

MATERIAL SAFETY DATA-SHEET

24-Emergency Phone No:

1-800-424-9300

MICHIGAN FIBERGLASS-----PART # MFR 101 (series)

Product Code: MFR 101

Effective Date 3/18/09

Composition/Information on Ingredients

Styrene Monomer 40-60%

Treated Amorphous Silica

Poly Ester Resin BALANCE

*F or specific percentage of styrene monomer found in this product see Sec. 15

HAZARDS IDENTIFICATION

Reddish purple viscous liquid. Pungent styrene odor. Flammable. Reactive. Causes *eye* irritation. May cause anesthetic effects.

Potential Health Effects: Section 11

EYE: May cause moderate irritation with corneal injury. Vapors may irritate eyes. May cause lachrymation(tears).

SKIN: Prolonged or repeated exposure may cause skin irritation. Material may stick to skin causing irritation upon removal. A single prolonged exposure is not likely to result in the material being absorbed in harmful amounts.

INGESTION: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to nominal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. If aspirated(liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

INHALATION: Excessive vapor concentrations are attainable and could be hazardous on single exposure. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Excessive exposure may cause irritation to upper respiratory tract.

SYSTEMIC & OTHER EFFECTS: Repeated excessive exposures to high amounts may cause central nervous system, liver, kidney effects to smaller amounts may cause central nervous system effects and respiratory or *eye* irritation. Styrene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations (sixteen times the TL V and higher); however, the relevance of this to humans is unknown. Repeated excessive exposure to dust of amorphous silica may cause reversible lung effects. However, since this product will not be encountered as a dust, the amorphous silica does not present a hazard. Some studies in humans allege that repeated exposure to styrene may result in minor, subclinical decreases in the ability to discriminate between colors.

CANCER INFORMATION: This mixture contains a component which are listed as potential carcinogens for hazard communication purposes under OSHA standard 29CFR 1910.1200. Components listed by IARC:styrene. Neither that data from long-term animal studies or from epidemiology of workers exposed to styrene provide an adequate basis to conclude that styrene is carcinogenic

TERATOLOGY: In laboratory animals, styrene did not produce birth defects or any other effects on fetus even at exposure concentrations having an adverse effect on the mother.

REPRODUCTIVE EFFECTS: Contains component, which did not interfere with reproduction in animal studies. (Styrene)

FIRST AID

EYES: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: Wash off in flowing water or shower.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel should administer oxygen. Call a physician or transport to a medical facility.

NOTE TO PHYSICIAN: Because rapid absorption may occur through lungs if aspirated and cause systemic effects; the decision of whether to induce vomiting or not should be made by the attending physician. If lavage is performed, suggest endotracheal and /or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Flashpoint: 74-84f Method Used: ASTM_D93, PMCC Autoignition Temperature 914F (490C) based on styrene

LFL: 9% UFL: 6.8% this is based on styrene

HAZARDOUS COMBUSTION: Under fire conditions polymers decompose. The smoke may contain polymer fragments of varying compositions in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to carbon dioxide, carbon monoxide
Hazardous combustion products may include styrene.

OTHER FLAMMABILITY INFORMATION: Dense smoke is produced when product burns. Violent steam generation or eruption may occur upon application of direct water stream. Vapors are heavier than air and may travel a long distance and accumulate in low areas. Ignition and/or flash back may occur. Flammable mixtures may exist within the vapor space of containers at room temperature. Flammable concentrations of vapor can accumulate at temperatures above 74F. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the auto ignition temperatures possible resulting in spontaneous combustion.

EXTINGUISHING MEDIA: Water fog or fine sprays, carbon dioxide, dry chemical, foam. Water fog, applied gently may be used as a blanket for fire extinguishing. General-purpose synthetic foams(Including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC TYPE) **MAY**

FUNCTION. Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog applied gently may be used as a blanket for fire extinguishing. Eliminate ignition sources. _Stay unwind and keen out of low areas where gases (Fumes) can accumulate. **Do not use direct water stream. May spread fire. Water may not be effective in extinguishing fire. Move container from fire area if this is possible without hazard.**

PROTECTIVE EQUIPMENT FOR FIREFIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing(includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available fight fire from a protected location or safe distance.

ACCIDENTAL RELEASE MEASURES: See Sec 15 for Regulatory Information

PROTECT PEOPLE: DO NOT BREATHE VAPORS. VAPORS EXPLOSION HAZARD

ACCIDENTAL RELEASE MEASURES: Keep out of sewers. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. For large spills, warn public or downwind explosion hazard. Check area with explosion meter before reentering area. Ground and bond all containers and handling equipment.

PROTECT THE ENVIRONMENT: For large spills. Evacuate upwind of spills and contain with dike.

CLEANUP: Pump with explosion-proof equipment. If available use foam to smother and suppress. Remove residual with hot soapy water. Residual can be removed with solvent. Solvents are not recommended for cleanup unless the recommended exposure guidelines and safe handling practices for the specific solvent are followed. Consult appropriate solvent MSDA for handling information and exposure guidelines.

HANDLING: Containers, even those that have been emptied can contain vapors. Do not cut, drill, weld, or perform similar operations on or near empty containers. No smoking open flames or sources of ignition in handling or storage area. Never use air pressure for transferring product. Electrically ground all equipment.

STORAGE: Store below 75F avoids storage in direct sunlight. Use of non-sparking or explosion proof equipment may be necessary depending upon the type of operation. Minimize sources of ignition, such as static buildup, heat, spark or flame. Keep containers tightly closed when not in use.

EXPOSURE CONTROLS---PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide general and or local exhaust ventilation to control airborne concentrations below the exposure guidelines, use only with adequate ventilation.

EYE AND FACE: Use chemical goggles. If vapor exposure causes eye irritation, use a full-face respirator.

SKIN PROTECTION: Wear clean, long-sleeved, body covering clothing. Use gloves impervious to this material.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus air respirator.

EXPOSURE GUIDELINES: Styrene monomer ACGIH TLV and OSHA PEL are 50 ppm TW A 100ppm STEL . .

Silica Amorphous: ACGIH TLV is 10 mg/m³, OSHA PEL is 6mg.m[#] PELS are in accord with those recommended by OSHA as in the 1989 revision of PELS.

A skin notation following the exposure guidelines refers to the potential for dermal absorption of the material. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Reddish-purple, viscous liquid

Vapor Pressure: 7mmHg @20C*

Odor: Pungent styrene Vapor Density: 3.6*

Boiling Point: 294F, 146C*

Specific Gravity: 1.025-1.075

STABILITY AND REACTIVITY

CHEMICAL STABILITY: Unstable at elevated temperatures

CONDITIONS TO AVOID: Avoid storage in direct sunlight and at temperatures above 120F, 49C

INCOMPATIBILITY WITH OTHER MATERIALS: Oxidizing Material Hazardous decomposition products please refer section hazardous combustion products.

HAZARDOUS POLYMERIZATION: May occur, avoid contact with metal salts such as ferric and aluminum chlorides, unintended contact with peroxides, and depletion of inhibitor levels. Avoid exposure to direct sunlight or temperatures above 120F (49C)

TOXICOLOGICAL INFORMATION: See potential health effects. For detailed toxicological data, write or call the address or non-emergency number shown in section 1

SKIN: The LD50 for skin absorption in rabbits is expected to be >2000 mg/kg.

INGESTION: Based on information for a similar material, the oral LD50 for rats is expected to be >4000mg/kg.

MUTAGENICITY EFFECTS ON GENETIC MATERIAL: For styrene in vitro mutagenicity studies were

inconclusive. Animal mutagenicity studies were inconclusive.

ECOLOGICAL INFORMATION: For detailed information call the non-emergency in section 1

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING: Based on information for styrene. Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3) Potential for mobility in soil is low (Kow between 500/2000)

DEGRADATION & TRANSFORMATION: Based on information for styrene. Biodegradation under aerobic static laboratory conditions is high (BOD2) or BOD28/ThOD greater than 40%). Degradation is expected in the atmospheric environment within minutes to hours. **EXOTOXICOLOGY:** Based on information for styrene. Material is moderately toxic to aquatic organisms on an acute basis (LC50 between 1 and 10 mg/L in most sensitive species.

DISPOSAL CONSIDERATIONS: See Regulatory Information

DISPOSAL METHOD: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. ALL DISPOSAL METHODS MUST BE IN COMPLIANCE WITH ALL FEDERAL, STATE, PROVINCIAL AND LOCAL LAWS AND REGULATION. REGULATIONS MAY VARY IN DIFFERENT LOCATIONS. WASTE CHARACTERIZATIONS AND COMPLIANCE WITH APPLICABLE LAWS ARE THE RESPONSIBILITY SOLELY OF THE WASTE GENERATOR.

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TRANSPORT INFORMATION (D.O.T)

For DOT regulatory information, if required, consult transportation regulations, product-shipping papers or contact your MFG representatives.

Canadian TDG Information: If required, consult transportation regulations, product-shipping papers or contact your MFG representative.

Regulatory Information---Not meant to be all-inclusive---selected regulations represented

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