

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

GHS Product Code: C016-1-0C0
 Product Name: CORCHEM® 16 STYRENE [MONOMER]
 SINGLE COMPONENT PRODUCT, COLOR: CLEAR
 Recommended Use: INDUSTRIAL PROTECTIVE COATING/LINING
 Restrictions on Use: INTENDED FOR PROFESSIONAL USE ONLY
 Manufacturer: CORCHEM MANUFACTURING, INC.
 Address: 1227 SOUTH MURPHY STREET
 ODESSA TEXAS, USA 79766-8811
 Emergency Contact: INFOTRAC: +1-352-323-3500 (TOLL-FREE IN THE US: 800-535-5053)
 Contract No. 74435
 Revision: 4-06282017

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

GHS Classification

- Category 1 Specific target organ toxicity – repeated exposure, STOT-RE – (auditory system) – Inhalation
Aspiration hazard
- Category 2 Skin irritation
Carcinogenicity
- Category 2A Eye irritation
- Category 3 Flammable liquids
Specific target organ toxicity – single exposure, STOT-SE – (respiratory system) – Inhalation
- Category 4 Acute toxicity – Inhalation

GHS Label elements, including precautionary statements

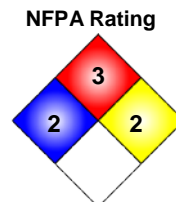
Hazard Pictograms



Signal word: **Danger**

GHS Hazard statement(s)

- H226: Flammable liquid and vapor.
- H304: May be fatal if swallowed and enters airways.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H351: Suspected of causing cancer.



HMIS
2*
3
2
J

- Health
- Flammability
- Physical Hazard
- Personal Protection



PERSONAL PROTECTION INDEX							
A	Safety Glasses			G	Goggles + Gloves + Respirator		
B	Safety Glasses + Gloves			H	Goggles + Gloves + Apron + Respirator		
C	Safety Glasses + Gloves + Apron			I	Goggles + Gloves + Respirator		
D	Safety Glasses + Gloves + Apron + Respirator			J	Goggles + Gloves + Apron + Respirator		
E	Safety Glasses + Gloves + Respirator			K	Goggles + Gloves + Apron + Respirator		
F	Safety Glasses + Gloves + Apron + Respirator			X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions		
A	n	o	p	q	r	s	
Safety Glasses	Splash Goggles	Face Shield & Eye Protection	Gloves	Boots	Synthetic Apron	Full Suit	Additional Information
t	u	w	y	z			
Dust Respirator	Vapor Respirator	Dust & Vapor Respirator	Full Face Respirator	Airline Hood or Mask			



2012 ERG GUIDEBOOK # 128

H372: Causes damage to organs through prolonged or repeated exposure.
H401: Toxic to aquatic life.

Precautionary statement(s)

P102: Keep out of reach of children
P202: Do not handle until all safety precautions have been read and understood
P210: Keep away from heat / sparks / open flames / hot surfaces – No smoking.
P220: Keep / Store away from clothing / potential ignition sources / combustible materials.
P234: Keep only in original container.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical / ventilating / light / other equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P260: Do not breathe dust / fumes / gas / mist / vapors / spray.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P281: Use personal protective as required.
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363: Wash contaminated clothing before reuse.
P401: Store protected at temperatures between 40°F (4°C) and 77°F (25°C).
P405: Store locked up.
P410: Protect from sunlight.
P501: Dispose of contents/container to comply with the requirements of environmental protection and waste disposal legislation and any regional, local authority requirements.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

	<u>Ingredient(s)</u>	<u>CAS No.</u>	<u>% (by Weight)</u>
Styrene Monomer, inhibited		100-42-5	>99

SECTION 4: FIRST AID MEASURES

Ingestion

Immediately 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.

Skin

Immediately remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, initiate and maintain continuous irrigation until patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing, seek immediate medical attention. If skin is not damaged and symptoms persist, avoid further exposure, seek medical attention. Launder clothing before reuse.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air and CALL A POISON CENTER. If symptoms persist, seek medical attention. If not breathing, if breathing is irregular, or if respiratory arrest occurs, artificial respiration or oxygen should be administered by trained personnel only. It may be dangerous to provide mouth-to-mouth resuscitation. Keep person warm and quiet; seek immediate medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if adverse health effects persist or are severe.

Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently, irrigate for at least 30 minutes while holding eyelids open; seek immediate medical attention.

Protection of first aid personnel

No action shall be taken involving any personal risk without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, wear gloves.

Notes to Physicians or First Aid providers

Swallowing this liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. Maintain adequate ventilation and oxygenation of the patient. If burn is present, treat as any thermal burn, after decontamination. Because rapid absorption may occur through the lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate persisting dermatitis.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media

Alcohol-resistant foam, water-fog, carbon dioxide, dry chemicals, dry sand, Limestone powder.

Unsuitable extinguishing media

Do not use water in a jet. **POTENTIALLY INCOMPATIBLE ABSORBENTS**, CAUTION: Liquids with this reactive group classification have been known to react with the absorbents listed below:

Mineral-based, clay based absorbents, dirt/earth.

Specific hazards and by-products from combustion

Burning produces noxious and toxic fumes. **Downwind personnel must be evacuated.** Decomposition products may be toxic and include the following materials: carbon dioxide, carbon monoxide, and various hydrocarbons. Fumes and vapors from the thermal and chemical decompositions vary widely in combustion and toxicity.

Special protective equipment and precautions for fire-fighters

Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

COLLECT CONTAMINATED FIRE EXTINGUISHING MEDIA SEPARATELY. THIS MUST NOT BE DISCHARGED INTO DRAINS. FIRE RESIDUES AND CONTAMINATED FIRE EXTINGUISHING MEDIA MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS.

Flash Point

88°F (31°C), (NTP, 1992)

Explosive Limit

Lower: 1.1% (v), Upper: 6.1% (v), (NTP, 1992)

Autoignition Temperature

914° F (490° C), (USCG, 1999)

Fire and Explosion Hazards

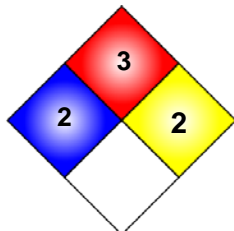
Material is flammable and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations near the material handling point. Never use welding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

Flammable vapors may be present even at temperatures below the flash point. Sustained fire attack on vessels may result in a Boiling Liquid Expanding Vapor Explosion (BLEVE). Material will float and can be reignited on surface water.

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 with minimal risk. Avoid spreading burning material with water used for cooling purposes. Cool storage with water, if exposed to fire.

NFPA Rating

Health:	2
Flammability:	3
Reactivity:	2
Special:	



SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions

No action shall be taken involving personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental Precautions

DO NOT ALLOW RELEASE INTO THE ENVIRONMENT. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).

COLLECT CONTAMINATED MATERIAL SEPARATELY. RESIDUES AND CONTAMINATED MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS.

Small Spill

POTENTIALLY INCOMPATIBLE ABSORBENTS, CAUTION: LIQUIDS WITH THIS REACTIVE GROUP CLASSIFICATION HAVE BEEN KNOWN TO REACT WITH MINERAL-BASED, CLAY BASED ABSORBENTS, DIRT/EARTH.

Stop leak if without risk. Dilute with water and mop up if water soluble or absorb liquid with a dry, inert, non-combustible, absorbent material such as: sand, diatomaceous earth, vermiculite, or other absorbent material. Persons not wearing proper personal protective equipment should be excluded from area of spill.

COLLECT CONTAMINATED CLEAN-UP MATERIALS SEPARATELY. RESIDUES AND CONTAMINATED CLEAN-UP MATERIALS MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS.

Large Spill

POTENTIALLY INCOMPATIBLE ABSORBENTS, CAUTION: LIQUIDS WITH THIS REACTIVE GROUP CLASSIFICATION HAVE BEEN KNOWN TO REACT WITH MINERAL-BASED, CLAY BASED ABSORBENTS, DIRT/EARTH.

Stop leak if without risk. Move containers from spill area. Prevent run-off to sewers, water courses, basements, or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with a dry, inert, non-combustible, absorbent material such as: sand, diatomaceous earth, vermiculite, or other absorbent material and place in container for disposal according to local regulations (see section 13). Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. If run-off occurs, notify proper authorities as required, that a spill has occurred. Note: see section 1 for emergency contact information and section 13 for waste disposal.

COLLECT CONTAMINATED CLEAN-UP MATERIALS SEPARATELY. RESIDUES AND CONTAMINATED CLEAN-UP MATERIALS MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS.

SECTION 7: HANDLING AND STORAGE

Handling

KEEP CONTAINER TIGHTLY CLOSED TO PREVENT CONTAMINATION. USE SPARK-PROOF TOOLS AND EXPLOSION-PROOF EQUIPMENT. Wear appropriate personal protective equipment (see section 8). Eating, Drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face prior to eating, drinking, and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Empty containers retain product residue and can be hazardous. Do not reuse container. **KEEP AWAY FROM HEAT, SPARKS, FLAME, AND OTHER IGNITION SOURCES. DO NOT EXPOSE TO DIRECT SUNLIGHT.**

ELECTROSTATIC DISCHARGE MAY CAUSE FIRE. ENSURE ELECTRICAL CONTINUITY BY BONDING AND GROUNDING (EARTHING) ALL EQUIPMENT TO REDUCE RISK. THE VAPORS IN THE HEAD SPACE OF THE STORAGE VESSEL MAY LIE IN THE FLAMMABLE/EXPLOSIVE RANGE AND MAY BE FLAMMABLE. EVEN WITH PROPER GROUNDING AND BONDING, THIS MATERIAL CAN STILL ACCUMULATE AN ELECTROSTATIC CHARGE. IF SUFFICIENT CHARGE IS ALLOWED TO ACCUMULATE, ELECTROSTATIC DISCHARGE AND IGNITION OF FLAMMABLE AIR-VAPOR MIXTURES CAN OCCUR.

OPENED, PARTIAL, AND EMPTY CONTAINERS RETAIN PRODUCT RESIDUE AND CAN BE HAZARDOUS. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THIS SAFETY DATA SHEET (SDS) MUST BE OBSERVED.

Storage

STORE IN ORIGINAL CONTAINERS AWAY FROM INCOMPATIBLE MATERIALS, DIRECT SUNLIGHT, FLAMES, AND ALL SOURCES OF HEAT. Store in accordance with local regulations. Store in a dry, cool, climate controlled area between 40°F (8°C) and 77°F (25°C), away from incompatible materials (see section 10), food and drink. Protect from extremes in temperature and direct sunlight. Keep container tightly closed and sealed until ready to use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

OPENED, PARTIAL, AND EMPTY CONTAINERS RETAIN PRODUCT RESIDUE AND CAN BE HAZARDOUS. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THIS SAFETY DATA SHEET (SDS) MUST BE OBSERVED.

Other Precautions

Consult local, state, and federal hazardous waste regulators before disposing of waste materials.

OPEN CONTAINERS CAUTIOUSLY, IN CASE THEY MAY BE UNDER SLIGHT PRESSURE. HAVE GOOD VENTILATION AND SUITABLE PROTECTIVE EQUIPMENT IN AREAS WHERE CONTAINERS WILL BE OPENED. KEEP CONTAINERS TIGHTLY CLOSED TO PREVENT CONTAMINATION.

Can cause skin irritation, eye irritation, and allergic skin reaction. Avoid contact with eyes, skin, and clothing. Wash thoroughly after using. **DO NOT TAKE INTERNALLY! HARMFUL IF SWALLOWED! FOR PROFESSIONAL USE ONLY.** Use protective skin cream such as FEND2 (MSA) where skin contact is likely. Prevent prolonged or repeated breathing of vapor, or spray mists. Liquid penetrated shoes and leather, may cause delayed irritation or skin reactions. **KEEP OUT OF REACH OF CHILDREN. DO NOT HANDLE UNTIL THE MANUFACTURER'S INSTRUCTIONS AND SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD!** Contact manufacturer if further information is required.

EMPTY CONTAINERS RETAIN PRODUCT RESIDUE AND CAN BE HAZARDOUS. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE SAFETY DATA SHEET (SDS) MUST BE OBSERVED.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limit(s)

<u>Components</u>	<u>Basis</u>	<u>Control Parameters</u>	
Styrene	Time Weighted Average (TWA): ACGIH	20 ppm	85 mg/m ³
Styrene	Short Term Exposure Limit (STEL): ACGIH	44 ppm	107 mg/m ³
Styrene	Recommended Exposure Limit (REL): NIOSH	50 ppm	213 mg/m ³
Styrene	Permissible Exposure Limit (PEL): OSHA Z-2	100 ppm	426 mg/m ³
Styrene	Immediately Dangerous to Life and Health (IDLH): NIOSH	700 ppm	2,982 mg/m ³

Exposure Guidelines

Consult local authorities for acceptable exposure limits.

Personal Protective Equipment (PPE)

Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate when utilizing this material wear a NIOSH approved full-face cartridge respirator or gas mask suitable to keep airborne mists and vapor concentration below the time-weighted threshold limit values. **WHEN USING IN POORLY VENTILATED OR CONFINED SPACES, USE A FRESH-AIR SUPPLYING RESPIRATOR OR A SELF-CONTAINED BREATHING APPARATUS.**

Skin Protection

To prevent repeated or prolonged skin contact, wear appropriate safety garments such as impervious gloves, head/neck covers, aprons, jackets, pants, coveralls, and boots. Replace defective PPE and/or spoiled garments/boots.

Eye Protection

Chemical splash goggles and face shield in compliance with OSHA regulations are advised for eye protection. Provide readily accessible eye wash stations and safety showers.

Engineering Controls

Use explosion-proof suction type exhaust fans and blowers with sufficient CFM capacity to keep solvent vapors below 20% of the explosive limit.

Provide sufficient mechanical ventilation to maintain exposure below TLV(s).

Other Protective Clothing or Equipment

Use protective barrier creams on exposed skin areas.

Work Hygienic Practices

As with all products of this nature, good personal hygiene is essential. Hands and other exposed areas should be washed thoroughly with soap and water after contact, and before eating, drinking, using tobacco products, or restrooms. Regular laundering and/or replacement of contaminated clothing is essential to reduce indirect skin contact with this material.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.):	Colorless, yellowish liquid
Odor:	Aromatic, sweet
Odor Threshold:	0.1 ppm
pH:	7 @ 77° F (25° C)
Melting Point / Freezing Point:	-22° F / 24° F (30° C / 31° C)
Initial Boiling Point and Range:	293° F (145° C)
Flash Point:	88°F (31°C), (NTP, 1992)
Evaporation Rate:	12.4 (ASTM D-3539, nBuAc=1)
Flammability (solid, gas):	Yes, in certain circumstances material can ignite due to electrostatic discharge.
Upper/Lower flammability or explosive limits:	UEL: 6.1%, LEL: 1.1% (NTP, 1992).
Vapor Pressure:	6.67 hPa @ 68° F (20° C)
Vapor Density:	3.6 @ 68° F (20° C)
Relative Density:	Not available.
Solubility in water:	320 g/l @ 77° F (25° C)
Partition coefficient: <i>n</i>- octanol/water:	log Pow: 2.96 @ 77° F (25° C)
Auto-ignition temperature:	914° F (490° C), (USCG, 1999)
Decomposition Temperature:	Not applicable.
Volatile Organic Compounds (VOC):	7.59 lbs/gal (909.48 g/l)
Percent solids by weight:	0.00
Percent solids by volume:	0.00
Specific Gravity:	0.909 @ 68.0° F (20.00° C)
Weight per gallon:	7.59 Lbs.(6.05kg / 3.78L)

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Under normal conditions of storage and use, hazardous reactions should not occur.

Chemical Stability:

Stable under normal conditions, (see section 7, Storage).

Possibility of hazardous reactions:

THIS MATERIAL OXIDIZES READILY IN AIR TO FORM UNSTABLE PEROXIDES THAT MAY EXPLODE SPONTANEOUSLY. Vapors may form explosive mixture with air. This material reacts with oxygen above 104° F (40° C) to form explosive peroxide. Violent polymerization leading to explosion may be initiated by peroxides. A storage hazard above 86° F (30° C) may cause exothermic polymerization. Polymerization becomes self-sustaining at 203° F (95° C).

Conditions to avoid:

CONTAMINATION WITH ANY FOREIGN SUBSTANCE, EXPOSURE TO HEAT, PROTECT FROM DIRECT SUNLIGHT. HEAT, FLAMES, SPARKS, AND OTHER IGNITION SOURCES. AVOID TEMPERATURES ABOVE 86°F (30°C). Exposure to elevated temperatures can cause material to decompose. Avoid Static discharge. Do not blanket or purge with an inert gas to avoid depleting the oxygen concentration. Avoid direct sunlight.

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 explosively.

Incompatible materials:

Amines, incompatible with bases, reducing agents, oxidizing agents, nitrous acid and other nitrosating agents, organic acids (i.e. acetic acid, citric acid etc.), mineral acids, sodium hypochlorite, reactive metals (e.g. sodium, calcium, zinc etc.), materials reactive with hydroxyl compounds.

AVOID CONTACT WITH ABSORBENT MATERIALS SUCH AS; CELLULOSE, CLAY-BASED ABSORBENTS, SAWDUST. AVOID UNINTENDED CONTACT WITH PEROXIDES.

Hazardous Polymerization:

Can occur. Maintain inhibitor and dissolved oxygen level. Do not purge containers of this material with nitrogen. Polymerization can be catalyzed by: absence of air, metal salts, peroxides, or rust. See above section regarding "Possibility of hazardous reactions".

Hazardous Decomposition or By-Products:

Carbon monoxide, carbon dioxide, aldehydes.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological Information

Likely routes of exposure and potential health effects

- Ingestion:** May be fatal if swallowed or enters airways. If ingested, irritating to mouth, throat, and stomach.
- Skin:** In contact with skin, causes skin irritation. May cause allergic skin reaction. Adverse symptoms may include irritation and/or redness.
- Eyes:** In contact with eyes, causes serious eye irritation. Adverse symptoms may include pain, irritation, watering, and/or redness.
- Inhalation:** If inhaled, may cause respiratory irritation. Adverse symptoms may include respiratory tract irritation and/or coughing. Risk of serious damage to lungs by aspiration.

Acute Toxicity Data

Product/ingredient name	Method	Species	Dose	Exposure	Result
Styrene	LD ₅₀ Oral	Rat	2,650 mg/kg	4 h	–
Styrene	LD ₅₀ Dermal	Rabbit	2,000 mg/kg	4 h	–
Styrene	LC ₅₀ Inhalation	Rat	12 mg/l	4 h	–

Skin corrosion / irritation

Irritating to skin

Serious eye damage / irritation

May cause irreversible eye damage.

Respiratory or skin sensitization

Pre-existing skin disorders may be aggravated by over-exposure to this product.

Germ cell mutagenicity

In vitro genetic toxicity studies were inconclusive. Animal genetic toxicity studies were inconclusive.

Product/ingredient name	Test	Result
-------------------------	------	--------

Styrene	OECD 416	Positive
---------	----------	----------

OECD: Organization for Economic Cooperation and Development.

Carcinogenicity

Product/ingredient name	Classification	Listing Body
-------------------------	----------------	--------------

Styrene	Group 2B - possibly carcinogenic to humans	IARC
---------	--	------

Styrene	Reasonably anticipated to be a human carcinogen	NTP
---------	---	-----

IARC: World Health Organization's (WHO) International Agency for Research on Cancer.

NTP: U.S. Department of Health and Human Services' (DHHS) National Toxicology Program.

Reproductive toxicity

No known significant effects or critical hazards on the product itself.

Product/ingredient name	Test	Result
-------------------------	------	--------

Styrene	OECD 414	Negative
---------	----------	----------

OECD: Organization for Economic Cooperation and Development.

Specific Target Organ Toxicity, Single Exposure (STOT-SE)

Inhalation, respiratory system. May cause respiratory irritation.

Specific Target Organ Toxicity, Repeated Exposure (STOT-RE)

Danger of serious damage to health by prolonged exposure through inhalation. Can cause liver damage.

Auditory system: prolonged and repeated exposures have resulted in hearing loss in rats. Solvent abuse and noise interaction in the work environment may cause hearing loss.

Central nervous system: repeated exposure affects the nervous system.

Aspiration hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonitis.

Potential chronic health effects

No known significant effects or critical hazards on the product itself.

Component	Test	Endpoint	Species	Result
Styrene	OECD 403 (inhalation)	NOAEL	Rat	3.47 mg/l
Styrene	OECD 404 (dermal)			Skin irritation
Styrene	OECD 408 (oral)			No data

OECD: Organization for Economic Cooperation and Development.

NOAEL: "No-observed-adverse-effect level".

SECTION 12: ECOLOGICAL INFORMATION

Ecological Information

Environmental effects

No data on the product itself. May be harmful to the environment if released in large quantities.

Ecotoxicity

Aquatic Toxicity

Toxicity to Fish

Product/ingredient name	Test	Species	Dose	Exposure
Styrene	LC ₅₀	Pimephales promelas (fathead minnow)	25 mg/l	96 h

Toxicity to aquatic invertebrates

Product/ingredient name	Test	Species	Dose	Exposure
Styrene	EC ₅₀	Daphnia magna (water flea)	4.7 mg/l	48 h

Persistence and degradability

Product/ingredient name	Test	Concentration	Result
Styrene	Aerobic 28-days	60%	Readily biodegradable

Bioaccumulative potential

Product/ingredient name	Log K _{ow}	BCF	Potential
Styrene	2.95	13.5	Low

Mobility in soil

Product/ingredient name	
Styrene	Moderate mobility

SECTION 13: DISPOSAL CONSIDERATIONS

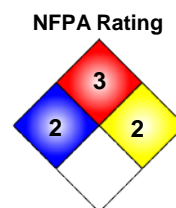
Waste Disposal Method

EMPTY CONTAINERS RETAIN PRODUCT RESIDUE AND CAN BE HAZARDOUS. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE SAFETY DATA SHEET (SDS) MUST BE OBSERVED. Consult local, state, and federal hazardous waste regulators before disposing of waste materials. The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions, and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. **DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS ONLY.**

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

Proper Shipping Name	Styrene monomer, stabilized	
Hazard Class	3	
ID Number	UN2055	
Packing Group	III	
Emergency Contact	INFOTRAC	+1-352-323-3500 (U.S. Toll Free: 800-535-5053)



HMIS

2*	Health
3	Flammability
2	Physical Hazard
J	Personal Protection



TRANSPORT CANADA

Proper Shipping Name	Styrene monomer, stabilized	
Hazard Class	3	
ID Number	UN2055	
Packing Group	III	
Emergency Contact	INFOTRAC	+1-352-323-3500 (US Toll Free: 800-535-5053)

IMO/IMDG

Proper Shipping Name	Styrene monomer, stabilized	
Hazard Class	3	
ID Number	UN2055	
Packing Group	III	
Emergency Contact	INFOTRAC	+1-352-323-3500 (US Toll Free: 800-535-5053)
Stowage Category	A	

EmS Fire / EmS Spill F-E / S-D

IATA/DGR

Proper Shipping Name Styrene monomer, stabilized

Hazard Class 3

ID Number UN2055

Packing Group III

Emergency Contact INFOTRAC +1-352-323-3500 (US Toll Free: 800-535-5053)

Passenger and Cargo Aircraft Quantity limitation: 16 US-Gal (60 L)
Packaging instruction: 355
Special Provisions: None

Cargo Aircraft Only Quantity limitation: 50 US-Gal (220 L)
Packaging instruction: 366
Special Provisions: None

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Nombre propio del transporte Monómero de estireno, estabilizad

Clase de peligro 3

Número de identificación del UN2055

Grupo de embalaje III

Contacto de Emergencia INFOTRAC +1-352-323-3500 (US Toll Free: 800-535-5053)

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.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

U.S. Department of Labor, Occupational Safety & Health Administration (OSHA)
 Hazard Communication Standard (HCS) Classification: See Section 2 above
 Effective 26 March 2012, OSHA modified its Hazard Communication Standard (HCS), **29 CFR Parts 1910, 1915, and 1926**, to conform to the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Emergency Planning and Community Right-to-Know Act (EPCRA)

42 U.S. Code, Chapter 116

Sections: 302/304 Extremely Hazardous Substances (EHS):

Extremely Hazardous Substances (EHSs), (40 CFR Part 302, Table 302.4)

<u>Ingredient(s)</u>	<u>CAS No.</u>
-	-

Sections 311/312 Community Right-To-Know Hazard Categories

Extremely Hazardous Substances (EHSs), (40 CFR Part 355, Appendix A and Appendix B)

Category A:	Immediate (Acute) Health Hazard:	Yes
Category D:	Delayed (Chronic) Health Hazard:	Yes
Category F:	Fire Hazard:	Yes
Category R:	Reactive Hazard:	No
Category S:	Sudden Release of Pressure Hazard:	No

<u>Ingredient(s)</u>	<u>CAS No.</u>	<u>Category</u>
Styrene	100-42-5	A, D, F

Section: 313 Toxics Release Inventory (TRI) Reportable Ingredients:

Extremely Hazardous Substances (EHSs), (40 CFR Part 372, Subpart D)

<u>Ingredient(s)</u>	<u>CAS No.</u>
Styrene	100-42-5

Clean Air Act

42 U.S. Code, Chapter 85

Section 111 Volatile Organic Compound (VOC) Content Limits:

40 CFR Part 59, Subpart D, Table 1

Volatile Organic Compounds (VOC): 909.48 g/l, (7.59 lb/gal)

Section 112(b) Hazardous Air Pollutants (HAPs):

42 U.S. Code § 7412 - Hazardous air pollutants

<u>Ingredient(s)</u>	<u>CAS No.</u>
Styrene	100-42-5

Ozone Depleting Substances (ODS):

42 U.S. Code § 7671a - Listing of class I and class II substances

<u>Ingredient(s)</u>	<u>CAS No.</u>
-	-

State Regulations

USA, California State Safe Drinking & Toxic Enforcement Act (Proposition 65): This product contains a chemical known to the State of California to cause cancer, birth defects, or any other harm.

<u>Ingredient(s)</u>	<u>CAS No.</u>
-	-

USA, Louisiana Right-to-Know Hazardous Substance List (RTKHSL) Components:

<u>Ingredient(s)</u>	<u>CAS No.</u>
-	-

USA, Massachusetts Environmental Policy Act (MEPA), 301 CMR 41.00 components:

<u>Ingredient(s)</u>	<u>CAS No.</u>
-	-

USA, Michigan Critical Materials Register (CMR) Components:

<u>Ingredient(s)</u>	<u>CAS No.</u>
-	-

USA, New Jersey Right to Know Hazardous Substance List (RTKHSL) Components:

<u>Ingredient(s)</u>	<u>CAS No.</u>
Styrene monomer	100-42-5

USA, Pennsylvania Right-to-Know Hazardous Substance List (RTKHSL) Components:

<u>Ingredient(s)</u>	<u>CAS No.</u>
-	-

PRODUCT SPECIFIC HEALTH AND SAFETY DATA IN OTHER SECTIONS OF THIS SAFETY DATA SHEET (SDS) MAY ALSO BE APPLICABLE FOR STATE REQUIREMENTS. FOR DETAILS ON YOUR REGULATORY REQUIREMENTS YOU SHOULD CONTACT THE APPROPRIATE AGENCY IN YOUR STATE.

SECTION 16: OTHER INFORMATION

Preparation Information

This Safety Data Sheet (SDS) has been prepared by CORCHEM[®] Corporation.

Revision: 4-06282017, Product Code: C016-1-0C0

DISCLAIMER: All information contained herein is based upon data obtained from CORCHEM's suppliers and/or recognized technical sources.

The data in this Safety Data Sheet (SDS) relates only to the specific material designated herein and does not relate to its use in combination with any other material or in any other process.

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of CORCHEM[®] Corporation.

