

TECH INDUSTRIAL SERVICES
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TECH-PLATE is a registered trademark of
TECH Industrial Services.

MATERIAL SAFETY DATA SHEET

Section 1: Product Identification

Product name: TECH-PLATE™
Trade name vinyl-ester resin
TDG shipping name resin solution
TDG classification PIN-UN1866, Class 3, PKG. GRP III
WHMIS classification B2, D2A, F
DSL status ON DSL

Section 2: Hazardous Ingredient(s)

Ingredient: CAS# ACGIH TLV/OSHA PEL %W/W
Styrene monomer 100-42-5 50 PPM 30-50%

Section 3: Physical Data

Physical state liquid
F (styrene)° C, 294°Boiling point (C) 146
Freezing point undetermined
F° C/77°Specific gravity 1.10@ 25
F (styrene)° C/68°Vapor pressure 4.5 mmHg@20
Vapor density (Air=1) 3.6 (styrene)
% Volatile 30 – 50%
Solubility in water slight
Appearance & odor colored, pungent styrene odor

Section 4: Fire and Explosion Data

Flammability yes, when exposed to excessive heat, sparks, open flame.

F (ASTM-D93, Pensky Martin Closed Cup)°Flashpoint 74 - 84

Flammability Limits

UFL 0.9% (Styrene)

UFL 6.8% (Based on styrene)

C (Styrene)° F/490°Auto ignition temp 914

Extinguishing Media

Water fog, dry chemical, carbon dioxide, foam

Hazardous Combustion Products

Carbon dioxide, carbon monoxide, various hydrocarbons, etc.

Explosion Data:

Sensitivity to mechanical impact No

Sensitivity to static discharge Yes

Take precaution against static.

Fire-fighting Measures

Wear positive pressure self-contained breathing apparatus (SCBA) with a full-face piece and protective fire-fighting clothing. If protective equipment is not available or not used, fight fire from a protected location or distance.

Fire-fighting Instructions

Keep people away. Isolate fire area. Eliminate ignition sources. Move container from fire area if possible. Burning liquids may be moved with water to protect personnel. Water fog applied gently may be used as a blanket to extinguish fire. Stay upwind. Keep 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.

All five-gallon pails and larger metal containers including tank cars and tank trucks should be grounded and/or bonded when material is transferred.

Section 5: Reactivity Data

Chemical Stability

C or direct sunlight.°F/49°Avoid storage at temperatures above 120

Substance Incompatibility With Other Materials

Oxidizing materials

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide, other hydrocarbons. Emits acrid fumes.

C.° F/49°Hazardous polymerization may occur. Avoid contact with metal salts such as ferric and aluminum chlorides, peroxides and depletion of inhibitor levels. Avoid exposure to direct sunlight or temperatures above 120

Section 6: Toxicological Properties

Skin Contact

Prolonged or repeated exposure may cause skin irritation, de-fatting, dermatitis.

Eye Contact

Contact with liquid or vapors may cause irritation with temporary corneal injury.

Inhalation

Excessive inhalation of vapors can cause nasal and respiratory irritation and central nervous system effects including dizziness, weakness, fatigue, nausea, headache and unconsciousness.

Ingestion

Can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonia, which can be fatal.

Effect of Acute Exposure to Material

Over exposure may produce drowsiness, weak unsteady gait, and narcosis.

Effects of Chronic Exposure to Material

The International Agency for Research on Cancer (IARC) has classified styrene as a possible carcinogen to humans.

LD 50 of Material

For skin absorption (Rabbits) >2000mg/kg

For oral (Rats) >4000mg/kg

Exposure Limit of Material

TLV for styrene 50 PPM

Short term exposure limit (STEL) 100 PPM

Carcinogenicity of Material

This mixture contains component(s), which are listed as potential carcinogens by IARC.

Component listed: Styrene.

Reproductive Effects

May cause adverse reproductive effects in animals.

Section 7: Preventative Measures

Personal Protective Equipment

Skin Protection: Use resistant gloves such as butyl rubber or neoprene.

Eye Protection: Use chemical safety glasses or goggles.

Respiratory Protection: Use NIOSH or CSA approved organic vapor chemical cartridge respirator when concentration exceeds TLV or upper respiratory tract irritation occurs.

Body Protection: Wear impervious protective clothing.

Feet Protection: Wear impervious boots or safety shoes.

Specific Engineering Controls

Use explosion-proof ventilation to prevent vapor accumulation, fixed equipment as well as

transfer containers. Equipment should be grounded to prevent accumulation of static charge.

Steps to Be Taken in Case Material is Released or Spilled

Small spill: Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material and transfer to hood.

Large spill: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing adequate protective equipment should be excluded from area of spill until clean up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid (using explosion proof equipment) to salvage tank. Remaining liquid may be taken up on sand, floor absorbent or other absorbent material and shoveled into containers.

Waste Disposal

Dispose of accordance with all local, provincial and federal regulations.

Storage Requirements

F. Avoid direct sunlight. Minimize sources of ignition such as static build-up, heat, sparks or flame. Keep containers tightly closed when not in use.°Store below 75

Special Shipping Information

TDG flammability classification 3

Flammable liquid. Packaging Group III

WHMIS Classification

C°B2: Flammable liquid with flash point less than 37.8

D2A: Possible carcinogen

D2B: Eye or skin irritant

F: Reactive material

Section 8: First Aid Measures

Skin Contact: Wash with soap and water. Seek medical attention if irritation persists.

Eye Contact: Flush with abundant flowing water. If irritation persists, seek medical attention.

Inhalation: Remove to fresh air. Give oxygen or artificial respiration as required. Obtain medical attention.

Ingestion: Do not induce vomiting. Seek medical attention. If vomiting occurs, keep head below hips to prevent aspiration of liquid into lungs.

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