# SAFETY DATA SHEET

**FOR INDUSTRIAL USE ONLY**

**EPON™ Resin 8280**

## Section 1. Product and company identification

| | | |
|---|---|---|
| **GHS product identifier** | : | EPON™ Resin 8280 |
| **MSDS Number** | : | K196J |
| **Product type** | : | Epoxy Resin |
| **Manufacturer/Supplier/Importer** | : | Westlake Epoxy Inc.<br>12650 DIRECTORS DR STE 100<br>Stafford, Texas 77477<br>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<br>Call Health & Safety Information Services<br>1-866-303-6949<br>For Emergency Transportation Information<br>NCEC US Domestic +1 866 928 0789 (toll-free, US only)<br>NCEC Americas +1 215 207 0061<br>CANUTEC CA Domestic (613) 996-6666 |

## Section 2. Hazards identification

| | | |
|---|---|---|
| **Classification of the substance or mixture** | : | SKIN IRRITATION - Category 2<br>EYE IRRITATION - Category 2A<br>SKIN SENSITISATION - Category 1 |

**GHS label elements**

**Hazard pictograms** :

| | | |
|---|---|---|
| **Signal word** | : | Warning |
| **Hazard statements** | : | H315 Causes skin irritation.<br>H319 Causes serious eye irritation.<br>H317 May cause an allergic skin reaction. |

**Precautionary statements**

| | | |
|---|---|---|
| **General** | : | Not applicable. |
| **Prevention** | : | Wear eye or face protection. |

Avoid breathing vapor.
Wash thoroughly after handling.

**Response** : Take off contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.
IF ON SKIN:
Wash with plenty of water.
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** : Not applicable.

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

**Other hazards which do not result in classification** : None known.

# Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name | % by weight | CAS number |
|---|---|---|
| 4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer | 90 - 100 | 25068-38-6 |

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. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 adverse health effects persist or are severe. 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Extinguishing media**

| | | |
|---|---|---|
| **Suitable extinguishing media** | : | Use an extinguishing agent suitable for the surrounding fire. |
| **Unsuitable extinguishing media** | : | None known. |
| **Specific hazards arising from the chemical** | : | In a fire or if heated, a pressure increase will occur and the container may burst. |
| **Hazardous thermal decomposition products** | : | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>halogenated compounds |
| **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. |
| **Special protective equipment for fire-fighters** | : | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |

# Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | | |
|---|---|---|
| **For non-emergency personnel** | : | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. 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 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 product has caused environmental pollution (sewers, waterways, soil or air). |

**Methods and material for containment and cleaning up**

| | | |
|---|---|---|
| **Small spill** | : | Stop leak if without risk. Move containers from spill area. 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. 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 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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 breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| **Advice on general occupational hygiene** | : | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| **Conditions for safe storage, including any incompatibilities** | : | Store in accordance with local regulations. 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. 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 |
|---|---|
| 4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer | 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 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** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure 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.

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

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that

| | | |
|---|---|---|
| | | the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| **Body protection** | : | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| **Other skin protection** | : | Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| **Respiratory protection** | : | Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. |

# Section 9. Physical and chemical properties

**Appearance**

| | | |
|---|---|---|
| **Physical state** | : | Viscous liquid. |
| **Color** | : | Clear. |
| **Odor** | : | None. |
| **Odor threshold** | : | Not available |
| **pH** | : | Not available |
| **Melting point/ Freezing point** | : | Not available |
| **Boiling point** | : | 260 °C (500 °F) |
| **Flash point** | : | Pensky-Martens Closed Cup: 249 °C (480 °F) (ASTM D 93) |
| **Burning time** | : | Not available |
| **Burning rate** | : | Not available |
| **Evaporation rate** | : | Not available |
| **Flammability (solid, gas)** | : | Not available |
| **Lower and upper explosive (flammable) limits** | : | **Lower:** Not available<br>**Upper:** Not available |
| **Vapor pressure** | : | 0.04 mbar @ 77 °C (171 °F) |
| **Vapor density** | : | Not available |
| **Relative density** | : | 1.17 |
| **Solubility** | : | Not available |
| **Solubility in water** | : | Negligible |
| **Partition coefficient: n-octanol/water** | : | Not available |
| **Auto-ignition temperature** | : | Not available |

**Decomposition temperature** : Not available
**SADT** : Not available
**Viscosity** : **Dynamic:** Not available
**Kinematic:** Not available

**Other information**
No additional information.

# 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** : Strong oxidizer, Caustic soda (sodium hydroxide) can induce vigorous polymerisation at temperatures around 200 °C.

**Incompatible materials** : Reactive or incompatible with the following materials:
strong oxidizing agents,
sodium hydroxide,

**Hazardous decomposition products** : Decomposition products may include the following materials:, carbon oxides

**Other hazards** Reacts with considerable heat release with some curing agents. 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 |
|---|---|---|---|---|
| 4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer | | | | |
| | LD50 Oral | Rat | 11,400 mg/kg | - |
| | LD50 Dermal | Rat | 2,000 mg/kg | - |

**Conclusion/Summary** : Not available

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| 4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer | Skin - Erythema/Eschar 404 Acute Dermal Irritation/Corrosion | Rabbit | 1.5 - 2 | | - |

| | | | | | |
|---|---|---|---|---|---|
| | Skin - Edema 404 Acute Dermal Irritation/Corrosion | Rabbit | 1.0 - 1.5 | | - |
| | eyes - - 405 Acute Eye Irritation/Corrosion | Rabbit | 0 | | - |
| | eyes - Redness of the conjunctiva e | Rabbit | 0.7 | | - |
| | Skin - Moderate irritant | Rabbit | | 24 hrs | - |
| | Skin - Severe irritant | Rabbit | | 24 hrs | - |
| | eyes - Mild irritant | Rabbit | | | - |

**Conclusion/Summary**

**Skin** : Not available
**eyes** : Not available
**Respiratory** : Not available

**Sensitization**

| Product/ingredient name | Route of exposure | Species | Result |
|---|---|---|---|
| 4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer | Skin | See Remarks | Sensitizing |
| **Remarks:** | In an OECD No. 429 mouse LLNA study the estimated EC3 was a concentration of 5.7% suggesting that BADGE is a moderate skin sensitizer in this test system. In an OECD No. 406 guinea pig Maximization study BADGE induced positive dermal reaction in 100% of the test animals at a 50% concentration challenge dose. Therefore, BADGE is an "Extreme" skin sensitizer under the conditions of this study. BADGE was also positive for skin sensitization in an OECD No. 406 guinea pig Buehler method study. | | |

**Conclusion/Summary**

**Skin** : Not available
**Respiratory** : Not available

**Mutagenicity**

| Product/ingredient name | Test | Experiment | Result |
|---|---|---|---|
| 4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer | - | ; Mammalian-Animal | Negative |
| **Remarks:** | Did not induce evidence of chromosome damage in a mouse dominant lethal oral gavage study conducted up to a high dose level of 10 grams/kg and in a mouse micronucleus test conducted up to a high dose of 5000 mg/kg. Negative in a male mouse spermatocyte cytogenetic assay with treatment for 5 days by oral gavage up to a high dose of 3000 mg/kg. Did not induce an increase in the frequency of chromosome damage in a Chinese hamster bone marrow cytogenetic test by oral | | |

| | |
|---|---|
| | gavage up to a high dose of 3300 mg/kg. Failed to induce an increase of DNA strand breaks in rat liver cells following oral gavage treatment with 500 mg/kg as measured by alkaline elution. |

**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)**
Not available

**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 serious eye irritation.
**Inhalation** : No known significant effects or critical hazards.
**Skin contact** : Causes skin irritation. 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:
pain or irritation
watering
redness
**Inhalation** : No specific data.
**Skin contact** : Adverse symptoms may include the following:
irritation
redness
**Ingestion** : No specific data.

**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) |
|---|---|---|---|---|---|
| EPON™ Resin 8280 | 11,400 mg/kg | N/A | N/A | N/A | N/A |
| Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane | 11,400 mg/kg | N/A | N/A | N/A | N/A |

# Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | | | |
| | Acute LC50 1.3 mg/l - 203 Fish, Acute Toxicity Test | Fish - Fish | 96 h |
| | Acute EC50 2.1 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test | Aquatic invertebrates. Water flea | 48 h |
| | Acute LC50 > 11 mg/l - | Aquatic plants - Algae | 72 h |
| | Chronic No-observable-effect-concentration 0.3 mg/l semi-static test 211 Daphnia Magna Reproduction Test | Aquatic invertebrates. Water flea | 21 d |

**Conclusion/Summary** : Not available

**Persistence/degradability**

**Conclusion/Summary** : Not available

**Bioaccumulative potential**

| Product/ingredient name | LogPow | BCF | Potential |
|---|---|---|---|
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 2.64 - 3.78 | 3 - 31 31.00 | 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 information | UN/NA number | Proper shipping name | Classes/*PG | Reportable Quantity (RQ) |
|---|---|---|---|---|
| **CFR** | | Non-regulated | | |
| **TDG** | | Non-regulated | | |
| **IMO/IMDG** | 3082 | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer) | Class 9 III | |
| **IATA (Cargo)** | 3082 | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. | Class 9 III | |

(4,4'-Isopropylidenediphenol-
Epichlorohydrin Copolymer)

*PG : Packing group

**Environmentally hazardous and/or Marine Pollutant** : Yes.

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

## Section 15. Regulatory information

**United States**

**U.S. Federal regulations** :

**United States - TSCA 12(b) - Chemical export notification:** None required.
**United States - TSCA 5α2 - Final significant new use rules:** Not listed
**United States - TSCA 5α2 - Proposed significant new use rules:** Not listed
**United States - TSCA 5(e) - Substances consent order:** Not listed
**SARA 311/312 Classification -** SKIN IRRITATION, Category 2
**SARA 311/312 Classification -** EYE IRRITATION, Category 2A
**SARA 311/312 Classification -** SKIN SENSITISATION, Category 1
**SARA 311/312 Classification -** Not applicable

**California Prop. 65:**

WARNING: This product may contain one or more chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

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

**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):** Not determined.
**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** | | 1 |
| **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.**

**Full text of abbreviated H statements** : Not applicable.

**History**

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**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)
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.