Composite Matrix Resin (CMR) MSDS – UN1866

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED, IS MADE. CONSULT THE CHEMICAL COMPANY FOR FURTHER INFORMATION.

1. Chemical product and company Identification
   Product code: Trade secret
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   General or Generic ID: Epoxy Vinyl Ester Resin
   Contract#98789

2. Composition/information of ingredients
   - Styrene monomer
     CAS# 000100-42-5  30-60%*
   - Vinyl ester resin
     CAS# 036425-15-7  40-70%

3. Hazardous identification
   "Straw-yellow viscous liquid. Pungent styrene odor. Flammable. Reactive. Highly toxic to fish and/or other aquatic organisms."
   "POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)"
   - **EYE:**
     May cause moderate irritation.
     May cause slight corneal injury.
     Vapors may irritate eyes.
     Vapors may cause lacrimation (tears).
   - **SKIN:**
     Prolonged exposure may cause skin irritation.
     Repeated exposure may cause skin burns.
     Material may stick to skin causing irritation upon removal.
     A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.
   - **INGESTION:**
     Single dose oral toxicity is considered to be low.
     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 (nose and throat).
   - **SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:** Contains styrene, which, in animals has been reported to cause effects on the following organs: central nervous system, kidney, liver, and respiratory tract.
     Lung effects have been observed in mice following repeated exposure to styrene.
     Styrene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations (>800 ppm); however, the relevance of this to humans is unknown. 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 component(s) which are listed as potential carcinogens for hazardous communication purposes under OSHA Standard 29 CFR 1910.1200. Component(s) listed by IARC: styrene. An increased incidence of lung tumors was observed in mice from a recent inhalation study on styrene. The relevance of this finding to humans is uncertain since data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic.

TERATOLOGY (BIRTH DEFECTS): In laboratory animals; styrene did not produce birth defects or any other effects on the fetus even at concentrations having an adverse effect on the mother.

REPRODUCTIVE EFFECTS: Contains component(s) which did not interfere with reproduction in animal studies. The component(s) is/are: styrene.

4. First aid

General Information:
Remove soiled or soaked clothing immediately.

After inhalation:
Remove the casualty into fresh air and keep that person calm. In the event of symptoms, seek medical advice.

After contact with skin:
In case of contact with skin, wash immediately with soap and water. Consult a doctor if irritation persists.

After ingestion:
Do not induce vomiting. See medical treatment and show physician the Safety Data sheet.

Symptoms:
Headache
Dizziness
Doziness

5. Firefighting measures

Suitable extinguishing media:
Carbon Dioxide
Dry Powder
Foam

Extinguishing media that must not be used for safety reasons
Full Water Jet

Special hazards from the substance itself, its combustion products or from its vapors:
In case of fire, hazardous combustion gases are formed: Carbon Monoxide (CO) Combustion gases of organic materials must in principle be graded as inhalation poisons.

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 or not used, fight fire from a protected location or safe distance.

6. Accidental release measure:
Environmental precautions:
Do not allow to enter drains. If the product gets into drains, inform the relevant authorities immediately.
Methods for clean up:
Take up with absorbent material (i.e. sand or universal binder)

7. Handling and Storage

HANDLING
Provide good ventilation of working area (local exhaust ventilation if necessary)
During processing and handling of the product, comply with the indicative occupational exposure limit values.

STORAGE:
Keep away from sources of ignition.
Refrain from smoking
Take precautionary measure against electrostatic loading
Observe the general rules of industrial fire protection
Keep container tightly closed in a cool, well-ventilated place
Do not expose to prolonged heat
Protect from direct sunlight

Fire Class: B

8. Exposure controls / Personal protection

ENGINEERING CONTROLS:
Provide general and/or local exhaust ventilation to control airborne concentrations below the exposure guideline.
Use only with adequate ventilation.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION:
Use chemical goggles. If vapor exposure causes eye discomfort, use a full-face respirator.

SKIN PROTECTION:
Wear clean, long-sleeved, body covering clothing.
Use gloves impervious to this material.
When prolonged or frequently repeated contact occurs, protective clothing impervious to this material must be worn.

RESPIRATORY PROTECTION:
Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure

HAND PROTECTION: Nitrile or fluorinated gloves.

EYE PROTECTION: Safety Glasses

EXPOSURE GUIDELINE(S): Styrene, monomer: ACGIH TLV is 20 ppm TWA, 40 ppm STEL, skin. ACGIH classifies as A4. OSHA PEL is 50 ppm TWA, 100 ppm STEL. The styrene PEL and STEL are in accordance with the OSHA-industry agreement dated March, 1996.

A “Skin” notation following the exposure guideline 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.

9. Physical and chemical properties

General Information:
Appearance: Liquid
Color: Straw-Yellow
Odor: of Styrene

Important health, safety and environmental information:
Boiling Range: 100-200 C
Flash Point: 34C
Ignition Temperature: >400°C
Lower explosion limit: 1.1% (V)
Upper explosion limit: 8% (V)
Vapor pressure: 6.5 mbar (20°C)
Density: 1.13 g/cm³ (20°C)
Solubility in water: insoluble (20°C)
Viscosity: 850-1150 mPa.s (23°C)
Other information:
The information for vapor pressure, ignition temperature, and explosion limits are related to solvent/solvents mixtures.

10. Stability and reactivity

Conditions to avoid:
Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.
Polymerization with evolution of heat.

Thermal decomposition:
No decomposition if used as prescribed.

Materials to avoid:
Reactions with peroxides and other radical components.

11. Toxicological information (See Section 3 for Potential Health Effects.)

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

INGESTION: The oral LD₅₀ for rats is expected to be >4000 mg/kg.

MUTAGENICITY: Considered not mutagenic.

12. Ecological information

Information of Product:
Do not allow to enter soil, Waterways, or waste water.

Information on the component(s):
Styrene:
Fish: LC₅₀, 96h; >1-10< mg/l
Daphnia: EC₅₀, 48h; >1-10< mg/l
Algae: EC₅₀, 72h; >1-10< mg/l
Bacteria inhibition: EC₅₀; 16h; 72mg/l
Readily biodegradable.
No significant accumulation in organisms is expected.

Methanol:
Fish: LC₅₀, 96h: >100 mg/l
The potential to accumulate in biota and pass through the food chain is low.
The substance is readily biodegradable.

13. Disposal considerations

Product:
Incineration in suitable incineration plant, observing local authority regulations.

Unclean Packaging:
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

14. Transport information

Land Transport ADR (cross-border):
ADR/GGVS: 3
UN-Number: 1866
Packaging Group: III
Label: 3
Description of Goods: 1866 Resin Solution, flammable
ADR: Special provision 640E
RID/GGVE: See ADR
Maritime Transport IMDG:
IMDG Class: 3
UN-Number: 1866
Packaging Group: III
EMS Number: F-E, S-E
Marine Pollutant: 0
Proper Shipping name: 1866 Resin Solution, flammable
Air Transport ICAO-TI IATA-DGR:
ICAO/IATA Class: 3
UN/ID Number: 1866
Label: 3
Packaging Group: III
Proper shipping name: 1866 Resin Solution, flammable
Additional Information:
Dispatch by post: Not permitted
In receptacles < 450 liters: Carriage in accordance with 2.2.3.1.5 (ADR/RID)

15. Regulatory information (Not meant to be all-inclusive-selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer’s responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

Labeling according to EU guidelines: The product has been classified and marked in accordance with EU Directives/Ordinance on Hazardous Material

Hazardous component(s) for labeling:
Styrene

Code letter and hazard designation of product:
Xn Harmful

Special labeling for certain preparations:
Contains phthalic anhydride. May produce an allergic reaction.

16. Other information

The information accumulated herein is believed to be accurate but is not warranted to be whether originated 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.