Tel: 514-956-7503
Fax: 514-956-7504
Internet: www.megs.ca
Email : support@megs.ca

Montreal	St-Laurent	Tel : 514-956-7503	Fax : 514-956-7504
Ottawa	Nepean	Tel : 613-226-4228	Fax : 613-226-4229
Quebec	Quebec	Tel : 418-834-7447	Fax : 418-834-3774

STYRENE- MATERIAL SAFETY DATA SHEET

TABLE OF CONTENTS:

24 Hour EMERGENCY CONTACT

U.S- CHEMTREC 1-800-424-9300

CANADA- CANUTEC 613-996-6666

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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Matheson Tri-Gas, Inc.

The telephone numbers listed below are emergency numbers, please contact your local branch for routine inquiries.

USA	CANADA
959 Route 46 East	530 Watson Street
Parsippany, New Jersey	Whitby, Ontario
07054-0624 USA	L1N 5R9 Canada
Phone: 973-257-1100	**Phone:** 905-668-3570

SUBSTANCE: STYRENE

SYMBOL: C_6H_6

TRADE NAMES/SYNONYMS:
PHENYLETHYLENE; VINYLBENZENE; CINNAMENE; PHENYLETHENE; ETHENYLBENZENE; BENZENE, ETHENYL-; STYRENE; STYROL; STYROLENE; STYRENE MONOMER; STCC 4907265; UN 2055; O-4507; MAT22100; RTECS WL3675000

CHEMICAL FAMILY: hydrocarbons, aromatic

CREATION DATE: Jan 24 1989
REVISION DATE: Mar 16 1999

2. COMPOSITION, INFORMATION ON INGREDIENTS

Up to Table of Contents

COMPONENT: STYRENE MONOMER, INHIBITED

CAS NUMBER: 100-42-5

EC NUMBER (EINECS): 202-851-5

PERCENTAGE: >99

COMPONENT: (1,1-DIMETHYLETHYL)-1,2-BENZENEDIOL

CAS NUMBER: 27213-78-1

EC NUMBER (EINECS): 248-325-9

PERCENTAGE: <0.1

3. HAZARDS IDENTIFICATION

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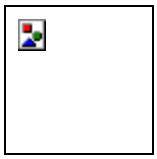
NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=3 REACTIVITY=2

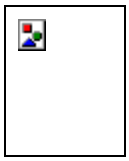


WHMIS CLASSIFICATION: BD2

EC CLASSIFICATION (ASSIGNED):
Flammable
Xn Harmful
Xi Irritant

R 10-20-36/38

EC Classification may be inconsistent with independently-researched data.



EMERGENCY OVERVIEW:

Color: colorless to yellow

Physical Form: liquid

Odor: sweet odor, distinct odor, pungent odor

Major Health Hazards: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression, suspect cancer hazard (in animals)

Physical Hazards: Flammable liquid and vapor. Vapor may cause flash fire. May polymerize. Containers may rupture or explode.

POTENTIAL HEALTH EFFECTS:

INHALATION:
Short Term Exposure: irritation, metallic taste, ringing in the ears, nausea, vomiting, headache, drowsiness, symptoms of drunkenness, hearing loss, liver damage, coma
Long Term Exposure: menstrual disorders, lung congestion, kidney damage, liver damage, brain damage

SKIN CONTACT:
Short Term Exposure: irritation, symptoms of drunkenness
Long Term Exposure: same as effects reported in short term exposure

EYE CONTACT:
Short Term Exposure: irritation, tearing, eye damage
Long Term Exposure: same as effects reported in short term exposure

INGESTION:
Short Term Exposure: same as effects reported in other routes of exposure, symptoms of drunkenness
Long Term Exposure: irregular heartbeat, kidney damage, liver damage, cancer

CARCINOGEN STATUS:
OSHA: N
NTP: N
IARC: Y

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4. FIRST AID MEASURES

Up to Table of Contents

INHALATION:
Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.

SKIN CONTACT:
Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

EYE CONTACT:
Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

INGESTION:
If vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention, if needed.

5. FIRE FIGHTING MEASURES

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FIRE AND EXPLOSION HAZARDS:
Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive above flash point.

EXTINGUISHING MEDIA:
regular dry chemical, carbon dioxide, water, regular foam

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING:
Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Water may be ineffective.

FLASH POINT:
88 F (31 C) (CC)

LOWER FLAMMABLE LIMIT:
1.1%

UPPER FLAMMABLE LIMIT:
6.1%

AUTOIGNITION:
914 F (490 C)

FLAMMABILITY CLASS (OSHA):
IC

6. ACCIDENTAL RELEASE MEASURES

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AIR RELEASE:
Reduce vapors with water spray. Stay upwind and keep out of low areas.

SOIL RELEASE:
Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Dike for later disposal. Absorb with sand or other non-combustible material. Collect with absorbent into suitable container.

WATER RELEASE:
Absorb with activated carbon. Collect spilled material using mechanical equipment. Cover with absorbent sheets, spill-control pads or pillows. Apply detergents, soaps, alcohols or another surface active agent. Remove trapped material with suction hoses.

OCCUPATIONAL RELEASE:
Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry. Reportable Quantity (RQ): Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

7. HANDLING AND STORAGE

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Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Protect from physical damage. Store outside or in a detached building. Store with flammable liquids. Monitor inhibitor content. Keep separated from incompatible substances. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Up to Table of Contents

EXPOSURE LIMITS:

STYRENE MONOMER, INHIBITED:
STYRENE:
100 ppm OSHA TWA
200 ppm OSHA ceiling
600 ppm OSHA peak 5 minute(s)/3 hour(s)
50 ppm (213 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)
100 ppm (426 mg/m3) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)
20 ppm (85 mg/m3) ACGIH TWA (skin)
40 ppm (170 mg/m3) ACGIH STEL
50 ppm (213 mg/m3) NIOSH recommended TWA
100 ppm (426 mg/m3) NIOSH recommended STEL

VENTILATION: Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.
500 ppm
Any chemical cartridge respirator with organic vapor cartridge(s).
Any supplied-air respirator.
700 ppm
Any supplied-air respirator.
Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
Any air-purifying respirator with a full facepiece and an organic vapor canister.
Any powered, air-purifying respirator with organic vapor cartridge(s).
Any self-contained breathing apparatus with a full facepiece.
Any supplied-air respirator with a full facepiece.
Escape -
Any air-purifying respirator with a full facepiece and an organic vapor canister.
Any appropriate escape-type, self-contained breathing apparatus.
For Unknown Concentrations or Immediately Dangerous to Life or Health -
Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
Any self-contained breathing apparatus with a full facepiece.

9. PHYSICAL AND CHEMICAL PROPERTIES

Up to Table of Contents

PHYSICAL STATE: liquid

COLOR: colorless to yellow

TEXTURE: oily

ODOR: sweet odor, distinct odor, pungent odor

MOLECULAR WEIGHT: 104.14

MOLECULAR FORMULA: C8-H8

BOILING POINT: 295 F (146 C)

FREEZING POINT: -24 F (-31 C)

VAPOR PRESSURE: 10 mmHg @ 31 C

VAPOR DENSITY (air=1): 3.6

SPECIFIC GRAVITY (water=1): 0.9060

WATER SOLUBILITY: 0.02%

PH: Not available

VOLATILITY: Not available

ODOR THRESHOLD: 0.1 ppm

EVAPORATION RATE: 0.5 (butyl acetate=1)

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:
Soluble: alcohol, ether, acetone, benzene, petroleum ether, methanol, carbon disulfide

10. STABILITY AND REACTIVITY

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REACTIVITY:
May polymerize. Avoid contact with light or storage and use above room temperature. Closed containers may rupture violently.

CONDITIONS TO AVOID:
Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Keep out of water supplies and sewers.

INCOMPATIBILITIES:
acids, metal salts, combustible materials, oxidizing materials, metals, peroxides

HAZARDOUS DECOMPOSITION:
Thermal decomposition products: oxides of carbon

POLYMERIZATION:
May polymerize. Avoid contact with heat, air, light, initiators or curing agents. Polymerizes with evolution of heat. Avoid contact with temperatures above 65 C.

11. TOXICOLOGICAL INFORMATION

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STYRENE MONOMER, INHIBITED:

IRRITATION DATA:
500 mg skin-human; 500 mg open skin-rabbit mild; 100 percent skin-rabbit moderate; 100 mg eyes-rabbit severe; 100 mg/24 hour(s) eyes-rabbit moderate

TOXICITY DATA:
12 gm/m3/4 hour(s) inhalation-rat LC50; >5010 mg/kg skin-rabbit LD50 (Monsanto); 2650 mg/kg oral-rat LD50

CARCINOGEN STATUS:
IARC: Human Inadequate Evidence, Animal Limited Evidence, Group 2B; ACGIH: A4 -Not Classifiable as a Human Carcinogen

LOCAL EFFECTS:
Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:
Moderately Toxic: inhalation, ingestion

TARGET ORGANS:
central nervous system

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
central nervous system disorders, respiratory disorders, skin disorders and allergies

TUMORIGENIC DATA:
Available.

MUTAGENIC DATA:
Available.

REPRODUCTIVE EFFECTS DATA:
Available.

ADDITIONAL DATA:
May cross the placenta. Alcohol may enhance the toxic effects.

12. ECOLOGICAL INFORMATION

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ECOTOXICITY DATA:

FISH TOXICITY:
4020 ug/L 96 hour(s) LC50 (Mortality) Fathead minnow (Pimephales promelas)

INVERTEBRATE TOXICITY:
12100 ug/L 96 hour(s) LC50 (Mortality) Opossum shrimp (Mysidopsis bahia)

ALGAL TOXICITY:
78000 ug/L 96 hour(s) EC50 (Photosynthesis) Diatom (Skeletonema costatum)

13. DISPOSAL CONSIDERATIONS

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Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D003.
Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

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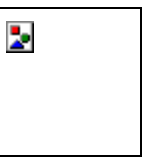
U.S. DOT 49 CFR 172.101. SHIPPING NAME-UN NUMBER; HAZARD CLASS; PACKING GROUP; LABEL:
Styrene monomer, inhibited-UN2055; 3; III; Flammable liquid



15. REGULATORY INFORMATION

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U.S. REGULATIONS:
TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CERCLA SECTION 103 (40CFR302.4): Y
Styrene: 1000 LBS RQ

SARA SECTION 302 (40CFR355.30): N

SARA SECTION 304 (40CFR355.40): N

SARA SECTION 313 (40CFR372.65): Y
Styrene

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):
ACUTE: Y
CHRONIC: Y
FIRE: Y
REACTIVE: Y
SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

STATE REGULATIONS:
California Proposition 65: N

EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 202-851-5

EC RISK AND SAFETY PHRASES:

R 10	Flammable.
R 20	Harmful by inhalation.
R 36/38	Irritating to eyes and skin.
S 2	Keep out of reach of children.
S 23	Do not breathe gas, fumes, vapour, or spray.

CONCENTRATION LIMITS:
C>=12.5% Xn R 20-36/38

16. OTHER INFORMATION

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