 3914 mg/kg | - |
| morpholine | LD50 Oral | Rat | 1738 mg/kg | - |
| ethylbenzene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 3500 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---------------------------------|--------------------------|---------|-------|----------------------------|-------------|
| Isopropyl alcohol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 10 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |
| xylene | Eyes - Mild irritant | Rabbit | - | 87 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 5 milligrams | - |
| | Skin - Mild irritant | Rat | - | 8 hours 60 microliters | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 milligrams | - |
| Ethylene glycol monobutyl ether | Skin - Moderate irritant | Rabbit | - | 100 Percent | - |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |
| toluene | Eyes - Mild irritant | Rabbit | - | 0.5 minutes 100 milligrams | - |
| | Eyes - Mild irritant | Rabbit | - | 870 Micrograms | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 2 milligrams | - |
| | Skin - Mild irritant | Pig | - | 24 hours 250 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 435 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 500 milligrams | - |
| N-methyl-2-pyrrolidone | Eyes - Moderate irritant | Rabbit | - | 100 milligrams | - |
| morpholine | Eyes - Severe irritant | Rabbit | - | 2 milligrams | - |

Section 11. Toxicological information

| | | | | | |
|--------------|--------------------------|--------|---|------------------------|---|
| ethylbenzene | Skin - Moderate irritant | Rabbit | - | 500 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 15 milligrams | - |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|---------------------------------|------|------|-----|
| xylene | - | 3 | - |
| Ethylene glycol monobutyl ether | - | 3 | - |
| toluene | - | 3 | - |
| morpholine | - | 3 | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|-------------------|------------|-------------------|------------------|
| Isopropyl alcohol | Category 3 | Not applicable. | Narcotic effects |

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

| Name | Result |
|--------------|--------------------------------|
| ethylbenzene | ASPIRATION HAZARD - Category 1 |

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. 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

Section 11. Toxicological information

- 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
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

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

Not available.

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

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---------------------------------|--|--|----------------------------------|
| Isopropyl alcohol | Acute LC50 1400000 µg/l Marine water | Crustaceans - Crangon crangon | 48 hours |
| xylene | Acute LC50 1400000 µg/l Acute LC50 8500 µg/l Marine water | Fish - Gambusia affinis Crustaceans - Palaemonetes pugio | 96 hours 48 hours |
| Ethylene glycol monobutyl ether | Acute LC50 13400 µg/l Fresh water Acute EC50 >1000 mg/l Fresh water | Fish - Pimephales promelas Daphnia - Daphnia magna | 96 hours 48 hours |
| toluene | Acute LC50 800000 µg/l Marine water Acute LC50 1250000 µg/l Marine water Acute EC50 12500 µg/l Fresh water | Crustaceans - Crangon crangon Fish - Menidia beryllina Algae - Pseudokirchneriella subcapitata | 48 hours 96 hours 72 hours |

12. Ecological information

| | | | |
|--|------------------------------------|---|----------|
| N-methyl-2-pyrrolidone morpholine ethylbenzene | 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 |
| | Acute LC50 5500 µg/l Fresh water | Fish - Oncorhynchus kisutch - Fry | 96 hours |
| | Chronic NOEC 1000 µg/l Fresh water | Daphnia - Daphnia magna | 21 days |
| | Acute LC50 1.23 ppm Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 832 ppm Fresh water | Fish - Lepomis macrochirus | 96 hours |
| | Acute EC50 28 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute LC50 180 mg/l Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| | Acute EC50 4600 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 72 hours |
| | Acute EC50 3600 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute EC50 6530 µg/l Fresh water | Crustaceans - Artemia sp. - Nauplii | 48 hours |
| | Acute EC50 2930 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 4200 µg/l Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| | | | |

Persistence and degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---------------------------------|--------------------|-------------|-----------|
| Isopropyl alcohol | 0.05 | - | low |
| xylene | 3.12 | 8.1 to 25.9 | low |
| Ethylene glycol monobutyl ether | 0.81 | - | low |
| toluene | 2.73 | 90 | low |
| N-methyl-2-pyrrolidone | -0.46 | - | low |
| morpholine | -2.55 | <2.8 | low |
| ethylbenzene | 3.6 | - | low |

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

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

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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

13. Disposal considerations

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

| | DOT Classification | IMDG | IATA |
|----------------------------|--|--|---|
| UN number | UN1993 | UN1993 | UN1993 |
| UN proper shipping name | FLAMMABLE LIQUIDS, N.O.S. (xylene, toluene) | FLAMMABLE LIQUIDS, N.O.S. (xylene, toluene) | FLAMMABLE LIQUIDS, N.O.S. (xylene, toluene) |
| Transport hazard class(es) | 3  | 3  | 3  |
| Packing group | II | II | II |
| Environmental hazards | No. | No. | No. |
| Additional information | | <u>Emergency schedules (EmS)</u> F-E, S-E | <u>Passenger and Cargo Aircraft</u> Quantity limitation: 5 L <u>Cargo Aircraft Only</u> Quantity limitation: 60 L <u>Limited Quantities - Passenger Aircraft</u> Quantity limitation: 1 L |

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.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
Commerce control list precursor: 2,2',2''-nitrilotriethanol
United States inventory (TSCA 8b): Not determined.
Clean Water Act (CWA) 307: ethylbenzene; toluene
Clean Water Act (CWA) 311: xylene; ethylbenzene; toluene

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

15. Regulatory information

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

Composition/information on ingredients

| Name | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|----------------------------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| xylene | Yes. | No. | No. | Yes. | Yes. |
| Isopropyl alcohol | Yes. | No. | No. | Yes. | Yes. |
| 2-butoxyethanol | Yes. | No. | No. | Yes. | Yes. |
| toluene | Yes. | No. | No. | Yes. | Yes. |
| morpholine | Yes. | No. | No. | Yes. | Yes. |
| N-methyl-2-pyrrolidone | Yes. | No. | No. | Yes. | Yes. |
| 2,2',2''-nitrilotriethanol | No. | No. | No. | Yes. | Yes. |
| ethylbenzene | Yes. | No. | No. | Yes. | Yes. |

SARA 313

| | Product name | CAS number |
|--|------------------------|------------|
| Form R - Reporting requirements | Isopropyl alcohol | 67-63-0 |
| | xylene | 1330-20-7 |
| | 2-butoxyethanol | 111-76-2 |
| | toluene | 108-88-3 |
| | N-methyl-2-pyrrolidone | 872-50-4 |
| | ethylbenzene | 100-41-4 |
| Supplier notification | Isopropyl alcohol | 67-63-0 |
| | xylene | 1330-20-7 |
| | 2-butoxyethanol | 111-76-2 |
| | toluene | 108-88-3 |
| | N-methyl-2-pyrrolidone | 872-50-4 |
| | ethylbenzene | 100-41-4 |

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

State regulations

- Massachusetts** : The following components are listed: 2-BUTOXYETHANOL; MORPHOLINE; 1-METHYL-2-PYRROLIDONE; TRIETHANOLAMINE; XYLENE; ETHYL BENZENE; ISOPROPYL ALCOHOL; TOLUENE
- New York** : The following components are listed: Xylene (mixed); Ethylbenzene; Toluene
- New Jersey** : The following components are listed: 2-BUTOXY ETHANOL; BUTYL CELLOSOLVE; MORPHOLINE; 1-METHYL-2-PYRROLIDONE; 2-PYRROLIDINONE, 1-METHYL-; TRIETHANOLAMINE; ETHANOL, 2,2',2''-NITRILOTRIS-; XYLENES; BENZENE, DIMETHYL-; ETHYL BENZENE; BENZENE, ETHYL-; ISOPROPYL ALCOHOL; 2-PROPANOL; TOLUENE; BENZENE, METHYL-
- Pennsylvania** : The following components are listed: ETHANOL, 2-BUTOXY-; MORPHOLINE; 2-PYRROLIDINONE, 1-METHYL-; ETHANOL, 2,2',2''-NITRILOTRIS-; BENZENE, DIMETHYL-; BENZENE, ETHYL-; 2-PROPANOL; BENZENE, METHYL-

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.

15. Regulatory information

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|------------------------|--------|--------------|---|---------------------------------|
| toluene | No. | Yes. | No. | 7000 µg/day (ingestion) |
| N-methyl-2-pyrrolidone | No. | Yes. | No. | 3200 µg/day (inhalation) |
| ethylbenzene | Yes. | No. | 41 µg/day (ingestion) 54 µg/day (inhalation) | No. |

United States inventory (TSCA 8b) : Not determined.

Canada

WHMIS (Canada) : Class B-2: Flammable liquid
Class D-1A: Material causing immediate and serious toxic effects (Very toxic).
Class D-2A: Material causing other toxic effects (Very toxic).
Class E: Corrosive material

Canadian lists

Canadian NPRI : The following components are listed: 2-Butoxyethanol; N-Methyl-2-pyrrolidone; Xylene (all isomers); Ethylbenzene; Isopropyl alcohol; Toluene

CEPA Toxic substances : The following components are listed: 2-butoxyethanol

Canada inventory : Not determined.

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

| Ingredient name | List name | Status |
|-----------------|--------------|--------|
| Triethanolamine | Schedule III | Listed |

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Europe : Not determined.

Japan : Not determined.

Malaysia : Not determined.

New Zealand : Not determined.

Philippines : Not determined.

15. Regulatory information

Republic of Korea : Not determined.

Taiwan : Not determined.

16. Other information

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

| | |
|------------------|---|
| Health | 3 |
| Flammability | 3 |
| Physical hazards | 0 |
| | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of printing : 3/24/2016

Date of issue/Date of revision : 3/24/2016

Date of previous issue : No previous validation

Version : 1

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

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

16. Other information

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.