EMERGENCY TELEPHONE NUMBER: 334-412-2440
Polymer Concrete, Inc.
P.O. Box 610
Camden, AL 36726

EMERGENCY TELEPHONE NUMBER: 334-682-4296

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND SUPPLIER

<table>
<thead>
<tr>
<th>Ashland</th>
<th>Regulatory Information Number</th>
<th>1-800-325-3751</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.O. Box 2219</td>
<td>Telephone</td>
<td>614-790-3333</td>
</tr>
<tr>
<td>Columbus, OH 43216</td>
<td></td>
<td>1-800-ASHLAND</td>
</tr>
</tbody>
</table>

Product name: Polaris™ MR 11009 RESIN

Trademark, Ashland or its subsidiaries, registered in various countries
Product code 120419

24 Hour Emergency Number: ChemTel: 1-800-255-3924

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid
WARNING! FLAMMABLE LIQUID AND VAPOR; MAY AFFECT THE CENTRAL NERVOUS
SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA; MAY CAUSE RESPIRATORY
TRACT IRRITATION; MAY BE HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE EYE
IRRITATION; PROLONGED OR REPEATED CONTACT MAY DRY THE SKIN AND CAUSE
IRRITATION AND BURNS; MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT
IRRITATION; PROLONGED OR REPEATED CONTACT MAY DRY SKIN, CAUSE IRRITATION
AND BURNS

Potential Health Effects

Exposure routes
Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact
Can cause eye irritation; Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin contact
Can cause skin irritation; Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

Ingestion
Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation
Breathing aerosol and/or mist is possible when material is sprayed. Aerosol and mist may present a greater risk of injury because more material may be present in the air than from vapor alone. Breathing small amounts of this material during normal handling is not likely to cause harmful effects.
Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

**Aggravated Medical Condition**

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: respiratory tract, skin, lung (for example, asthma-like conditions), liver, male reproductive system, auditory system

**Symptoms**

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: metallic taste, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, loss of coordination, confusion, liver damage

**Target Organs**

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible kidney effects, effects on hearing, respiratory tract damage (nose, throat, and airways), testis damage, liver damage. Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: mild effects on color vision, effects on hearing, respiratory tract damage (nose, throat, and airways), central nervous system effects

**Carcinogenicity**

Styrene is listed as a possible human carcinogen by the International Agency for Research on Cancer (IARC) and as reasonably anticipated to be a human carcinogen by the National Toxicology Program (NTP).

**Reproductive hazard**

This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

**Other information**

Styrene readily reacts with low concentrations of halogens (for example, fluorine, chlorine, bromine, or iodine) to form a tear-producing substance.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>CAS-No. / Trade Secret No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>STYRENE</td>
<td>100-42-5</td>
<td>&gt;=20-&lt;30%</td>
</tr>
</tbody>
</table>

**Eyes**

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

### 4. FIRST AID MEASURES

**Skin**

Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.
Ingestion
Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation
If symptoms develop, move individual away from exposure and into fresh air; If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to physician
Hazards: This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting.
Treatment: No information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Water, Foam, Carbon dioxide (CO2), Dry chemical

Hazardous combustion products
May form: carbon dioxide and carbon monoxide, toxic fumes, various hydrocarbons

Precautions for fire-fighting
Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. During a fire, irritating or toxic decomposition products may be generated. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Polymerization will take place under fire conditions. If polymerization occurs in a closed container, there is a possibility it will rupture violently. Cool storage container with water, if exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

Environmental precautions
Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.
Methods for cleaning up
Absorb liquid on vermiculite, floor absorbent or other absorbent material.

7. HANDLING AND STORAGE

Handling
Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing impervious protective gloves. As with all products of this nature, good personal hygiene is essential. Hands and other exposed areas should be washed thoroughly with soap and water after contact, especially before eating and/or smoking. Regular laundering of contaminated clothing is essential to reduce indirect skin contact with this material. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77. Warning! Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

Storage
Store in closed containers in a dry, well-ventilated area. Do not store near extreme heat, open flame, or sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>STYRENE</th>
<th>100-42-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>time weighted average</td>
</tr>
<tr>
<td>ACGIH</td>
<td>Short term exposure limit</td>
</tr>
<tr>
<td>NIOSH</td>
<td>Recommended exposure limit (REL):</td>
</tr>
<tr>
<td>NIOSH</td>
<td>Recommended exposure limit (REL):</td>
</tr>
<tr>
<td>NIOSH</td>
<td>Short term exposure limit</td>
</tr>
<tr>
<td>NIOSH</td>
<td>Short term exposure limit</td>
</tr>
<tr>
<td>OSHA Z2</td>
<td>time weighted average</td>
</tr>
<tr>
<td>OSHA Z2</td>
<td>Ceiling Limit Value:</td>
</tr>
<tr>
<td>OSHA Z2</td>
<td>Maximum concentration:</td>
</tr>
</tbody>
</table>

General advice
These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.
Exposure controls
Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s). OSHA has formally endorsed a styrene industry proposal for a voluntary 50 ppm workplace limit on styrene. Members of the Styrene Information and Research Council (SIRC), Composites Institute (CI), Composite Fabricators Association (CFA), International Cast Polymers Association (ICPA) and National Marine Manufacturers Association (NMMA) have agreed to use either engineering controls, work practices or respiratory protection to achieve this voluntary limit for styrene.

Eye protection
Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin and body protection
Wear resistant gloves (consult your safety equipment supplier).
To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory protection
If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH-approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>pungent</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>293 °F / 145 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>84 °F / 29 °C Seta closed cup</td>
</tr>
<tr>
<td>Lower explosion limit/Upper explosion limit</td>
<td>1.1 %(V) / 6.1 %(V)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>8.532 hPa @ 77 °F / 25 °C Calculated Vapor</td>
</tr>
<tr>
<td>Pressure</td>
<td></td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>(&gt;1 AIR=1</td>
</tr>
<tr>
<td>Density</td>
<td>1.1505 g/cm³ @ 77.00 °F / 25.00 °C</td>
</tr>
<tr>
<td>Water solubility</td>
<td>9.55 lb/gal @ 77.00 °F / 25.00 °C</td>
</tr>
<tr>
<td></td>
<td>insoluble</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

Stability
This material is unstable at elevated temperatures and pressures.

Conditions to avoid
Avoid heat, open flame, and prolonged storage at elevated temperatures., Avoid contact with:, excessive heat

Incompatible products
Avoid contact with: acids, aluminum chloride, halogens, iron chloride, metal salts, peroxides, strong alkalis, strong oxidizing agents

Hazardous decomposition products
May form: carbon dioxide and carbon monoxide, toxic fumes, various hydrocarbons

Hazardous reactions
Product can undergo hazardous polymerization. Avoid exposure to excessive heat, peroxides and polymerization catalysts.
11. TOXICOLOGICAL INFORMATION

Acute oral toxicity
Acute oral toxicity - : no data available
Product

Acute oral toxicity - Components
STYRENE : LD 50: 2,650 mg/kg Species: Rat

Acute inhalation toxicity
Acute inhalation toxicity - : no data available
Product
Acute inhalation toxicity - Components
STYRENE : LC 50: 2800 ppm Exposure time: 4 h Species: Rat

Acute dermal toxicity
Acute dermal toxicity - : no data available
Product

Acute toxicity (other routes of administration)
Acute toxicity (other: no data available routes of administration)

12. ECOLOGICAL INFORMATION

Biodegradability
Biodegradability – Product : no data available

Bioaccumulation
Bioaccumulation – Product : no data available

Ecotoxicity effects

Toxicity to fish
Toxicity to fish – Product : no data available

Toxicity to daphnia and other aquatic invertebrates.
Toxicity to daphnia and other aquatic invertebrates. : no data available
- Product

Toxicity to algae
Toxicity to algae - : no data available
Product

Toxicity to bacteria
Toxicity to bacteria - : no data available
Product

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
Dispose of in accordance with all applicable local, state and federal regulations. Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans, or other waters unless in
accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Dispose of in accordance with all applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

REGULATION

<table>
<thead>
<tr>
<th>ID NUMBER</th>
<th>PROPER SHIPPING NAME</th>
<th>*HAZARD CLASS</th>
<th>SUBSIDIARY HAZARDS</th>
<th>PACKING GROUP</th>
<th>MARINE POLLUTANT / LTD. QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. DOT - ROAD</td>
<td></td>
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<tr>
<td>UN 1866</td>
<td>Resin solution</td>
<td>3</td>
<td></td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>U.S. DOT - RAIL</td>
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<tr>
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<tr>
<td>U.S. DOT - INLAND WATERWAYS</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>UN 1866</td>
<td>Resin solution</td>
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<td></td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>TRANSPORT CANADA - ROAD</td>
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<td></td>
<td></td>
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<tr>
<td>UN 1866</td>
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<td>III</td>
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<td>TRANSPORT CANADA - RAIL</td>
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<td></td>
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<tr>
<td>UN 1866</td>
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<td>III</td>
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<tr>
<td>TRANSPORT CANADA - INLAND WATERWAYS</td>
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<td>UN 1866</td>
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<td>III</td>
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<tr>
<td>INTERNATIONAL MARITIME DANGEROUS GOODS</td>
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<tr>
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<tr>
<td>INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO</td>
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<tr>
<td>UN 1866</td>
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<td>3</td>
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<td>III</td>
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<tr>
<td>INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER</td>
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<tr>
<td>UN 1866</td>
<td>Resin solution</td>
<td>3</td>
<td></td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES</td>
<td></td>
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<td></td>
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<tr>
<td>UN 1866</td>
<td>RESINA, SOLUCIONES DE</td>
<td>3</td>
<td></td>
<td>III</td>
<td></td>
</tr>
</tbody>
</table>

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION
California Prop. 65
WARNING! This product contains a chemical known to the State of California to cause cancer.
WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

SARA Hazard Classification
SARA 311/312 Classification
Reactivity Hazard
Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 313 Component(s)
STYRENE 24.31 %

Notification status
EU. EINECS n (Negative listing)
US. Toxic Substances Control Act y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) n (Negative listing)
Canada. Canadian Environmental Protection Act (CEPA) y (positive listing)
Japan. Kashin-Hou Law List n (Negative listing)
Korea. Toxic Chemical Control Law (TCCL) List y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act y (positive listing)
China. Inventory of Existing Chemical Substances y (positive listing)

Reportable quantity - Product
US. EPA CERCLA Hazardous Substances (40 CFR 302) 4113 lbs

Reportable quantity-Components
STYRENE 100-42-5 1000 lbs

HMIS
Health 2* 2
Flammability 3 3
Physical hazards 2 --
Instability -- 2
Specific Hazard -- --

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

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