

SAFETY DATA SHEET

STYRENE

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: STYRENE

PRODUCT CODE: #STY

PRODUCT USE: Solvent component for Vinyl Ester coating.

MANUFACTURER

DUDICK, INC.

1818 MILLER PARKWAY

STREETSBORO, OH, 44241

330-562-1970

24 HR. EMERGENCY TELEPHONE NUMBER

CHEM-TEL (US Transportation): (800)255-3924

CHEM-TEL (International Transportation) : +01(813)248-0585

2. HAZARDS IDENTIFICATION

CLASSIFICATION:

Specific target organ toxicity - repeated exposure - Multiple organs - Blood system, Liver,

Nervous system, Respiratory tract. - Category 1

Acute Toxicity - Inhalation - Category 4

Carcinogenicity - Category 2

Skin Irritant - Category 2

Germ cell mutagenicity - Category 2

Hazardous to the Aquatic Environment - Acute - Category 2

Serious Eye Damage/Eye Irritation - Category 2

Flammable liquids - Category 3

GHS LABEL ELEMENTS:



SIGNAL WORD: Danger

HAZARD STATEMENTS:

H226 Flammable liquid and vapor

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H372 Causes damage to organs through prolonged or repeated exposure.

H351 Suspected of causing cancer .

H401 Toxic to aquatic life

PRECAUTIONARY STATEMENTS :

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

DATE PRINTED	6/29/2015
SDS REF. No :	#STY

P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/mixing/ equipment.
P370+P378 In case of fire: Use foam, dry chemical, or carbon dioxide for extinction.
P403+P235 Store in a well-ventilated place. Keep cool.
P202 Do not handle until all safety precautions have been read and understood.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents/container in accordance with local, regional, and federal regulations.
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P233 Keep container tightly closed.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash all contacted body parts thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Chemical Name	Weight %	CAS Number
Styrene Monomer	60% to 100%	100-42-5

No further information available for this product.

4. FIRST AID MEASURES

EYES: Hold open eyelids and flush with copious amounts of water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, get medical advice/attention.

SKIN: Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Initiate and maintain continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour.

INGESTION: Never give anything by mouth to an unconscious person.

Do not induce vomiting without medical advice.

Rinse mouth out with water.

Do not induce vomiting. Do not give liquids.

INHALATION: If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc.).

NOTES TO PHYSICIAN: No data available for this product.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Alcohol resistant foam; Carbon Dioxide (CO₂); dry chemical; dry sand; use water to keep containers cool.

UNSUITABLE EXTINGUISHING MEDIA: Do not use high pressure water jet as this may spread the area of the fire.

DATE PRINTED	6/29/2015
SDS REF. No :	#STY

SPECIFIC HAZARDS IN CASE OF FIRE: Closed containers may rupture (due to build up in pressure) when exposed to extreme heat.

Releases flammable vapors below normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air and travel long distances along the ground before igniting and flashing back to vapor source. Move containers from fire area if it can be done without risk. Cool containers with flooding quantities of water until well after fire is out. Burning may produce noxious and toxic fumes. Incomplete combustion may form carbon monoxide.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTION FOR FIRE FIGHTERS: Wear self-contained breathing apparatus (SCBA) in positive pressure mode and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment.

Wear self-contained breathing apparatus and full protective clothing. Shut off ignition sources. No flares, smoking or flames in the area.

ENVIRONMENTAL PRECAUTIONS: Stop leak if you can do so without risk. Use water spray to reduce vapors. Take up with sand or other non-combustible absorbent material and place into container for later disposal. Use non-sparking tools. Flush area with water. Prevent from entering into soil, ditches, sewers, waterways, and/or groundwater.

METHOD AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Eliminate all sources of ignition. All equipment used when handling this product must be grounded. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Dike large spills and place materials in salvage containers. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Bond and ground containers when transferring liquid. Keep container tightly closed when not in use.

Use only non-sparking tools. Extinguish all ignition sources. Containers must be properly grounded before beginning transfer. Handle empty containers with care; vapor/residue may be flammable. This material may attack some forms of plastics, rubbers, and coatings. Wear recommended personal protective equipment. Observe precautions pertaining to confined space entry. Do not breathe vapors or spray mist.

CONDITIONS FOR SAFE STORAGE, INCLUDING INCOMPATIBILITIES: Do not store near incompatibles (strong oxidizers, acids, alkalis). Do not store near excessive heat or near sources of ignition. Keep container tightly closed when not in use.

Store in a cool, dry, well ventilated, flammable liquid storage area.

8. EXPOSURE CONTROLS\PERSONAL PROTECTION

EXPOSURE LIMITS

Components	CAS	Limits
Styrene Monomer	100-42-5	ACGIH TLV; TWA 20 ppm, STEL 40 ppm NIOSH REL; TWA 50 ppm, ST 100 ppm OSHA OEL; TWA 100 ppm, CIEL 200 ppm, PEAK 600 ppm

ENGINEERING CONTROLS: Both local exhaust and good general room ventilation must be provided not only to control exposure but also to prevent formation of flammable mixtures.

DATE PRINTED	6/29/2015
SDS REF. No :	#STY

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

EYES PROTECTION: Use safety glasses (with side shields) as minimum protection. Goggles recommended for individuals mixing the resin and catalyst.

SKIN PROTECTION: Impervious clothing. Rubber or plastic boots.

Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Hand protection: Use chemical resistant gloves. Consult glove manufacturer for recommendations.

WORK HYGIENIC PRACTICES: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating. Wash contaminated clothing before reuse. Eye wash stations and emergency showers should be available.

OTHER USE PRECAUTIONS: The type and degree of personal protective equipment will depend on the specific work operation. Eye wash stations and emergency showers should be available. Inspect and replace personal protective equipment at regular intervals; use professional care in their selection, use and care.

COMMENTS: None.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Thick, pasty

COLOR: Varies

FLASH POINT AND METHOD: 32C CC

AUTO-IGNITION TEMPERATURE: Not Determined.

BOILING POINT/RANGE: 145C

MELTING POINT: Not Determined.

VAPOUR PRESSURE: Not determined.

VAPOUR DENSITY: Heavier than air.

SOLUBILITY: Not determined.

ODOR/THRESHOLD: Sweet, pungent.

LOWER / UPPER FLAMMABLE LIMITS: 1.1 TO 8.9

DENSITY: 0.9103

EVAPORATION RATE: Slower than ether.

PARTITION COEFFICIENT: Not determined.

pH: Not Applicable.

DECOMPOSITION TEMPERATURE: Not determined.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under recommended storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS: Vapors may form explosive mixture with air.

CONDITIONS TO AVOID: Avoid heat, flame, sparks, and other sources of ignition.

MATERIALS TO AVOID: Avoid contact with peroxides and other oxidizing agents; copper.

HAZARDOUS DECOMPOSITION PRODUCTS: No data available for this product.

11. TOXICOLOGICAL INFORMATION

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

ACUTE EFFECTS:

EYE CONTACT: May cause eye irritation. Corneal injury is unlikely.

SKIN CONTACT: No data available for this product.

INHALATION: Acute toxicity (styrene) - LC50 Inhalation - Rat - 4 h - 12,000 mg/m³

DATE PRINTED	6/29/2015
SDS REF. No :	#STY

INGESTION: Acute toxicity (styrene) - LD50 Oral - Rat - > 6,000 mg/kg

TARGET ORGAN: Specific target organ toxicity - repeated exposure (styrene) - causes damage to organs through prolonged or repeated exposure.

CHRONIC EFFECTS: A component (styrene) is suspected reproductive toxin. Styrene has been classified possibly carcinogenic - Group 2B by IARC. No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

TOXICITY VALUES: No further information available.

12. ECOLOGICAL INFORMATION

PERSISTENCE AND DEGRADABILITY:

Not determined.

BIO-ACCUMULATIVE POTENTIAL:

Not determined.

MOBILITY IN SOIL:

Not determined.

OTHER ADVERSE EFFECTS:

Not known.

ECOTOXICOLOGICAL OTHER INFORMATION:

May be harmful to aquatic life

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of according to local, state, and federal regulations through a licensed disposal facility.

14. TRANSPORT INFORMATION

UN NUMBER: 2055

UN PROPER SHIPPING NAME: Styrene, Monomer, Stabilized

TRANSPORT HAZARD CLASS:

3

TRANSPORT HAZARD SUBCLASS:

Not applicable.

PACKING GROUP: III

MARINE POLLUTANT Y/N:

No

SPECIAL PRE-CAUTIONS: None

15. REGULATORY INFORMATION

U.S. REGULATIONS:

All components of this product are listed on or exempt from the TSCA Inventory.

U.S. SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES:

FIRE: Yes

PRESSURE GENERATING: No

REACTIVITY: No

ACUTE: Yes

CHRONIC: Yes

313 REPORTABLE INGREDIENTS:

313 REPORTABLE INGREDIENTS

DATE PRINTED	6/29/2015
SDS REF. No :	#STY

Chemical Name	Weight %	CAS
Styrene Monomer	100%	100-42-5

302/304 EMERGENCY PLANNING

EMERGENCY PLAN: No data available for this product.

STATE REGULATIONS:

This product may contain trace amounts of the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm:

Benzene - CAS# 71-43-2

Massachusetts Right To Know Components

Chemical Name	CAS
Styrene Monomer	100-42-5

Pennsylvania Right To Know Components

Chemical Name	CAS
Styrene Monomer	100-42-5

New Jersey Right To Know Components

Chemical Name	CAS
Styrene Monomer	100-42-5

OTHER GOVT. REGULATIONS: No other information available

16. OTHER INFORMATION

DATE CREATED	05-28-15
---------------------	----------

MANUFACTURER DISCLAIMER: The information contained herein is accurate to the best of our knowledge. Dudick, Inc. makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances and with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The information contained on this MSDS has been compiled from information obtained from raw material suppliers and is believed to be accurate. It is the responsibility of the user to ensure that he/she has all of the current data and MSDS relevant to the material thereon and to comply with all Federal, State and Local Regulations.