Material Safety Data Sheet
Styrene, 99%, Stabilized with 10-15 ppm p-Tert. -Butylcatechol

ACC# 96536

Section 1 - Chemical Product and Company Identification

MSDS Name: Styrene, 99%, Stabilized with 10-15 ppm p-Tert. -Butylcatechol
Catalog Numbers: AC132790000, AC132790010, AC132790025, AC132790050, AC132790100, AC132790200 AC132790200
Synonyms: Ethenylbenzene; Cinnamene; Vinyl Benzene
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
100-42-5	Styrene	>99.0	202-851-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear colorless to light yellow liquid. Flash Point: 32 deg C.
Warning! Flammable liquid and vapor. Uninhibited material, or material from which the inhibitor has been removed or reacted, may form explosive peroxides. Aspiration hazard if swallowed. Can enter lungs and cause damage. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. May cause central nervous system depression. May cause cancer based on animal studies. Light sensitive. Air sensitive.
Target Organs: Central nervous system.

Potential Health Effects

Eye: Causes eye irritation.
Skin: May cause skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis.
Ingestion: May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.
Inhalation: Aspiration may cause respiratory swelling and pneumonitis. Causes narcotic effects including headache, dizziness, weakness, unconsciousness, and possible death.
Chronic: Possible cancer hazard based on tests with laboratory animals.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse. Remove contaminated clothing and shoes.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Notes to Physician: Treat symptomatically
Antidote: None reported.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.
Extinguishing Media: This material is lighter than water and insoluble in water. The fire could easily be spread by the use of water in an area where the water cannot be contained. Use water fog, dry chemical, carbon dioxide, or regular foam. Cool containers with flooding quantities of water until well after fire is out.
Flash Point: 32 deg C (89.60 deg F)
Autoignition Temperature: 490 deg C (914.00 deg F)
Explosion Limits, Lower:1.10 vol %
Upper: 6.10 vol %
NFPA Rating: (estimated) Health: 1; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use only in a well-ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from sources of ignition. Store in a cool place in the original container and protect from sunlight. Refrigerator/flammables.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Styrene	20 ppm TWA; 40 ppm STEL	50 ppm TWA; 215 mg/m3 TWA 700 ppm IDLH	100 ppm TWA; 200 ppm Ceiling

OSHA Vacated PELs: Styrene: 50 ppm TWA; 215 mg/m3 TWA
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to minimize contact with skin.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: clear colorless to light yellow
Odor: sweetish odor
pH: Not available.
Vapor Pressure: 6.12 mm Hg
Vapor Density: 3.6
Evaporation Rate:0.5 (Butyl Acetate=1)
Viscosity: 0.9060
Boiling Point: 145 deg C @ 760.00mm Hg
Freezing/Melting Point:-31 deg C
Decomposition Temperature: Not available.
Solubility: Slightly soluble.
Specific Gravity/Density:.9090g/cm3
Molecular Formula:C8H8
Molecular Weight:104.15

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. May form peroxides in the absence of inhibitors.
Conditions to Avoid: Incompatible materials, ignition sources.
Incompatibilities with Other Materials: Vapor is explosive when exposed to heat or flame and reacts with oxygen at temperatures above 104 F, unhibited material may form explosive peroxides. Uninhibited material may polymerize which becomes self-sustaining at temperatures above 65 C. Exposure to butyllithium, dibenzoyl peroxide, azoisobutyronitrile or di-tert-butylperoxide may cause violent polymerization. Violent reaction with chlorosulfonic acid, oleum, sulfuric acid and oxidizers. Oxygen + heat is explosive.
Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: May occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 100-42-5: WL3675000
LD50/LC50:
CAS# 100-42-5:
Draize test, rabbit, eye: 100 mg Severe;
Draize test, rabbit, eye: 100 mg/24H Moderate;
Draize test, rabbit, skin: 100% Moderate;
Inhalation, mouse: LC50 = 21000 mg/m3/2H;
Inhalation, mouse: LC50 = 9500 mg/m3/4H;

Inhalation, rat: LC50 = 11800 mg/m3/4H;
Oral, mouse: LD50 = 316 mg/kg;
Oral, rat: LD50 = 2650 mg/kg;
Oral, rat: LD50 = 5000 mg/kg;

Carcinogenicity:
CAS# 100-42-5:

- **ACGIH:** Not listed.
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Group 2B carcinogen

Epidemiology: There are conflicting reports between exposure and birth defects and fetal loss. In one report, women who worked at the most highly exposed jobs had offspring with lower birth weights than those of unexposed women.
Teratogenicity: This chemical does not seem to be teratogenic in experimental animals.
Reproductive Effects: RTECs reports reproductive effects in animals such as effects on weaning/lactation index, maternal effects, fetoxitity, stillbirth and post-implantation mortality.
Mutagenicity: An increased incidence of mutations such as chromosome aberrations and micronuclei in peripheral lymphocytes has been reported in workers exposed occupationally. Some studies have found a slight increase in the incidence of sister chromatid exchanges while no increase has been found in several other studies.
Neurotoxicity: No information found.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. Cas# 100-42-5:LC50(96Hr.)Fathead Minnow = 46.4` mg/L; Static Bioassay Softwater.LC50(96Hr.)Fathead Minnow = 59.30 mg/L; Static Bioassay, Hardwater.LC50(96Hr.)Bluegill = 25.05 mg/L; Static Bioassay, Softwater.LC50(96Hr.)Goldfish = 64.74 mg/L; Static Bioassay, water.LC50(48Hr.) Water flea = 23.0 mg/L, Unspecified Bioassay.EC50(48Hr.) Water flea = 23.0 mg/L; Unspecified B
Environmental: In water, substance will volatilize rapidly and may biodegrade. It is not expected to hydrolyze.
Physical: In soil, substance will biodegrade and leach with a low to moderate soil mobility.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	STYRENE MONOMER, STABILIZED	STYRENE MONOMER STABILIZED
Hazard Class:	3	3
UN Number:	UN2055	UN2055
Packing Group:	III	III
Additional Info:		FLASHPOINT 32 C

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 100-42-5 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 100-42-5: 1000 lb final RQ; 454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 100-42-5: acute, chronic, flammable, reactive.
Section 313
This material contains Styrene (CAS# 100-42-5, >99.0%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
CAS# 100-42-5 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 100-42-5 is listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 100-42-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 10 Flammable.
R 36/38 Irritating to eyes and skin.
R 20 Harmful by inhalation.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

WGK (Water Danger/Protection)

CAS# 100-42-5: 2

Canada - DSL/NDSL

CAS# 100-42-5 is listed on Canada's DSL List.

Canada - WHMIS

This product does not have a WHMIS classification.

Canadian Ingredient Disclosure List

CAS# 100-42-5 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 4/28/1999
Revision #3 Date: 3/18/2003