# SAFETY DATA SHEET

**DUAL PURPOSE MARBLE RESIN**

## Section 1. Identification

<table>
<thead>
<tr>
<th>GHS product identifier</th>
<th>: DUAL PURPOSE MARBLE RESIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>: SIL94BA-2488</td>
</tr>
<tr>
<td>Other means of identification</td>
<td>: Unsaturated Polyester Resin</td>
</tr>
<tr>
<td>Product type</td>
<td>: Liquid.</td>
</tr>
</tbody>
</table>

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

Industrial applications.

**Supplier's details**

INTERPLASTIC CORPORATION  
1225 Willow Lake Boulevard  
St. Paul, MN  55110-5145  
651.481.6860

**Emergency telephone number (with hours of operation)**

CHEMTREC 24-Hour Emergency Telephone  
US and Canada 800.424.9300  
Outside US and Canada +1 703.741.5970

## Section 2. Hazards identification

<table>
<thead>
<tr>
<th>OSHA/HCS status</th>
<th>: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).</th>
</tr>
</thead>
</table>
| Classification of the substance or mixture | : FLAMMABLE LIQUIDS - Category 3  
   ACUTE TOXICITY (inhalation) - Category 4  
   SKIN IRRITATION - Category 2  
   EYE IRRITATION - Category 2A  
   SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
   SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 1  
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 23.9% |

**GHS label elements**

**Hazard pictograms**

![Hazard Pictograms]

**Signal word**

Danger

**Hazard statements**

- Flammable liquid and vapor.
- Harmful if inhaled.
- Causes serious eye irritation.
- Causes skin irritation.
- May cause respiratory irritation.
- Causes damage to organs through prolonged or repeated exposure. (hearing organs)

**Precautionary statements**

Date of issue/Date of revision : 9/7/2018  
Date of previous issue : No previous validation  
Version : 1
Section 2. Hazards identification

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. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response: Get medical attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage: Store in a well-ventilated place. Keep cool. Store containers in a safe place.

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Hazards not otherwise classified: None known.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

Other means of identification: Unsaturated Polyester Resin

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>&lt;= 24.0</td>
<td>100-42-5</td>
</tr>
</tbody>
</table>

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

Any concentration shown as exact is based on formula.

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.

VOC content is listed in Section 9.

Environmental composition is shown in Section 15.

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. Buffered baby shampoo will aid in removal of resin.

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 wristband.
**Section 4. First aid measures**

**Skin contact**
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**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 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**

**Eye contact**
Causes serious eye irritation.

**Inhalation**
Harmful if inhaled. May cause respiratory irritation.

**Skin contact**
Causes skin irritation.

**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**
Adverse symptoms may include the following:
- respiratory tract irritation
- coughing

**Skin contact**
Adverse symptoms may include the following:
- irritation
- redness

**Ingestion**
No specific data.

**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, CO₂, water spray (fog) or foam.

**Unsuitable extinguishing media**
Do not use water jet.
Section 5. Fire-fighting measures

**Specific hazards arising from the chemical**: Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. 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.

**Hazardous thermal decomposition products**: Decomposition products may include the following materials:
- Carbon dioxide
- Carbon monoxide

**Special protective actions for fire-fighters**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

**Environmental precautions**:
- Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

**Small spill**: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert material and transfer the spilled material and absorbent to an appropriate waste disposal container. Wear appropriate respirator when ventilation is inadequate. Wear eye/face protection.

**Large spill**: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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. Wear appropriate respiratory protection. Wear protective clothing and eye or face protection.
Section 7. Handling and storage

Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

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: Do not store above the following temperature: 38°C (100.4°F). 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. 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. See Section 10 for incompatible materials before handling or use. Store containers in a safe place.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
</table>
| styrene         | ACGIH TLV (United States, 3/2017).  
|                 | TWA: 20 ppm 8 hours.  
|                 | TWA: 85 mg/m³ 8 hours.  
|                 | STEL: 40 ppm 15 minutes.  
|                 | STEL: 170 mg/m³ 15 minutes.  
|                 | TWA: 50 ppm 8 hours.  
|                 | TWA: 215 mg/m³ 8 hours.  
|                 | STEL: 100 ppm 15 minutes.  
|                 | STEL: 425 mg/m³ 15 minutes.  
|                 | OSHA PEL Z2 (United States, 2/2013).  
|                 | TWA: 100 ppm 8 hours.  
|                 | CEIL: 200 ppm  
|                 | AMP: 600 ppm 5 minutes.  
|                 | NIOSH REL (United States, 10/2016).  
|                 | TWA: 50 ppm 10 hours.  
|                 | TWA: 215 mg/m³ 10 hours.  
|                 | STEL: 100 ppm 15 minutes.  
|                 | STEL: 425 mg/m³ 15 minutes.  
|
Section 8. Exposure controls/personal protection

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: 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. 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.

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.
Color: Various
Odor: Sweetish.
Odor threshold: 0.1 ppm
pH: Not applicable.
Melting point: Not available.
Boiling point: 145°C (293°F)
Flash point: Closed cup: 31°C (87.8°F)
Evaporation rate: <1 (butyl acetate = 1)
Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Lower: 0.9%</td>
</tr>
<tr>
<td></td>
<td>Upper: 6.8%</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.67 kPa (5 mm Hg) [room temperature]</td>
</tr>
<tr>
<td>Vapor density</td>
<td>3.6 [Air = 1]</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.9 to 1.3</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
<tr>
<td>VOC content</td>
<td>24 % (w/w) As shipped, including monomers and additives.</td>
</tr>
</tbody>
</table>

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Hazardous reactions or instability may occur under certain conditions of storage or use.

Conditions to avoid: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. Hazardous polymerization may occur under certain conditions of storage or use. Keep away from heat and direct sunlight. Keep away from heat and flame. Keep away from oxidizing agents.

Incompatible materials: Reactive or incompatible with the following materials:
- oxidizing materials
- Reactive or incompatible with the following materials: metals, acids and alkalis.
- Incompatible with alkali metals. Incompatible with some alkalis. Incompatible with some strong acids. Incompatible with copper alloys, brass.

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>2770 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>11800 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2650 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

Date of issue/Date of revision: 9/7/2018
Date of previous issue: No previous validation
Version: 1
## Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>Eyes - Mild irritant</td>
<td>Human</td>
<td>-</td>
<td>50 parts per million</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 Percent</td>
<td>-</td>
</tr>
</tbody>
</table>

### Sensitization
Not available.

### Mutagenicity
Not available.

### Carcinogenicity
Not available.

### Conclusion/Summary
Styrene manufacturers have determined that the weight of evidence for the carcinogenicity of this substance does not meet the criteria for classification.

Styrene is listed by IARC as a possible carcinogen to humans (Group 2B) based on "limited evidence" in humans, "limited evidence" in animals and "other relevant data". The United States NTP listed styrene as reasonably anticipated to be a human carcinogen based on "limited evidence" from studies in humans, "sufficient evidence" from studies in experimental animals, and supporting data on mechanisms of carcinogenesis. The significance of these results for humans has not been established through risk assessment.

### Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>-</td>
<td>2B</td>
<td>Reasonably anticipated to be a human carcinogen.</td>
</tr>
</tbody>
</table>

### Reproductive toxicity
Not available.

### Teratogenicity
Not available.

### Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>Category 1</td>
<td>Inhalation</td>
<td>hearing organs</td>
</tr>
</tbody>
</table>

A study of long term effects of workers exposed to styrene levels in the range of 25-35 ppm for an 8-hour TWA indicated a possible mild hearing loss.

### Aspiration hazard
Section 11. Toxicological information

### Information on the likely routes of exposure

**Inhalation**
- Harmful if inhaled. May cause respiratory irritation.
- No known significant effects or critical hazards.

**Ingestion**
- Causes skin irritation.
- Causes serious eye irritation.
- Adverse symptoms may include the following:
  - irritation
  - redness

**Skin contact**
- Causes skin irritation.
- Adverse symptoms may include the following:
  - pain or irritation
  - watering
  - redness

**Eye contact**
- Causes serious eye irritation.
- Adverse symptoms may include the following:
  - pain or irritation
  - watering
  - redness

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

**Inhalation**
- Harmful if inhaled. May cause respiratory irritation.
- Adverse symptoms may include the following:
  - respiratory tract irritation
  - coughing

**Skin contact**
- Causes skin irritation.
- Adverse symptoms may include the following:
  - irritation
  - redness

**Ingestion**
- No known significant effects or critical hazards.
- No specific data.

### Potential acute health effects

**Potential immediate effects**
- Not available.

**Potential delayed effects**
- Not available.

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

**Eye contact**
- Adverse symptoms may include the following:
  - pain or 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 known significant effects or critical hazards.
- No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

**Short term exposure**
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

**Long term exposure**
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

### Potential chronic health effects

Not available.

- **General**
  - Causes damage to organs through prolonged or repeated exposure.

- **Carcinogenicity**
  - No known significant effects or critical hazards.

- **Mutagenicity**
  - No known significant effects or critical hazards.

- **Teratogenicity**
  - No known significant effects or critical hazards.

- **Developmental effects**
  - No known significant effects or critical hazards.

- **Fertility effects**
  - No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>11071 mg/kg</td>
</tr>
<tr>
<td>Inhalation (gases)</td>
<td>11572.3 ppm</td>
</tr>
<tr>
<td>Inhalation (vapors)</td>
<td>49.3 mg/l</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>Acute EC50 1400 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 720 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 4700 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 52 mg/l Marine water</td>
<td>Crustaceans - Artemia salina</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 4020 µg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 63 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>OECD</td>
<td>70 % - Readily - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>styrene</td>
<td>0.35</td>
<td>13.49</td>
<td>low</td>
</tr>
</tbody>
</table>

**Mobility in soil**

<table>
<thead>
<tr>
<th>Soil/water partition coefficient (Koc)</th>
<th>Not available.</th>
</tr>
</thead>
</table>

**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.

Date of issue/Date of revision: 9/7/2018
Date of previous issue: No previous validation
Version: 1

10/14
Section 13. Disposal considerations
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

<table>
<thead>
<tr>
<th></th>
<th>DOT Classification</th>
<th>Mexico Classification</th>
<th>TDG Classification</th>
<th>IATA</th>
<th>IMDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN1866</td>
<td>UN1866</td>
<td>UN1866</td>
<td>UN1866</td>
<td>UN1866</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>RESIN SOLUTION</td>
<td>RESIN SOLUTION</td>
<td>RESIN SOLUTION</td>
<td>RESIN SOLUTION</td>
<td>RESIN SOLUTION</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
</tbody>
</table>

Additional information
DOT Classification: Reportable quantity 4177.7 lbs / 1896.7 kg [455.5 gal / 1724.3 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

TDG Classification: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

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

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

Section 15. Regulatory information

U.S. Federal regulations
- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Styrene, Cobalt Compounds
- Clean Air Act Section 602 Class I Substances: Not listed
- Clean Air Act Section 602 Class II Substances: Not listed
- SARA 302/304

TSCA 8(a) PAIR: Poly(oxy-1,2-ethanediyl), α-[4-(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy-; 4-tert-butylpyrocatechol
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 307: Naphthenic acids, copper salts
Clean Water Act (CWA) 311: styrene

Date of issue/Date of revision: 9/7/2018
Date of previous issue: No previous validation
Version: 1
Section 15. Regulatory information

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.
SARA 311/312 Classification : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 1

SARA 313

<table>
<thead>
<tr>
<th>Product name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form R - Reporting requirements</td>
<td>styrene</td>
<td>100-42-5</td>
</tr>
<tr>
<td>Supplier notification</td>
<td>styrene</td>
<td>100-42-5</td>
</tr>
</tbody>
</table>

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. Any concentration shown as exact is based on formula.

State regulations

Massachusetts : The following components are listed: STYRENE; PHENYLETHYLENE
New York : The following components are listed: Styrene
New Jersey : The following components are listed: STYRENE MONOMER; BENZENE, ETHENYL-
Pennsylvania : The following components are listed: BENZENE, ETHENYL-
California Prop. 65 : The following components are listed. For more information go to www.P65Warnings.ca.gov. Styrene

Inventory list

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Europe : Not determined.
Japan : Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Malaysia : Not determined.
New Zealand : All components are listed or exempted.
Philippines : Not determined.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.
Thailand : Not determined.
Turkey : Not determined.
United States : All components are listed or exempted.
Viet Nam : Not determined.

Date of issue/Date of revision : 9/7/2018
Date of previous issue : No previous validation
Version : 1
Section 16. Other information

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

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.

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

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

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

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAMMABLE LIQUIDS - Category 3</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>ACUTE TOXICITY (inhalation) - Category 4</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SKIN IRRITATION - Category 2</td>
<td>Calculation method</td>
</tr>
<tr>
<td>EYE IRRITATION - Category 2A</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 1</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

History

Date of printing : 9/7/2018
Date of issue/Date of revision : 9/7/2018
Date of previous issue : No previous validation
Version : 1
Prepared by : Health, Safety and Environmental Department
For questions about the SDS, contact : iasafety@ip-corporation.com

Date of issue/Date of revision : 9/7/2018  Date of previous issue : No previous validation  Version : 1
# Section 16. Other information

## Key to abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE</td>
<td>Acute Toxicity Estimate</td>
</tr>
<tr>
<td>BCF</td>
<td>Bioconcentration Factor</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System of Classification and Labelling of Chemicals</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IBC</td>
<td>Intermediate Bulk Container</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>LogPow</td>
<td>Logarithm of the octanol/water partition coefficient</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
</tbody>
</table>

## References

- CCR Title 27 Division 4 Office of Environmental Health Hazard Assessment (California Prop. 65)
- American Composites Manufacturers Association
- Styrene Information and Research Center

> Indicates information that has changed from previously issued version.

## Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.