

# SAFETY DATA SHEET

## Diisobutylene

### Section 1. Identification

<b>GHS product identifier</b>	Diisobutylene
<b>Chemical name</b>	Diisobutylene
<b>Other means of identification</b>	Pentene, 2,4,4-trimethyl-; Diisobutylene
<b>Product use</b>	Chemical Intermediate for antioxidants, surfactants, lube additives, plasticizers, and rubber chemicals.
<b>Supplier's details</b>	TPC Group One Allen Center, Suite 2000 Houston, TX, 77002, USA T 713-627-7474
<b>company web address</b>	www.tpcgrp.com
<b>Emergency telephone number (with hours of operation)</b>	800-424-9300 (Chemtrec - U.S.) +1-793-527-3887 (Chemtrec - International)

### Section 2. Hazards identification

<b>OSHA/HCS status</b>	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Classification of the substance or mixture</b>	FLAMMABLE LIQUIDS - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1

#### GHS label elements

##### Hazard pictograms



##### Signal word

Danger

##### Hazard statements

Highly flammable liquid and vapor.  
May be fatal if swallowed and enters airways.  
May cause drowsiness and dizziness.

#### Precautionary statements

##### Prevention

Wear protective gloves. Wear eye or face protection.  
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.  
Avoid breathing vapor.

## Section 2. Hazards identification

<b>Response</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
<b>Storage</b>	Store locked up. Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	Avoid contact with skin and clothing. Wash thoroughly after handling.
<b>Hazards not otherwise classified</b>	Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	Substance
<b>Chemical name</b>	Diisobutylene
<b>Other means of identification</b>	Pentene, 2,4,4-trimethyl-; Diisobutylene

### CAS number/other identifiers

<b>CAS number</b>	25167-70-8
<b>Product code</b>	Not available.

Ingredient name	%	CAS number
Diisobutylene	99.5	25167-70-8

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

**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

<b>Eye contact</b>	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.
<b>Inhalation</b>	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.
<b>Skin contact</b>	Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

## Section 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** No known significant effects or critical hazards.

**Inhalation** Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.

**Skin contact** Defatting to the skin. May cause skin dryness and irritation.

**Ingestion** Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

#### Over-exposure signs/symptoms

**Eye contact** No specific data.

**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  
dryness  
cracking

**Ingestion** Adverse symptoms may include the following:  
nausea or vomiting

### 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.

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.

## Section 5. Fire-fighting measures

<b>Specific hazards arising from the chemical</b>	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. 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. Runoff to sewer may create fire or explosion hazard.
<b>Hazardous thermal decomposition products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide
<b>Special protective actions for fire-fighters</b>	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.
<b>Special protective equipment for fire-fighters</b>	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

<b>For non-emergency personnel</b>	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.
<b>For emergency responders</b>	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".
<b>Environmental precautions</b>	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

<b>Small spill</b>	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.
<b>large spill</b>	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

<b>Protective measures</b>	Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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
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## Section 7. Handling and storage

### Advice on general occupational hygiene

and can be hazardous. Do not reuse container.

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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Diisobutylene	<b>AIHA WEEL (United States, 10/2011).</b> TWA: 75 ppm 8 hours.

### 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: safety glasses with side-shields.

#### 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.

## Section 8. Exposure controls/personal protection

<b>Other skin protection</b>	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.
<b>Respiratory protection</b>	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid.
<b>Color</b>	Clear.
<b>Odor</b>	Turpentine like.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point</b>	-93.5°C (-136.3°F)
<b>Boiling point</b>	101.4°C (214.5°F)
<b>Flash point</b>	-5°C (23°F)
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>lower and upper explosive (flammable) limits</b>	Lower: Data Unavailable. Upper: 0.9%
<b>Vapor pressure</b>	6 kPa (44.7 mm Hg) @ 25°C (77°F)
<b>Vapor density</b>	4 [Air = 1]
<b>Specific gravity</b>	0.72 @ 15.6°C (60°F)
<b>Solubility</b>	Not available.
<b>Solubility in water</b>	Insoluble.
<b>Partition coefficient n-octanol/water</b>	4.55
<b>Auto-ignition temperature</b>	420°C (788°F)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Kinematic (room temperature): 0.00749 cm <sup>2</sup> /s (0.749 cSt)
<b>Molecular weight</b>	112.1 g/mol
<b>% Volatiles by volume</b>	100
<b>Reactivity in water</b>	Does not react with water.

## 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.

## Section 10. Stability and reactivity

### 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. Hazardous polymerization does not occur.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Diisobutylene	LC50 Inhalation Vapor LD50 Dermal LD50 Oral	Rat Rabbit Mammal - species unspecified	>12200 mg/m <sup>3</sup> >3200 mg/kg >10000 mg/kg	4 hours - -

#### Irritation/Corrosion

Not available.

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Diisobutylene	Category 3	Not applicable.	Narcotic effects

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Name	Result
Diisobutylene	ASPIRATION HAZARD - Category 1

### Information on the likely routes of exposure

Not available.

### Potential acute health effects

#### Eye contact

No known significant effects or critical hazards.

#### Inhalation

Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.

#### Skin contact

Defatting to the skin. May cause skin dryness and irritation.

#### Ingestion

Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

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## Section 11. Toxicological information

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

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
<b>Skin contact</b>	Adverse symptoms may include the following: irritation dryness cracking
<b>Ingestion</b>	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

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

#### long term exposure

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

#### Potential chronic health effects

Not available.

<b>General</b>	Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Diisobutylene	Acute EC50 1.2 mg/l Acute LC50 0.58 mg/m3	Daphnia Fish - Oncorhynchus mykiss	48 hours 96 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential



## Section 12. Ecological information

Product/ingredient name	logP <sub>ow</sub>	BCF	Potential
Diisobutylene	4.55	-	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.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	UN2050	UN2050	UN2050	UN2050	UN2050	UN2050
UN proper shipping name	DIISOBUTYLENE, ISOMERIC COMPOUNDS	DIISOBUTYLENE, ISOMERIC COMPOUNDS	DIISOBUTYLENE, ISOMERIC COMPOUNDS	DIISOBUTYLENE, ISOMERIC COMPOUNDS	DIISOBUTYLENE, ISOMERIC COMPOUNDS	DIISOBUTYLENE, ISOMERIC COMPOUNDS
Transport hazard class(es)	3	3	3	3	3	3
Transport label				 	 	
Packing group	II	II	II	II	II	II
Environmental hazards	No.	No.	No.	Yes.	Marine Pollutant: Yes	No.
Additional information	<b>limited quantity</b> Yes. <b>Packaging instruction</b> <b>Passenger aircraft</b>	<b>Explosive limit and limited Quantity Index</b> 1 <b>Passenger Carrying</b>	-	The environmentally hazardous substance mark is not required when transported in sizes of :55 L or	The marine pollutant mark is not required when transported in sizes of :55 L or :55 kg.	The environmentally hazardous substance mark may appear if required by other

## Section 14. Transport information

Quantity limitation: 5 L <b>Cargo aircraft</b> Quantity limitation: 60 L  <b>Special provisions</b> IB2, T4, TP1  <b>Packaging Exceptions:</b> 150, 306 <b>Packaging Non-Bulk:</b> 202 <b>Packaging Bulk:</b> 242	<b>Road or Rail Index</b> 5		:55 kg.  <b>Hazard identification number</b> 33  <b>limited quantity</b> 1 L  <b>Tunnel code</b> (D/E)	<b>Emergency schedules (EmS)</b> F-E, S-D	transportation regulations. <b>Passenger and Cargo Aircraft</b> Quantity limitation: 5 L Packaging instructions: 353 <b>Cargo Aircraft Only</b> Quantity limitation: 60 L Packaging instructions: 364 <b>limited Quantities - Passenger Aircraft</b> Quantity limitation: 1 L Packaging instructions: Y341
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### 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 73/78 and the IBC Code

Not available.

## Section 15. Regulatory information

### U.S. Federal regulations

**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined

**United States inventory (TSCA 8b):** This material is listed or exempted.

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

Not 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)**

Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

### **SARA 304 RQ**

Not applicable.

### SARA 311/312

## Section 15. Regulatory information

**Classification** Fire hazard  
Immediate (acute) health hazard

### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Diisobutylene	100	Yes.	No.	No.	Yes.	No.

### State regulations

**Massachusetts** This material is listed.  
**New York** This material is not listed.  
**New Jersey** This material is listed.  
**Pennsylvania** This material is listed.

### International regulations

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

Not 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** This material is listed or exempted.  
**Canada** This material is listed or exempted.  
**China** This material is listed or exempted.  
**Europe** This material is listed or exempted.  
**Japan** This material is listed or exempted.  
**Malaysia** Not determined.  
**New Zealand** This material is listed or exempted.  
**Philippines** This material is listed or exempted.  
**Republic of Korea** This material is listed or exempted.  
**Taiwan** This material is listed or exempted.

## Section 16. Other information

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

Health	1
Flammability	3
Physical hazards	0

## Section 16. Other information

**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 SDSs 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.

### Procedure used to derive the classification

Classification	Justification
Flam. Liq. 2 STOT SE 3 Asp. Tox. 1	On basis of test data Expert judgment On basis of test data

### History

**Date of printing** 06/24/2022

**Date of issue/Date of revision** 06/24/2022

**Date of previous issue** 04/08/2015

**Version** 2.0

### **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 73/78 = 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

**Disclaimer** Before using this product, the user is advised to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained in this document as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the user's specific application. TPC Group does not make, and expressly disclaims, all warranties, including warranties of merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained in this document or the product itself. TPC Group further makes no representations, and extends no warranties of any kind, that the use, sale, or other disposition of the product, whether alone or in combination with other products, will not infringe any patent, copyright, trademark, or other proprietary right. The user expressly assumes all risk and liability, whether based in contract, tort or

## Section 16. Other information

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