

## SAFETY DATA SHEET

**REACTHEAT BLUE-23**

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# SAFETY DATA SHEET

## REACTHEAT BLUE-23

### Section 1. Identification

GHS product identifier : REACTHEAT BLUE-23  
Chemical name : Mixture  
CAS number : Mixture  
Other means of identification : CC01054704  
Product type : liquid

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

Product use : Industrial applications. Plastics.

Supplier's details : **POLYONE CORPORATION**  
ColorMatrix Group Inc.  
680 North Rocky River Drive, Berea, Ohio, 44017-1628, USA  
  
+1 216 622 0100

Emergency telephone number (with hours of operation) : CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident).

### Section 2. Hazards identification

This mixture has not been evaluated as a whole for health effects. Information provided on health effects of this product is based on the individual components. However, some vapors or contaminants may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure. See sections 8 and 11 for special precautions. After handling, always wash hands thoroughly with soap and water.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : EYE IRRITATION - Category 2A  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) - Category 2

**GHS label elements**

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**Hazard pictograms** : 

**Signal word** : Warning

**Hazard statements** : Causes serious eye irritation.  
May cause damage to organs through prolonged or repeated exposure. (kidneys)

Precautionary statements

**General** : Not applicable.

**Prevention** : Wear eye or face protection. Do not breathe vapor. Wash hands thoroughly after handling.

**Response** : Get medical attention if you feel unwell. 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** : Not applicable.

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

**Supplemental label elements** : None known.

**Hazards not otherwise classified** : None known.

**Section 3. Composition/information on ingredients**

**Substance/mixture** : Mixture

**Chemical name** : Mixture

**Other means of identification** : CC01054704

CAS number/other identifiers

| Ingredient name | %       | CAS number |
|-----------------|---------|------------|
| Ethylene glycol | 75 - 90 | 107-21-1   |

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.**

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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 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 following exposure or if feeling unwell. 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.  |
| <b>Skin contact</b> | : | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.  |
| <b>Ingestion</b>    | : | 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 following exposure or if feeling unwell. 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

- |                     |   |   |
|---------------------|---|---|
| <b>Eye contact</b>  | : | Causes serious eye irritation.                    |
| <b>Inhalation</b>   | : | No known significant effects or critical hazards. |
| <b>Skin contact</b> | : | No known significant effects or critical hazards. |

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

**Over-exposure signs/symptoms**

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

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

**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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

**Section 5. Firefighting measures**
**Extinguishing media**

**Suitable extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO<sub>2</sub>.

**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:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
metal oxide/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.

**Special protective equipment for** : Fire-fighters should wear appropriate protective equipment and self-

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**fire-fighters** 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 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. 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). 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

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- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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) 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   |
|-----------------|---|
| Ethylene glycol | <b>OSHA PEL 1989 (1989-03-01)</b><br>CEIL 125 mg/m <sup>3</sup> 50 ppm<br><b>ACGIH TLV (2017-03-01)</b><br>STEL 10 mg/m <sup>3</sup> Form: Inhalable fraction. Aerosol only.<br>STEL 50 ppm Form: Vapor fraction<br>TWA 25 ppm Form: Vapor fraction |

- Appropriate engineering controls** : 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

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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: 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** : liquid [liquid]  
**Color** : COLORLESS

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|   |   |  |
|---|---|--|
| <b>Odor</b>   | : | Faint odor.  |
| <b>Odor threshold</b>                               | : | Not available.   |
| <b>pH</b>   | : | Not available.   |
| <b>Melting point</b>                                | : | Not available.   |
| <b>Boiling point</b>                                | : | Not available.   |
| <b>Flash point</b>                                  | : | Not available.   |
| <b>Burning time</b>                                 | : | Not available.   |
| <b>Burning rate</b>                                 | : | Not available.   |
| <b>Evaporation rate</b>                             | : | Not available.   |
| <b>Flammability (solid, gas)</b>                    | : | Not available.   |
| <b>Lower and upper explosive (flammable) limits</b> | : | <b>Lower:</b> Not available.<br><b>Upper:</b> Not available.       |
| <b>Vapor pressure</b>                               | : | Not available.   |
| <b>Vapor density</b>                                | : | Not available.   |
| <b>Relative density</b>                             | : | Not available.   |
| <b>Solubility</b>                                   | : | Not available.   |
| <b>Solubility in water</b>                          | : | insoluble in water.  |
| <b>Partition coefficient: n-octanol/water</b>       | : | Not available.   |
| <b>Auto-ignition temperature</b>                    | : | Not available.   |
| <b>Decomposition temperature SADT</b>               | : | Not available.   |
| <b>Viscosity</b>                                    | : | <b>Dynamic:</b> Not available.<br><b>Kinematic:</b> Not available. |

**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>                 | : | Stable under recommended storage and handling conditions (see Section 7).                            |
| <b>Possibility of hazardous reactions</b> | : | Under normal conditions of storage and use, hazardous reactions will not occur.                      |
| <b>Conditions to avoid</b>                | : | Keep away from extreme heat and oxidizing agents.  |
| <b>Incompatible materials</b>             | : | Keep away from strong acids.<br>Oxidizer.  |
| <b>Hazardous decomposition products</b>   | : | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

**Section 11. Toxicological information**

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This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

**Information on toxicological effects**
**Acute toxicity**

| Product/ingredient name      | Result                      | Species | Dose        | Exposure |
|------------------------------|-----------------------------|---------|-------------|----------|
| Ethylene glycol              |                             |         |             |          |
|                              | LD50 Oral                   | Rat     | 4,700 mg/kg | -        |
| <b>Remarks - Inhalation:</b> | No applicable toxicity data |         |             |          |
| <b>Remarks - Dermal:</b>     | No applicable toxicity data |         |             |          |

**Conclusion/Summary** : Mixture.Not fully tested.

**Irritation/Corrosion**

| Product/ingredient name | Result                   | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|----------|-------------|
| Ethylene glycol         | Eyes - Moderate irritant | Rabbit  |       | 6 hrs    | -           |

**Conclusion/Summary**

**Skin** : Mixture.Not fully tested.  
**Eyes** : Mixture.Not fully tested.  
**Respiratory** : Mixture.Not fully tested.

**Sensitization**
**Conclusion/Summary**

**Skin** : Mixture.Not fully tested.  
**Respiratory** : Mixture.Not fully tested.

**Mutagenicity**
**Conclusion/Summary**

: Mixture.Not fully tested.

**Carcinogenicity**
**Conclusion/Summary**

: Mixture.Not fully tested.

**Reproductive toxicity**
**Conclusion/Summary**

: Mixture.Not fully tested.

**Teratogenicity**

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**Conclusion/Summary** : Mixture. Not fully tested.

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

Not available.

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

| Product/ingredient name | Category   | Route of exposure | Target organs |
|-------------------------|------------|-------------------|---------------|
| Ethylene glycol         | Category 2 | Oral              | kidneys       |

**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** : No known significant effects or critical hazards.  
**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** : No specific data.  
**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**

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|                              |   |  |
|------------------------------|---|--|
| <b>Conclusion/Summary</b>    | : | Mixture. Not fully tested.   |
| <b>General</b>               | : | May cause damage to organs through prolonged or repeated exposure. |
| <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

| Route | ATE value   |
|-------|-------------|
| Oral  | 5,533 mg/kg |

**Section 12. Ecological information**
Toxicity

| Product/ingredient name                            | Result                             | Species                            | Exposure |
|--|------------------------------------|------------------------------------|----------|
| Ethylene glycol                                    |                                    |                                    |          |
|  | Acute LC50 8,050 Mg/l Fresh water  | Fish - Fish                        | 96 h     |
| <b>Remarks - Acute - Fish:</b>                     | Acute                              |                                    |          |
|  | Acute LC50 41,000 Mg/l Fresh water | Aquatic invertebrates. Daphnia     | 48 h     |
| <b>Remarks - Acute - Aquatic invertebrates.:</b>   | Acute                              |                                    |          |
|  | Acute LC50 6,900 Mg/l Fresh water  | Aquatic invertebrates. Crustaceans | 48 h     |
| <b>Remarks - Acute - Aquatic invertebrates.:</b>   | Acute                              |                                    |          |
| <b>Remarks - Acute - Aquatic plants:</b>           | No applicable toxicity data        |                                    |          |
| <b>Remarks - Chronic - Fish:</b>                   | No applicable toxicity data        |                                    |          |
| <b>Remarks - Chronic - Aquatic invertebrates.:</b> | No applicable toxicity data        |                                    |          |

**Conclusion/Summary** : Not available.

Persistence and degradability

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**Conclusion/Summary** : Not available.

**Bioaccumulative potential**

| Product/ingredient name | LogPow | BCF | Potential |
|-------------------------|--------|-----|-----------|
| Ethylene glycol         | -1.36  | -   | 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.

**United States - RCRA Acute hazardous waste "P" List:** Not listed

**United States - RCRA Toxic hazardous waste "U" List:** Not listed

**Section 14. Transport information**

U.S.DOT 49CFR : Not regulated for transportation.  
Ground/Air/Water

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International Air : Not classified as dangerous goods under transport regulations.  
ICAO/IATA

International Water : Not classified as dangerous goods under transport regulations.  
IMO/IMDG

**Section 15. Regulatory information**

- U.S. Federal regulations** :
- United States - TSCA 12(b) - Chemical export notification:** None of the components are listed.
  - United States - TSCA 4(a) - Final Test Rules:** Not listed
  - United States - TSCA 4(a) - ITC Priority list:** Not listed
  - United States - TSCA 4(a) - Proposed test rules:** Not listed
  - United States - TSCA 4(f) - Priority risk review:** Not listed
  - United States - TSCA 5(a)2 - Final significant new use rules:** Not listed
  - United States - TSCA 5(a)2 - Proposed significant new use rules:** Not listed
  - United States - TSCA 5(e) - Substances consent order:** Not listed
  - United States - TSCA 6 - Final risk management:** Not listed
  - United States - TSCA 6 - Proposed risk management:** Not listed
  - United States - TSCA 8(a) - Chemical risk rules:** Not listed
  - United States - TSCA 8(a) - Dioxin/Furane precursor:** Not listed
  - United States - TSCA 8(a) - Chemical Data Reporting (CDR):** Not determined
  - United States - TSCA 8(a) - Preliminary assessment report (PAIR):** Not listed
  - United States - TSCA 8(c) - Significant adverse reaction (SAR):** Not listed
  - United States - TSCA 8(d) - Health and safety studies:** Not listed
  - United States - EPA Clean water act (CWA) section 307 - Priority pollutants:** Not listed
  - United States - EPA Clean water act (CWA) section 311 - Hazardous substances:** Not listed
  - United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances:** Not listed
  - United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances:** Not listed
  - United States - Department of commerce - Precursor chemical:** Not listed
- Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : Listed

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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

**US. EPA CERCLA Hazardous Substances (40 CFR 302)**

| Chemical Name   | CAS-No.  | RQ for component        |
|-----------------|----------|-------------------------|
| Ethylene glycol | 107-21-1 | 5,000 lb(s)<br>2,270 kg |

**SARA 311/312**

**Classification** : EYE IRRITATION - Category 2A  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - kidneys - Category 2

**Composition/information on ingredients**

| Name            | %             | Classification   |
|-----------------|---------------|--|
| Ethylene glycol | >= 75 - <= 90 | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - kidneys - oral - Category 2<br>EYE IRRITATION - Category 2A |

**SARA 313**

|  | Product name    | CAS number | %       |
|--|-----------------|------------|---------|
| <b>Form R - Reporting requirements</b> | Ethylene glycol | 107-21-1   | 75 - 90 |
| <b>Supplier notification</b>           | Ethylene glycol | 107-21-1   | 75 - 90 |

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

**State regulations**

Massachusetts : None of the components are listed.  
New York : The following components are listed:



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- New Jersey : Ethylene glycol  
 : The following components are listed:  
 Ethylene glycol
- Pennsylvania : The following components are listed:  
 Ethylene glycol

**California Prop. 65**

 **WARNING:** This product can expose you to Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

| Ingredient name | No significant risk level | Maximum acceptable dosage level |
|-----------------|---------------------------|---------------------------------|
| Ethylene glycol | No.                       | No.                             |

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

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

**International regulations**

**Inventory list**

- Australia : Not determined.
- Canada : All components are listed or exempted.
- China : All components are listed or exempted.
- Europe inventory : All components are listed or exempted.
- Japan : All components are listed or exempted.
- New Zealand : All components are listed or exempted.
- Philippines : All components are listed or exempted.
- Republic of Korea : All components are listed or exempted.
- Taiwan : All components are listed or exempted.
- Turkey : Not determined.
- United States : All components are listed or exempted.

**Section 16. Other information**

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

|                  |   |   |
|------------------|---|---|
| Health           | * | 2 |
| Flammability     |   | 0 |
| Physical hazards |   | 0 |
|                  |   |   |

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**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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.**

**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.**

History

|                                |   |  |
|--------------------------------|---|--|
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| Version                        | : | 1.0  |
| Key to abbreviations           | : | ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>UN = United Nations |
| References                     | : | Not available.   |

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