MATERIAL SAFETY DATA SHEET

Manufacture’s Name: Westlake Styrene LP
Address: 900 Highway 108
          Sulphur, LA 70664
Telephone Number: (337) 583-9227

Product Name: Flammable Liquid, N.O.S. (Styrene)
Date of Issue: September 2, 2005

SECTION I. PRODUCT IDENTIFICATION

Product Name: Flammable Liquid, N.O.S. (Styrene)
Common Names/Synonyms:
- Cinnamene
- Cinnamol
- NCI-C02200
- Phenylethylene
- Styrene (CZECH)
- Styrolene
- Vinylbenzen (CZECH)
- Styrene Monomer (ACGIH)
- Diarex HF 77
- Phenethylene
- Stirolo (Italian)
- Styrol (German)
- Styron
- Vinylbenzene
- Styrene Monomer, Stabilized (DOT)
- Ethenylbenzene
- Phenylethane
- Styreen (Dutch)
- Styrole
- Styropor
- Vinylbenzol

SECTION II. HAZARDOUS INGREDIENTS AND EXPOSURE LIMITS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Percent</th>
<th>Exposure Limits</th>
</tr>
</thead>
</table>
| Toluene         | 108-88-3 | 0 – 20  | TLV (ACGIH): 50 ppm  
                   |          |         | TWA (OSHA): 100 ppm  
                   |          |         | STEL (OSHA): 150 ppm  |
| Ethyl Benzene   | 100-41-4 | 0 – 20  | TWA (ACGIH): 100 ppm  
                   |          |         | PEL (OSHA): 100 ppm  |
| Styrene         | 100-42-5 | 0 – 40  | TWA (ACGIH): 50 ppm  
                   |          |         | PEL (OSHA): 100 ppm  |
| Polystyrene     | 9003-53-6| 30 - 80 | n/a             |
SECTION III. CHEMICAL AND PHYSICAL PROPERTIES

Styrene

Boiling Point (at 760 mm Hg): 293°F (145°C)
Melting Point: -23.8°F (-30.6°C)
Evaporation Rate (Butyl Acetate = 1): Not available
Vapor Density (Air = 1): 3.6
Vapor Pressure: 5mmHg at 68°F
Molecular Weight: 104 grams/mole
Solubility in Water: Slight

Appearance and Odor: Colorless, Transparent liquid with a sweet, pleasant aromatic odor at low concentrations and an unpleasant odor at high concentrations

Odor Threshold: 0.15 ppm in air
Specific Gravity (H₂O = 1): 0.9059 at 68°F (20°C)
% Volatile by Volume: 100
SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Styrene

Flash Point: 88°F (31°C) CC
Auto Ignition Temperature: 914°F (490°C)
Flammable Limits In Air: LFL: 0.9%  UFL: 6.8%

National Fire Protection Association Hazard Identification Code
Health: 2     Flammability: 3     Reactivity: 1

Fire Extinguishing Media: Use foam, dry chemical or carbon dioxide. Use water spray to cool fire-exposed containers, to disperse the styrene vapor and to protect personnel who are attempting to stop a styrene leak. In the case of large fires the fire fighting should be done from a distance or from a remote, explosion proof position. Shut off the source of the leak if possible.

Unusual Fire or Explosion Hazards: Styrene vapor is heavier than air and may travel a considerable distance to a low-lying source of ignition and flash back to its origin. Violent polymerization inside heated containers of styrene can occur and elevated temperatures; explosive rupturing of these containers is possible. Styrene vapor is uninhibited and can form polymers that will block the vents or flame arresters of storage tanks.

Special Fire Fighting Procedures: Wear a self-contained breathing apparatus (SCBA) with a full face piece operated in the pressure-demand or positive-pressure mode.

SECTION V. HEALTH HAZARDS

Styrene

Primary Routes of Entry: Inhalation: Yes     Absorption: Yes     Ingestion: No

Acute Health Effects: Skin and eye irritation; depression of the central nervous system with symptoms such as drowsiness, unsteady gait, weakness and loss of coordination.

Inhalation: Workers exposed to styrene vapor at 200 to 700 ppm experienced drowsiness, nausea, headache, fatigue, dizziness and possibly a metallic taste in their mouths. Exposures above 800 ppm are immediately irritating to the eyes, nose and the respiratory system. Excessive exposure through inhalation can cause narcotic effects and even death. A death has been reported from a 30 minute exposure to 10,000 ppm. (1%) “Styrene Sickness” has been described with symptoms of nausea, vomiting and an intoxicated sensation.
Absorption: Repeated or prolonged skin contact with liquid styrene can cause defatting, dermatitis and irritation.

Chronic Health Effects: Three studies reported by the IARC have suggested an association between leukemia and lymphomas and exposure to styrene. However, because of concomitant exposure to other chemicals it is not possible to single out styrene as the causative agent.

Eyes/Skin: Styrene is an eye and skin irritant.

Ingestion: There is no information on human health effects from eating food or drinking water contaminated with styrene.

Medical Conditions Aggravated By Exposure: None reported.

Carcinogenicity Status: A suspected human carcinogen. An experimental carcinogen and teratogen.

SECTION VI. FIRST AID PROCEDURES

Styrene

Eyes: Immediately flush eyes, including under the eyelids, gently but thoroughly with flooding amounts of running water for at least 15 minutes.

Skin: Rinse the affected area with flooding amounts of water and then wash it with soap and water. If large skin areas are involved, continue to carefully monitor the exposed person for signs of developing depression of the central nervous system, because liquid styrene can penetrate intact skin rapidly by absorption.

Inhalation: Remove the exposed person to fresh air; restore and/or support his or her breathing as needed. Have qualified medical personnel administer oxygen as required.

Ingestion: Unlikely. Should this type of exposure occur, slowly give the exposed person 4 to 8 glasses of milk or water to dilute the material, but do not induce vomiting. Never give anything by mouth to someone who is unconscious or convulsing.

Note to Physician: Treat central nervous system effects symptomatically. Styrene is excreted as hippuric acid; urine levels of this metabolite can be useful in determining the level of exposure to the styrene.
SECTION VII. PERSONAL PROTECTION

Styrene

Respirator: Wear a NIOSH-approved respirator if necessary. Follow OSHA regulations (29 CFR 1910.134). Use air purifying with chemical cartridge for concentrations less than 500 ppm. If concentration is unknown use self contained breathing air.

Skin: Wear impervious gloves, boots, aprons and gauntlets to prevent prolonged or repeated skin contact.

Eyes: Wear protective eyeglasses or chemical safety goggles, per OSHA eye and face protection regulations (29 CFR 1910.133). Where splashing is possible, wear a full face shield over the goggles or glasses.

Ventilation: Install and operate general and local maximum explosion proof ventilation systems powerful enough to maintain airborne levels of this material below the OHSA PEL cited in Section II of this standard.

Contaminated Equipment: Launder contaminated clothing before wearing. Remove this material from shoes and equipment.

SECTION VIII. REACTIVITY DATA

Styrene

Hazardous Decomposition or By-Products: Acrid vapor upon heating. Production of carbon monoxide, carbon dioxide, and styrene oxide.

Stability: Styrene is stable in closed containers during routine operations. Hazardous polymerization can occur if the inhibitor fails or if the styrene monomer, stabilized is exposed to excessive heat, light or catalytic materials such as peroxides and strong acids.

Incompatible Materials: Styrene reacts dangerously with oxidizing materials such as chlorosulfonic acid, oleum and sulfuric acid. Also metal salts, acids, caustic, aluminum chloride, ferric chloride and chlorine gas.

Hazardous Polymerization: Hazardous polymerization can occur.
SECTION IX.  SPILL, LEAK AND DISPOSAL PROCEDURES

Styrene

Spill and Leak: Evacuate unnecessary personnel, eliminate all sources of ignition immediately and provide adequate ventilation. Cleanup personnel need protection against skin or eye contact with this liquid as well as inhalation of its vapors. Contain large spills and collect waste or absorb it with an inert material such as sand, earth or vermiculite. Use nonsparking tools to place waste liquid or absorbent into closable containers for disposal. Keep waste out of sewers, watersheds and waterways.

Waste Management: Dispose of contaminated styrene promptly; do not store contaminated liquid styrene for any length of time. Reclamation of spilled liquid styrene is not recommended; it’s reactivity and the possibility of contaminated induced polymerization make reclamation unattractive. Follow all Federal, State and Local Regulations.

OSHA Designations: Listed as an Air Contaminant (29 CFR 1910.1000 Subpart Z)

EPA Designations: (40 CFR 302.4)

CERCLA Hazardous Substance, Reportable Quantity: 1000 lbs per the Clean Water Act (CWA) Paragraph 311 (b) (4)

SECTION X.  ADDITIONAL PRECAUTIONS

Styrene

Storage: Store styrene in closed containers in a cool, dry, well ventilated area away from sources of ignition and strong oxidizers. Keep them out of direct sunlight. Protect containers from physical damage. Outside, isolated or detached storage is recommended.

Special Handling/Storage: Contamination of storage facilities, especially with polymerization initiators, must not occur. Store styrene in its original containers and remove from the storage area only the amount that is immediately needed. Control inventory carefully. Prolonged storage is strongly discouraged and a first in first out rotation system maybe useful for proper stock rotation requirements. Check the styrene at least weekly to determine the inhibitor and polymer content if the material is being stored for any period of time in excess of 30 days at 90°F (32°C). Large tanks of styrene should be stored under a nitrogen blanket.
SECTION XI. TRANSPORTATION DATA

Styrene

Other regulatory information according to 49CFR 172.101 Appendix B, Styrene is listed as a Marine Pollutant.

Department of Transportation: (49 CFR 172.101-2)
DOT Shipping Name: Flammable Liquid, N.O.S. (Styrene)
DOT Hazard Name: Flammable Liquid
ID Number: UN1993
DOT Label: Flammable Liquid
DOT Packaging Exceptions: 49 CFR 173.118
IMO Shipping Name: Flammable Liquid, N.O.S. (Styrene)
IMO Label: Flammable Liquid
IMO Hazard Class: 3
IMDG Packaging Group: III

SECTION XII. OTHER REGULATORY DATA

Styrene

This Material is Regulated Under:


EPA Toxic Substances Control Act (TSCA): Styrene Monomer, Stabilized is listed on the chemical substance inventory. Reportable Quantity is 1000 lb.


OSHA (29 CFR 1910.119) Process Safety Management: Listed. This material is flammable per 1910.119

EPA 40 CFR Part 68 (RMP): Not listed
SECTION XIII. USERS RESPONSIBILITY

This bulletin cannot cover all possible situations that the user may experience during processing. Each aspect of the user's operation should be examined to determine, if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to employees and/or customers. Westlake Petrochemicals Corporation must rely on the user to use this information to develop appropriate work practice guideline and employee instructional programs specific to the user's operation.
SECTION XIV. DISCLAIMER OF RESPONSIBILITY

As the conditions and methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein based on credible published data and is believed to be true and accurate, but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information or the hazards connected with the use thereof. Compliance with all applicable federal, state and local laws and regulations regarding the use, storage, sale, transport or disposal of this material is the responsibility of the user.

ISSUED: BY WESTLAKE STYRENE CORPORATION September 2, 2005.