

# SAFETY DATA SHEET

## FOR INDUSTRIAL USE ONLY

## EPIKOTETM Resin 1163

## Section 1. Product and company identification

GHS product identifier : EPIKOTE™ Resin 1163

MSDS Number : L143J

Product type : Brominated epoxy resin
Material uses : Epoxy Resin Systems

Manufacturer/Supplier/Importer : Westlake Epoxy Inc.

12650 DIRECTORS DR STE 100

Stafford, Texas 77477

**USA** 

Contact person : epoxyservice@westlake.com

**Telephone** : For additional health and safety or regulatory information, call

1 888 443 9466.

**Emergency telephone number** : For Emergency Medical Assistance

Call Health & Safety Information Services

1-866-303-6949

For Emergency Transportation Information

NCEC US Domestic +1 866 928 0789 (toll-free, US only)

NCEC Americas +1 215 207 0061 CANUTEC CA Domestic (613) 996-6666

## Section 2. Hazards identification

Classification of the substance or

mixture

: EYE IRRITATION - Category 2B SKIN SENSITISATION - Category 1

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE

Respiratory tract irritation - Category 3

**GHS** label elements

Hazard pictograms

**(!)** 

Signal word : Warning

**Hazard statements**: H320 Causes eye irritation.

H317 May cause an allergic skin reaction.H335 May cause respiratory irritation.

**Precautionary statements** 

General : Not applicable.

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**Prevention** : Wear protective gloves.

Use only outdoors or in a well-ventilated area.

Avoid breathing dust.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

**Response** : IF INHALED:

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctorif you feel unwell.

Wash contaminated clothing before reuse.

IF ON SKIN:

Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or 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 advice or attention.

Storage : Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Disposal : Dispose of contents and container in accordance with all local,

regional, national and international regulations.

Other hazards which do not result in classification

Unclassified Hazard - Combustible Dust

Combustible dust when finely divided and suspended in air. Fine dust clouds may form explosive mixtures with air. Product can explode if dust cloud is formed and ignited.

dust cloud is formed and ignited.

Minimize airborne dust. Eliminate all fire/ignition sources including static discharges near product/package. Prevent dust accumulation. Refer to Handling Section 7 of the MSDS for more information.

Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

# Section 3. Composition/information on ingredients

Substance/mixture : Substance

#### CAS number/other identifiers

**CAS number** : 40039-93-8 **EC number** : 500-107-7

Ingredient name	% by weight	CAS
		number
Phenol, 4,4'-(1-methylethylidene)bis[2,6-dibromo-, polymer	100	40039-93-8
with (chloromethyl)oxirane		

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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**

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. If irritation persists, 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: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes.

Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes

thoroughly before reuse.

**Ingestion**: Wash out mouth with water. Remove dentures if any. Remove victim

to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. 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.

## 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 aid personnel : 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.

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See toxicological information (Section 11)

## Section 5. Fire-fighting measures

## Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media Use water spray or mist, dry chemical, foam or CO2.

Do not use water jet.

Specific hazards arising from the chemical

Hazardous thermal decomposition products Combustible solid that burns. Fine dust clouds may form explosive mixtures with air.

Decomposition products may include the following materials: carbon dioxide carbon monoxide

halogenated compounds

Special protective actions for firefighters

Special protective equipment for fire-fighters

Remark

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.

Fire-fighters should wear appropriate protective equipment and selfcontained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions). The ATEX Directive defines combustible powders as less than 500 microns in diameter. When processed with flammable liquids/vapors/mists, ignitable (hybrid) mixtures may be formed with combustible dusts. Ignitable mixtures will increase the rate of explosion pressure rise and the MIE will be lower than the pure dust in air mixture. The Lower Explosive Limit (LEL) of the vapor/dust mixture will be lower than the individual LELs for the vapors/mists or dusts. See NFPA 77 for additional guidance.

## 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. Minimize airborne dust and eliminate all fire/ignition sources. Clean up spill as soon as possible using procedures described below. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on

appropriate personal protective equipment.

For emergency responders

If specialised 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

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product has caused environmental pollution (sewers, waterways, soil or air).

## Methods and material for containment and cleaning up

Small spill

Move containers from spill area. Do not use air hoses for cleaning. Minimize dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Use spark-proof tools and explosion-proof equipment. Vacuums with explosion-proof motors should be used. Dispose of via a licensed waste disposal contractor.

Large spill

Prevent entry into sewers, water courses, basements or confined areas. Avoid creating dusty conditions and prevent wind dispersal. Do not use air hoses for cleaning. Minimize dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Use spark-proof tools and explosion-proof equipment. Vacuums with explosion-proof motors should be used. Dispose of via a licensed waste disposal contractor. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

## Section 7. Handling and storage

## Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see section 8 of SDS). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

## COMBUSTIBLE DUST HANDLING PROCEDURES:

Combustible dusts at sufficient concentrations can form explosive mixtures with air. High dust concentrations should be avoided. Follow US NFPA Standard 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids," UK HSE Guidance HSG 103, approved Codes of Practice (ACOPS) established for Explosive Atmospheres under the ATEX Directive 1999/92/EC for worker protection and ATEX Directive 94/9/EC that regulates equipment and protection systems used in potentially explosive atmospheres or other national guidance on safe handling of combustible dusts. Train workers in the recognition and prevention of hazards associated with

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combustible dust in the plant.

Minimize airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. Establish good housekeeping practices. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. Use continuous suction at points of dust generation to capture and minimize the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimize the probability of a "secondary" explosion. According to NFPA Standard 654, dust layers 1/32 in.(0.8 mm) thick can be sufficient to warrant immediate cleaning of the area.

Control sources of static electricity. This product or the package itself can accumulate static charges, and static discharge can be a source of ignition. Solids handling systems must be designed in accordance with applicable NFPA standards (including 654 and 77) and other national guidance. Do not empty directly into flammable solvents or in the presence of flammable vapors. The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges.

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

Estore 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 of SDS) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep away from heat, hot surfaces, sparks and flame. 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
Phenol, 4,4'-(1-methylethylidene)bis[2,6-dibromo-, polymer with (chloromethyl)oxirane	None.

# Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures

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and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls

: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eve/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., For PPE selection see National Fire Protection Association (NFPA) 2113, Standard on Selection, Care, Use and Maintenance of Flame-Resistant Carments for Protection of Industrial Personnel Against Flash Fire.

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.

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# Section 9. Physical and chemical properties

## **Appearance**

Physical state : Flakes.
Color : Off-white.

Odor : slight

Odor threshold : Not available pH : Not available

**Melting point**/ **Freezing point** : 59 - 69 °C (138 - 156 °F)

**Boiling point** : Not available

Flash point : Not defined for solids

Burning time: Not availableBurning rate: Not availableEvaporation rate: Not availableFlammability (solid, gas): Not available

Lower and upper explosive : Lower: Not defined for solids (See MEC)

(flammable) limits Upper: Not defined for solids

Vapor pressure : Not available
Vapor density : Not available
Relative density : Not available

**Density** : 1.85 g/cm3 (ASTM D 792)

Solubility : Not available Solubility in water : Negligible

Partition coefficient: n-

octanol/water

Auto-ignition temperature: Not availableDecomposition temperature: Not availableSADT: Not available

Viscosity : Dynamic: 3 - 5 Pa·s @ 100 °C (212 °F) (Brookfield)

Kinematic: Not available

## Other information

\*Minimum Explosive : 15 - 100 kg/m3(typical range)

Concentration (MEC)

\*Minimum Ignition Energy (MIE) : 3 - 150 mJ (typical range)
\*Minimum Ignition Temperature : 490 - 550 °C (typical range)

(MIT)

\*Minimum Ignition Temperature : Not available

- Layer

\*Kst : 43 - 243 m.b\_/s(typical range)
\*Pmax : 349 - 427 psiNot available

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\* These values listed above are only representative values. A resin's characteristics may change depending upon the process and conditions of use at your facility or any changes made to the resin during use, including further grinding or mixing with other products. In order to obtain more specific data for your particular resin as it is used at your facility, we recommend that you conduct your own characterization testing.

## Section 10. Stability and reactivity

**Reactivity** : Stable under normal conditions.

**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 the creation of dust when handling and avoid all possible

sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers

and equipment before transferring material. Prevent dust

accumulation. See Section 7 Handling.

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

oxidising materials

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition

products should not be produced.

Other hazards Polymerises exothermically with amines, mercaptans and Lewis acids

at ambient temperature and above.

## Section 11. Toxicological information

#### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Phenol, 4,4'-(1-methylethylide	ne)bis[2,6-dibro mo-	, polymer with (chlore	omethyl)oxirane	
	LD50 Oral	Rat - Female	> 2,000 mg/kg	-
	LD50 Dermal	Rabbit	> 2,000 mg/kg	-

Conclusion/Summary : Not available

Irritation/Corrosion

Conclusion/Summary

Skin:Not availableeyes:Not availableRespiratory:Not available

**Sensitization** 

Conclusion/Summary

Skin : Not available

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**Respiratory** : Not available

**Mutagenicity** 

Conclusion/Summary : Not available

**Carcinogenicity** 

Conclusion/Summary : Not available

Reproductive toxicity

Conclusion/Summary : Not available

**Teratogenicity** 

Conclusion/Summary : Not available

## Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Phenol, 4,4'-(1-	Category 3	-	Respiratory tract irritation
methylethylidene)bis[2,6-			
dibromo-, polymer with 2-			
(chloromethyl)oxirane			

## Specific target organ toxicity (repeated exposure)

Not available

## **Aspiration hazard**

Not available

Information on likely routes of

exposure

Not available

## Potential acute health effects

**Eye contact** : Causes eye irritation.

Inhalation: May cause respiratory irritation.Skin contact: May cause an allergic skin reaction.

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

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

**Eye contact** : Adverse symptoms may include the following:

irritation watering redness

**Inhalation** : Adverse symptoms may include the following:

respiratory tract irritation

coughing

**Skin contact** : Adverse symptoms may include the following:

irritation redness

**Ingestion** : No specific data.

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## Delayed and immediate effects as well as 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

Conclusion/Summary : Not available

General : Once sensitized, a severe allergic reaction may occur when

subsequently exposed to very low levels.

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

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
EPIKOTE™ Resin 1163	2,500 mg/kg	2,500 mg/kg	N/A	N/A	N/A
Phenol, 4,4'-(1- methylethylidene)bis [2,6- dibromo-, polymer with 2- (chloromethyl)oxirane	2,500 mg/kg	2,500 mg/kg	N/A	N/A	N/A

# Section 12. Ecological information

## **Toxicity**

Conclusion/Summary : Not available

Persistence/degradability

Conclusion/Summary : Not available

## **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential

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Phenol, 4,4'-(1-	-	1.51	low
methylethylidene)bis[2,6-dibromo-,			
polymer with (chloromethyl)oxirane			
EPIKOTE <sup>TM</sup> Resin 1163	3.9	-	low

#### Mobility in soil

Soil/water partition coefficient

(KOC)

: 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

## **International transport regulations**

Regulatory	UN/NA	Proper shipping name	Classes/*PG	Reportable
information	number			Quantity (RQ)

CFR Non-regulated

TDG Non-regulated

IMO/IMDG Non-regulated

IATA (Cargo) Non-regulated

\*PG: Packing group

Special precautions for user

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

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## Section 15. Regulatory information

## **United States**

U.S. Federal regulations

: United States - TSCA 12(b) - Chemical export notification: None required.

United States - TSCA  $5\alpha 2$  - Final significant new use rules: Not listed United States - TSCA  $5\alpha 2$  - Proposed significant new use rules: Not

listed

United States - TSCA 5(e) - Substances consent order: Not listed SARA 311/312 Classification - EYE IRRITATION, Category 2B SARA 311/312 Classification - SKIN SENSITISATION, Category 1 SARA 311/312 Classification - SPECIFIC TARGET ORGAN TOXICITY

- SINGLE EXPOSURE, Respiratory tract irritation, Category 3

SARA 311/312 Classification - Not applicable

## California Prop. 65:

This product does not require a Safe Harbor warning under California Prop. 65.

United States inventory (TSCA : All components are active or exempted.

**8b**)

## **International regulations**

International lists

: Australia inventory (AIIC): All components are listed or exempted.

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

**China inventory (IECSC):** All components are listed or exempted. **Korea inventory (KECI):** All components are listed or exempted.

New Zealand Inventory (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

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

Taiwan inventory (TCSI): All components are listed or exempted.

## Section 16. Other information

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

Health	*	2
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. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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Full text of abbreviated H : Not applicable.

statements

**History** 

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Prepared by

Key to abbreviations

: Product Safety Stewardship

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)

RID = The Regulations concerning the International Carriage of Dangerous Goods by

Rail

 $UN = United \, Nations$ 

**References** : Not available

## Notice to reader

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.