

Common Name: **STYRENE MONOMER**

Synonyms: Cinnamene; Ethenylbenzene; Phenylethylene; Vinyl Benzene

CAS No: 100-42-5

Molecular Formula: C₈H₈

RTK Substance No: 1748

Description: Clear, colorless to yellow, oily liquid, with a sweet odor at low concentrations

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
2 - Health 3 - Fire 2- Reactivity DOT#: UN 2055 ERG Guide #: 128P Hazard Class: 3 (Flammable)	Styrene Monomer is a FLAMMABLE LIQUID. Use dry chemical, CO ₂ , water spray or foam as extinguishing agents. POISONOUS GASES ARE PRODUCED IN FIRE. CONTAINERS MAY EXPLODE IN FIRE. Use water spray to keep fire-exposed containers cool. Vapor is heavier than air and may travel a distance to cause a fire or explosion far from the source and flash back. Styrene Monomer can POLYMERIZE resulting in uncontrolled reactions. These reactions may be explosive. Styrene Monomer may accumulate static electricity.	<i>Unstabilized Styrene Monomer</i> can POLYMERIZE VIOLENTLY on exposure to HEAT; LIGHT; OXIDIZING AGENTS (such as PERCHLORATES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); OXYGEN; PEROXIDES (such as <i>Dibenzoyl Peroxide</i>) or when CONTAMINATED. Styrene Monomer can form unstable <i>Peroxides</i> in AIR that may explode spontaneously. Styrene Monomer reacts violently with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC, NITRIC and OLEUM) and METAL SALTS (such as IRON CHLORIDE and ALUMINUM CHLORIDE). Styrene Monomer attacks RUBBER, COPPER and COPPER ALLOYS.

SPILL/LEAKS

Isolation Distance:

Spill: 50 meters (150 feet)

Fire: 800 meters (1/2 mile)

Absorb liquids in vermiculite, dry sand, earth, or a similar material and place into sealed containers for disposal.

Use only non-sparking tools and equipment, especially when opening and closing containers of **Styrene Monomer**.

Ground and bond containers when transferring **Styrene Monomer**.

Keep **Styrene Monomer** out of confined spaces, such as sewers, because of the possibility of an explosion.

DO NOT wash into sewer.

Styrene Monomer is toxic to aquatic organisms.

PHYSICAL PROPERTIES

Odor Threshold:	0.04 to 0.32 ppm
Flash Point:	88°F (31°C)
LEL:	1%
UEL:	7%
Auto Ignition Temp:	914°F (490°C)
Vapor Density:	3.6 (air = 1)
Vapor Pressure:	5 mm Hg at 68°F (20°C)
Specific Gravity:	0.91 (water = 1)
Water Solubility:	Very slightly soluble
Boiling Point:	293°F (145°C)
Freezing Point:	-23°F (-31°C)
Ionization Potential:	8.4 eV
Molecular Weight:	104.2

EXPOSURE LIMITS

OSHA: 100 ppm, 8-hr TWA; 200 ppm Ceiling; 600 ppm, 5-min peak

NIOSH: 50 ppm, 10-hr; 100 ppm Ceiling

ACGIH: 20 ppm, 8-hr TWA; 40 ppm Ceiling

IDLH: 700 ppm

The Protective Action Criteria values are:

PAC-1 = 20 ppm PAC-2 = 130 ppm

PAC-3 = 1,100 ppm

PROTECTIVE EQUIPMENT

Gloves:	Silver Shield®/4H®, Viton and Barrier® (>8-hr breakthrough)
Coveralls:	Tychem® F, CPF3, BR, CSM and TK; Trelchem® HPS and VPS (>8-hr breakthrough)
Respirator:	>20 ppm - full facepiece APR with <i>Organic vapor</i> cartridges >200 ppm - SCBA

HEALTH EFFECTS

Eyes:	Irritation, rash, dryness, redness and burning feeling on contact
Skin:	Irritation
Inhalation:	Nose and throat irritation Headache, dizziness, lightheadedness, and passing out
Chronic:	Cancer (lung) in animals

FIRST AID AND DECONTAMINATION

Remove the person from exposure.
Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses.
Quickly remove contaminated clothing and wash contaminated skin with large amounts of soap and water.
Begin artificial respiration if breathing has stopped and CPR if necessary.
Transfer promptly to a medical facility.