



Section 1: Identification

PRODUCT AND COMPANY INFORMATION

Product Name: Styrene Molecular Formula: C₈H₈
Catalog Number(s): M-100
Company: Scientific Polymer Products, Inc.
6265 Dean Parkway
Ontario, NY 14519
Telephone: 585/265-0413
Fax: 585/265-1390
Website: www.scipoly.com
Emergency Phone Number: 800-255-3924 (CHEM TEL)

Section 2: Hazards Identification

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids, Category 3, H226
Acute toxicity, Inhalation, Category 4, H332
Skin irritation, Category 2, H315
Eye irritation, Category 2A, H319
STOT SE, Category 3, H335
STOT RE, Category 1, H372i
Aspiration Toxicity, Category 1, H304

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H226 Flammable liquid and vapor.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H304 May be fatal if swallowed and enters airways.
H335 May cause respiratory irritation.
H372 Causes damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion proof electrical, ventilating, lighting and all material handling equipment.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P310+P331 IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P403+P235 Store in a well ventilated place. Keep cool.
P405 Store locked up
P501 Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNOC) or not covered by GHS – none

To the best of our knowledge, the toxicological properties of this chemical have not been thoroughly investigated. Use appropriate procedures and precautions to prevent or minimize exposure.

Section 3: Composition/Information on Ingredients

Ingredient	CAS Number	Concentration (%)
Styrene	100-42-5	100

Section 4: First Aid Measures

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire-Fighting Measures

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Container explosion may occur under fire conditions. Vapors may form explosive mixture with air.

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Use water spray to cool unopened containers

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Keep away from sources of ignition-No smoking. Take measure to prevent the buildup of electrostatic charge.

For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Specific end use(s)

Laboratory chemicals, Manufacture of substances

Section 8: Exposure Controls/Personal Protection

Control parameters

Components with workplace control parameters

Component	CAS-No	Value	Control parameters	Basis
Styrene	100-42-5	TWA	50 ppm	USA. NIOSH Recommended Exposure Limits
		ST	100 ppm 425 mg/m ³	USA. NIOSH Recommended Exposure Limits
	Remarks	See Table Z-2		
		TWA	100 ppm	USA. Occupational Exposure Limits (OSHA)- Table Z-2
		Z37.15-1969		
		CEIL	200 ppm	USA. Occupational Exposure Limits (OSHA)- Table Z-2
		Z37.15-1969		
		Peak	600 ppm	USA. Occupational Exposure Limits (OSHA)- Table Z-2
		Z37.15-1969		
		TWA	20 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract irritation Peripheral neuropathy Substances for which there is a Biological Exposure Index or Indices (BEI)		

		Not classifiable as a human carcinogen		
		TWA	100 ppm	USA. Occupational Exposure Limits (OSHA)- Table Z-2
		Z37.15-1969		
		CEIL	200 ppm	USA. Occupational Exposure Limits (OSHA)- Table Z-2
		Z37.15-1969		
		Peak	600 ppm	USA. Occupational Exposure Limits (OSHA)- Table Z-2
		Z37.15-1969		
		C	500 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		
		PEL	50 ppm 215 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		
		STEL	100 ppm 425 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Styrene	100-42-5	Mandelic acid plus phenylglyoxylic acid	400 mg/g Creatinine	Urine	ACGIH-Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			
		Styrene	0.2000 mg/l	In venous blood	ACGIH-Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			
		Mandelic acid plus phenylglyoxylic acid	400 mg/g Creatinine	Urine	ACGIH-Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			
		Styrene	40 µg/l	Urine	ACGIH-Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air purifying respirators are appropriate use a full face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage of spillage if safe to do so. Do not let product enter drains.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

a)	Appearance	Form: Liquid
b)	Odor	No data available
c)	Odor Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	32° C (89.6° F)- closed cup
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Flammability or explosive limits	
	Upper	No data available
	Lower	No data available
k)	Vapor pressure	No data available
l)	Vapor density	No data available
m)	Relative density	No data available
n)	Water solubility	Insoluble
o)	Partition coefficient: n- octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

Other safety information

No data available

Section 10: Stability and Reactivity

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Test for peroxide formation before distillation or evaporation. Test for peroxide formation or discard after 1 year.

Possibility of hazardous reactions

Vapors may form explosive mixture with air. Vapors may form explosive mixture with air.

Conditions to avoid

May polymerize on exposure to light.

Heat, flames and sparks.

Incompatible materials

Oxidizing agents, Copper

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions- Carbon oxides

Other decomposition products- no data available

In the event of fire: see section 5

Section 11: Toxicological Information**Acute toxicity**

LD50 Oral- Rat- 6,000 mg/kg

LC50 Inhalation –Rat- 4 h – 12,000 mg/m³

LD50 Dermal- Rat- male and female- >2,000 mg/kg

Skin Corrosion/Irritation

Skin- Rabbit

Result: Skin irritation

(OECD Test Guideline 404)

Serious Eye Damage/Eye Irritation

Eyes- Rabbit

Result: Eye irritation – 24 h

Respiratory or Skin Sensitization

Maximization Test- Guinea pig

Does not cause skin sensitization

(OECD Test Guideline 406)

Germ Cell Mutagenicity

Laboratory experiments have shown mutagenic effects

Carcinogenicity:

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP or EPA classification.

IARC: 2B-Group 2B: Possibly carcinogenic to humans (Styrene)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: Reasonably anticipated to be a human carcinogen (Styrene)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

Reproductive Toxicity

Suspected of damaging the unborn child. Suspected human reproductive toxicant.

Specific Target Organ Toxicity – Single Exposure

No data available

Specific Target Organ Toxicity – Repeated Exposure

Causes damage to organs through prolonged or repeated exposure

Aspiration Hazard

No data available

Additional Information:

RTECS: WL3675000

Dermatitis, Central nervous system depression, Nausea, Dizziness, Headache. To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

Toxicity

Toxicity to fish	NOEC- Pimephales promelas (Fathead minnow) – 4 mg/l – 96 h LC50- Pimephales promelas (Fathead minnow) – 32mg/l -96 h LOEC- Pimephales promelas (Fathead minnow) - 7.6 mg/l – 96 h
Toxicity to daphnia and Other aquatic invertebrates	EC50- Daphnia magna (Water flea) – 4.7 mg/l – 48 h (OECD Test Guideline 202)
Toxicity to algae	IC50- Pseudokirchneriella subcapitata (green algae) – 1.4 mg/l -72 h

Persistence & Degradability

Biodegradability	Aerobic- Exposure time 28 d Result: >60%- Readily biodegradable
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Bioaccumulation Potential

No data available

Mobility in Soil

No data available

Results of PBT and vPvB Assessment:

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other Adverse Effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life

Section 13: Disposal Considerations

Waste treatment methods

Product

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional and national hazardous waste regulations to ensure complete and accurate classification.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

DOT (US)

UN number: 2055	Class: 3	Packing group: III
Proper shipping name: Styrene monomer, stabilized		
Reportable quantity (RQ): 1000 lbs.		
Poison Inhalation Hazard: No		

IMDG

UN number: 2055	Class: 3	Packing group: III
Proper shipping name: Styrene monomer, stabilized		

IATA

UN number: 2055	Class: 3	Packing group: III
Proper shipping name: Styrene monomer, stabilized		

Section 15: Regulatory Information

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Styrene CAS No.
100-42-5

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right to Know Components

Styrene CAS No.
100-42-5

Pennsylvania Right to Know Components

Styrene CAS No.
100-42-5

New Jersey Right to Know Components

Styrene CAS No.
100-42-5

California Prop. 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: Other Information

HMIS Rating

Health: 2
Flammability: 3
Reactivity: 0

NFPA Rating

Health: 2
Flammability: 3
Reactivity: 0

This material is intended for laboratory use only. It is not sold or intended for drug, household or other uses. The information represents the most accurate and complete data currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use.