SAFETY DATA SHEET

Revision Date: 06/23/2014
Print Date: 6/23/2014
MSDS Number: R0000009
Version: 1.12

STYRENE MONOMER 10 - 15 PPM INHIB
20012

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Nexeo Solutions	Regulatory Information Number	1-855-429-2661
3 Waterway Square Place Suite 1000	Telephone	1-855-429-2661
Woodlands, Tx. 77380	Emergency telephone number	1-855-639-3648

Product name STYRENE MONOMER 10 - 15 PPM INHIB

Product code 20012
Product Use Description Manufacture of chemicals., Diluent., Preparation of resins.

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid, colourless

WARNING! FLAMMABLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE DERMATITIS AND BURNS.

Potential Health Effects

Exposure routes

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact

Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

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Skin contact

Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, skin burns, and other skin damage.

Ingestion

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).Breathing aerosol and/or mist is possible when material is sprayed. Aerosol and mist may present a greater risk of injury because more material may be present in the air than from vapor alone.

Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, Skin, Upper respiratory tract, lung (for example, asthma-like conditions), Liver, Central nervous system, male reproductive system, auditory system

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:, metallic taste, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, Lack of coordination, confusion, liver damage

Target Organs

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals:, mild, reversible kidney effects, effects on hearing, respiratory tract damage (nose, throat, and airways), testis damage, liver damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans:, mild effects on color

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vision, effects on hearing, respiratory tract damage (nose, throat, and airways), central nervous system effects

Carcinogenicity

Styrene is listed as a possible human carcinogen by the International Agency for Research on Cancer (IARC) and as reasonably anticipated to be a human carcinogen by the National Toxicology Program (NTP).

Reproductive hazard

This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

Other information

Styrene readily reacts with low concentrations of halogens (for example, fluorine, chlorine, bromine, or iodine) to form a tear-producing substance.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS-No. / trade secret no.	Concentration
Styrene	100-42-5	100%

4. FIRST AID MEASURES

Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

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Skin

Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to physician

Hazards: No information available.
Treatment: No information available.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Dry chemical, Carbon dioxide (CO2), Water spray

Hazardous combustion products

Hydrocarbons, carbon dioxide and carbon monoxide

Precautions for fire-fighting

Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite

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explosively.Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Water may be ineffective for extinguishment unless used under favorable conditions by experienced fire fighters. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes. Polymerization will take place under fire conditions. If polymerization occurs in a closed container, there is a possibility it will rupture violently. Cool storage container with water, if exposed to fire.

NFPA Flammable and Combustible Liquids Classification

Flammable Liquid Class IC

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Ensure adequate ventilation. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Pay attention to the spreading of gases especially at ground level (heavier than air) and to the direction of the wind.

Environmental precautions

Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Other information

Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

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7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

Storage

Store in a cool, dry, ventilated area, away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Styrene		**100-42-5**
CAD AB OEL	time weighted average	20 ppm
CAD AB OEL	time weighted average	85 mg/m3
CAD AB OEL	Short term exposure limit	40 ppm
CAD AB OEL	Short term exposure limit	170 mg/m3
CAD BC OEL	time weighted average	50 ppm
CAD BC OEL	Short term exposure limit	75 ppm
OEL (QUE)	time weighted average	50 ppm
OEL (QUE)	time weighted average	213 mg/m3
OEL (QUE)	Short term exposure limit	100 ppm
OEL (QUE)	Short term exposure limit	426 mg/m3
CAD ON OEL	time weighted average	35 ppm

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CAD ON OEL	Short term exposure limit	100 ppm
CAD MB OEL	time weighted average	20 ppm
CAD MB OEL	Short term exposure limit	40 ppm

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects. OSHA has formally endorsed a styrene industry proposal for a voluntary 50 ppm workplace limit on styrene. Members of the Styrene Information and Research Council (SIRC), Composites Institute (CI), Composite Fabricators Association (CFA), International Cast Polymers Association (ICPA) and National Marine Manufacturers Association (NMMA) have agreed to use either engineering controls, work practices or respiratory protection to achieve this voluntary limit for styrene.

Eye protection

Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection

Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.
Wear resistant gloves such as:
polyvinyl alcohol
Discard gloves that show tears, pinholes, or signs of wear.

Respiratory protection

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure

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limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Colour	colourless
Boiling point/boiling range	293 °F / 145 °C
Melting point/range	-24 °F / -31 °C
Flash point	93.9 °F / 34.4 °C Tag closed cup
Evaporation rate	0.49 n-Butyl Acetate
Lower explosion limit/Upper explosion limit	1.1 %(V) / 6.1 %(V)
Vapour pressure	0.853 kPa @ 77 °F / 25 °C
Relative vapour density	3.6 AIR=1
Density	0.909 g/cm3 @ 60.00 °F / 15.56 °C
	7.58 lb/gal @ 60.00 °F / 15.56 °C
Water solubility	negligible
log Pow	2.95
Auto-ignition temperature	914 °F / 490 °C
Viscosity, dynamic	0.83 mPa.s @ 20 °C

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

Heat, flames and sparks. Exposure to sunlight., Exposure to air.

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Incompatible products

Acids, aluminum, aluminum chloride, Bases, Copper, Copper alloys, halogens, iron chloride, metal salts, Strong oxidizing agents, Peroxides

Hazardous decomposition products

Hydrocarbons, carbon dioxide and carbon monoxide

Hazardous reactions

Avoid exposure to excessive heat, peroxides and polymerization catalysts., Product will not undergo hazardous polymerization.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

Acute oral toxicity - Product	: LD 50: 2,650 mg/kg Species: Rat

Acute oral toxicity - Components

Styrene	: LD 50: 2,650 mg/kg Species: Rat

Acute inhalation toxicity

Acute inhalation toxicity - Product	: LC 50: 2800 ppmExposure time: 4 hSpecies: Rat

Acute inhalation toxicity - Components

Styrene	: LC 50: 2800 ppm Exposure time: 4 h Species: Rat

Acute dermal toxicity

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Acute dermal toxicity - Product	:	No data available

Acute toxicity (other routes of administration)

Acute toxicity (other routes of administration)	:	No data available

12. ECOLOGICAL INFORMATION

Biodegradability

Biodegradability - Product	:	No data available

Bioaccumulation

Bioaccumulation - Product	:	No data available

Ecotoxicity effects

Toxicity to fish

Toxicity to fish - Product	:	No data available

Toxicity to daphnia and other aquatic invertebrates

Toxicity to daphnia and other aquatic invertebrates - Product	:	No data available

Toxicity to algae

Toxicity to algae - Product	:	No data available

Toxicity to bacteria

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Toxicity to bacteria - Product	:	No data available

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact NEXEO's Environmental Services Group at 800-637-7922.

Destroy by liquid incineration in accordance with applicable regulations.

14. TRANSPORT INFORMATION

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
U.S. DOT - ROAD					
UN 2055	Styrene monomer, stabilized	3		III	
U.S. DOT - RAIL					
UN 2055	Styrene monomer, stabilized	3		III	
U.S. DOT - INLAND WATERWAYS					
UN 2055	Styrene monomer, stabilized	3		III	
TRANSPORT CANADA - ROAD					
UN 2055	STYRENE MONOMER, STABILIZED	3		III	

TRANSPORT CANADA - RAIL

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UN	2055	STYRENE MONOMER, STABILIZED	3	III

TRANSPORT CANADA - INLAND WATERWAYS

UN	2055	STYRENE MONOMER, STABILIZED	3	III

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	2055	STYRENE MONOMER, STABILIZED	3	III

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	2055	Styrene monomer, stabilized	3	III

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	2055	Styrene monomer, stabilized	3	III

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	2055	ESTIRENO MONOMERO ESTABILIZADO	3	III

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

WHMIS Classification

B2	Flammable liquid
D2A	Very Toxic Material Causing Other Toxic Effects
D2B	Toxic Material Causing Other Toxic Effects
F	Dangerously Reactive Material

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This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Canadian National Pollutant Release Inventory (NPRI)

Styrene 100.00 %
Listed.

Notification status

Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)
Japan. Kashin-Hou Law List	y (positive listing)
US. Toxic Substances Control Act	y (positive listing)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
Japan. Industrial Safety & Health Law (ISHL) List	y (positive listing)
New Zealand. Composite List of Single Component Substances to be considered for Transfer	y (positive listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	y (positive listing)

	HMIS	NFPA
Health	2*	2
Flammability	3	3
Physical hazards	2	
Instability		2

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Specific Hazard	--	--

16. OTHER INFORMATION