

Weldfast CL-200 Part A Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Weldfast CL-200 Part A

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Vinyl ester adhesive for joining fiberglass reinforced plastic products.
- This product is intended to be mixed only with its specific catalyst; Weldfast CL-200 Part B

1.3 Details of the supplier of the safety data sheet

- NOV Fiber Glass Systems
17115 San Pedro Avenue, Suite 200
San Antonio, Texas 78232 USA
Tel: 1-210-477-7500
Fax: 1-210-231-5915
E-mail: Mike.Thayer@nov.com

1.4 Emergency telephone number(s)

- 3E Company, 24-Hour Support (Access Code/Contract Number: 333386)
 - USA, Canada 1-888-298-2344
 - Asia, Pacific 1-760-476-3960
 - Europe, Middle East, Africa 1-760-476-3961
 - Americas 1-760-476-3962

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Physical

- Flammable liquids, Category 3

Health

- Acute toxicity, Category 4 (inhalation)
- Skin irritation, Category 2
- Eye irritation – Category 2A
- Reproductive toxicity, Category 2
- Specific target organ systemic toxicity – single exposure, Category 3 (respiratory tract irritation)
- Specific target organ systemic toxicity – repeated exposure, Category 1 (ototoxicity, nervous system)

Environmental

- Acute aquatic toxicity, Category 2

2.2 Label elements

Signal Word(s)

- DANGER

Pictogram(s)



Hazard Statements

- Physical
 - H226: Flammable liquid and vapor
- Environmental
 - H401: Toxic to aquatic life
- Health
 - H315: Causes skin irritation
 - H317: May cause an allergic skin reaction
 - H319: Causes serious eye irritation
 - H332: Harmful if inhaled
 - H335: May cause respiratory irritation
 - H361d: Suspected of damaging the unborn child
 - H372: Causes damage to the nervous system through prolonged or repeated exposure via inhalation

Precautionary Statements

- Prevention
 - P201: Obtain special instructions before use
 - 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
 - P233: Keep container tightly closed
 - P242: Use only non-sparking tools
 - P260: Do not breathe dust/fume/gas/mist/vapor/spray
 - P264: Wash skin thoroughly after handling
 - P270: Do not eat, drink or smoke when using this product
 - P271: Use only outdoors or in well-ventilated area
 - P273: Avoid release to the environment
 - P280: Wear protective gloves/protective clothing/eye protection/face protection
- Response
 - P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 - P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - P304+P340: IF INHALED: Remove person to fresh air and keep 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.
 - P308+P311: If exposed or concerned: Call a POISON CENTER or doctor/physician
 - P308+P313: IF exposed or concerned: Get medical advice/attention
 - P331: Do NOT induce vomiting
 - P332+P313: If skin irritation occurs: Get medical advice/attention
 - P337+P313: If eye irritation persists: Get medical advice/attention
 - P362+P364: Take off all contaminated clothing and wash it before reuse
 - P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
- Storage
 - P403+P233: Store in a well-ventilated place. Keep container tightly closed.
 - P403+P235: Store in a well-ventilated place. Keep cool.
 - Disposal
 - P501: Dispose of contents/container in accordance with regulatory requirements.

2.3 Other Hazards

- PBT and vPvB assessment
 - None of the ingredients are considered to be either PBT or vPvB.
- Warning: The cured adhesive product may form combustible dust concentrations in air when sanded, grinded, or cut.

SECTION 3: Composition/information on Ingredients

3.1 Substances

- Not applicable

3.2 Mixtures

Chemical Identity	CAS No.	EC No.	Concentration Range (weight %)
Styrene	000100-42-5	202-851-5	20 – 25
Glass Fiber	065997-17-3	266-046-0	5 – 15
Hydroxyethyl Methacrylate	000868-77-9	212-782-2	1 – 3
Substances that do not meet the classification and labeling criteria established under the GHS	Not applicable	Not applicable	Balance

SECTION 4. First-aid measures

4.1 Description of first-aid measures

Inhalation

- Move to fresh air
- If difficulty in breathing or respiratory irritation; seek immediate medical attention
- If breathing has stopped; seek immediate medical attention, perform artificial respiration

Skin contact

- Wash affected area thoroughly with soap and water for at least 20 minutes
- If irritation develops or persists; seek medical attention

Eye contact

- Immediately flush with water for at least 20 minutes
- Remove contact lenses, if present
- If irritation develops or persists, seek medical attention

Ingestion

- Do not induce vomiting unless directed to do so by medical personnel
- Never give anything by mouth to an unconscious person
- If symptoms persist, seek immediate medical attention

4.2 Most Important symptoms and effects, both acute and delayed

Acute

- Short-term overexposure to styrene may result in the following:
 - Headache, fatigue, insomnia, anorexia and weight loss, pain in limbs, nervousness, impairment of memory

Delayed

- Prolonged overexposure to styrene may result in the following:
 - Transitory EEG anomalies, immune system changes, and liver damage

4.3 Indication of any immediate medical attention and special treatment needed

- For acute or short-term repeated exposures to inhalation of styrene:
 - Severe exposures should have cardiac monitoring to detect arrhythmia
 - Catecholamines, especially epinephrine (adrenaline) should be used cautiously (if at all)
 - Aminophylline and inhaled beta-two selective bronchodilators (e.g., salbutamol) are the drugs of choice for treatment of bronchospasm

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Water spray, alcohol-resistant foam, dry chemical, carbon dioxide.

5.2 Specific hazards arising from the substance or mixture

- Styrene vapors are flammable.
- Moderate fire and explosion hazards when exposed to heat or flame.

- Styrene vapors may travel considerable distance to source of ignition.
- Heating may cause containers to rupture.
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

5.3 Advice for firefighters

- Wear self-contained breathing apparatus and protective clothing, as necessary.
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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Due to the high viscosity of this adhesive product and the relatively small end-use container size, significant spills are unlikely to occur.
- If a spill does occur, remove all sources of ignition in the area.
- Use only non-sparking tools during cleanup and place discarded material into a suitable container.

6.2 Environmental precautions

- Do not allow spilled materials to enter storm sewers, sanitary sewers, or impact groundwater.
- Do not allow spilled materials to remain on the ground.

6.3 Methods and materials for containment and cleaning up

- Use only non-sparking tools during cleanup and place discarded material into a suitable container for disposal.
- Avoid dispersal of dust in the air (i.e., cleaning dusty surfaces with compressed air) as this can contribute to a combustible dust hazard.

6.4 Reference to other sections

- See also, *SECTION 8: Control parameters* and *SECTION 13: Disposal considerations*.
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SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Avoid contact with skin and eyes and inhalation of vapors.
- Avoid sources of ignition, including smoking while using this product.
- Thoroughly wash exposed skin after working with this product.
- Only use this product in a well-ventilated area.
- Use spark-free tools.
- Empty containers may contain product residue and may be hazardous.
- Minimize generation of dust when sanding, grinding, and cutting the cured product.
- Routine housekeeping should be instituted to ensure that product dusts do not accumulate on surfaces.

7.2 Conditions for safe storage, including any incompatibilities

- Store in cool location away from ignition sources or direct sunlight.
- Avoid prolonged exposure to temperatures in excess of 38°C (100°F).

- Material is flammable: keep away from heat, sparks, and open flames.
- Store in original containers or in containers of the same construction material as original containers.

7.3 Specific end use(s)

- No additional data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Styrene
CAS No. 000100-42-5

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
Australia	50 ppm	100 ppm	Workplace Exposure Standards for Airborne Contaminants
Austria	20 ppm	80 ppm	Austrian OEL Regulation
Belgium	50 ppm	100 ppm	limites d'exposition professionnelle – VLEP/ Grenswaarden voor beroepsmatige blootstelling – GWBB
Canada - Alberta	20 ppm	40 ppm	Occupational Safety and Health Code
Canada – British Columbia	50 ppm	75 ppm	Occupational Health and Safety Regulation, Table of Exposure Limits for Chemical and Biological Substances
Canada - Manitoba	20 ppm	40 ppm	Workplace Safety and Health Act, Part 36
Canada - Ontario	35 ppm	100 ppm	Regulation 883, Control of Exposure to Biological or Chemical Agents
Canada - Quebec	50 ppm	100 ppm	Regulation respecting occupational safety and health
Canada - Saskatchewan	20 ppm	40 ppm	The Occupational Safety and Health Regulations
China	50 mg/m ³	100 mg/m ³	GBZ 2.1-2007, Occupational exposure limits for hazardous agents in the workplace
Denmark	25 ppm	25 ppm	Grænseværdier for stoffer og materialer
France	50 ppm	None established	Institut National de Recherche et de Sécurité (INRS)
Germany (AGS)	20 ppm	40 ppm	Technical Rule for Hazardous Substances (TRGS) No. 900
Germany (DFG)	20 ppm	40 ppm	List of MAK and BAT Values
Hungary	50 mg/m ³	50 mg/m ³	Decree 25/2000 (IX.30) on the Chemical Safety on Workplaces
Ireland	20 ppm	40 ppm	Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations
Japan	50 ppm	None established	Administrative Control Levels for chemical substances

Latvia	10 mg/m ³	30 mg/m ³	Standard LVS 89:2004, Occupational exposure limit values of chemical substances in work environment
Malaysia	20 ppm	None established	Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations
New Zealand	50 ppm	100 ppm	Workplace Exposure Standards and Biological Exposure Indices
Poland	50 mg/m ³	200 mg/m ³	Principles and Methods of Assessing the Working Environment
Singapore	50 ppm	100 ppm	Workplace Safety and Health (General Provisions) Regulations
South Korea	20 ppm	40 ppm	[Need reference]
Spain	20 ppm	40 ppm	Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT)
Sweden	10 ppm	20 ppm	Occupational Exposure Limit Values and Measures Against Air Contaminants (AFS 2005:17)
Switzerland	20 ppm	40 ppm	Verordnung über die Verhütung von Unfällen und Berufskrankheiten (VUV)", Art. 50 Abs.3
USA (ACGIH)	20 ppm	40 ppm	None
USA (NIOSH)	50 ppm	100 ppm	NIOSH Pocket Guide to Chemical Hazards (Recommendations Only)
USA (OSHA)	100 ppm	None established	29 CFR 1910 Subpart Z, Toxic and Hazardous Substances
United Kingdom	100 ppm	250 ppm	EH40 Workplace exposure limits

Glass Fiber (continuous filament glass fibers) ^[1]
CAS No. 065997-17-3

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
Australia	2 mg/m ³ (inhalable dust)	None established	Workplace Exposure Standards for Airborne Contaminants
Canada – British Columbia	1 fiber/cc	None established	Occupational Health and Safety Regulation, Table of Exposure Limits for Chemical and Biological Substances
Canada - Ontario	1 fiber/cc	None established	Regulation 883, Control of Exposure to Biological or Chemical Agents
Canada - Manitoba	1 fiber/cc	None established	Workplace Safety and Health Act, Part 36
Canada - Quebec	1 fiber/cc	None established	Regulation respecting occupational safety and health
Canada - Saskatchewan	1 fiber/cc (respirable fibers) 5 mg/m ³ (inhalable fraction)	3 fibers/cc (respirable fibers) 10 mg/m ³ (inhalable fraction)	The Occupational Safety and Health Regulations
New Zealand	1 fiber/cc	None established	Workplace Exposure Standards and Biological Exposure Indices
Singapore	10 mg/m ³ (fibrous glass dust)	None established	Workplace Safety and Health (General Provisions) Regulations
USA (ACGIH)	1 fiber/cc	None established	None

USA (NIOSH)	3 fiber/cc	None established	NIOSH Pocket Guide to Chemical Hazards (Recommendations Only)
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^[1] This material is incorporated into the adhesive mixture and exposure via inhalation is not likely to occur unless the cured product is subjected to finishing operations such as sanding, grinding, cutting, etc.

Hydroxyethyl Methacrylate
CAS No. 000868-77-9

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
No OELs were found for this ingredient.			

Particulates not otherwise classified/regulated (PNOC / PNOR) (may be generated if cured product is subjected to sanding, grinding, cutting, etc.)
CAS No. – Not applicable

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
Austria	10 mg/m ³ (inhalable)	None established	Workplace Exposure Standards for Airborne Contaminants
Belgium	10 mg/m ³	None established	limites d'exposition professionnelle – VLEP/ Grenswaarden voor beroepsmatige blootstelling – GWBB
Canada - Alberta	10 mg/m ³ (total) 3 mg/m ³ (respirable)	None established	Occupational Safety and Health Code
Canada – British Columbia	10 mg/m ³ (total dust) 3 mg/m ³ (respirable)	None established	Occupational Health and Safety Regulation, Table of Exposure Limits for Chemical and Biological Substances
Canada - Manitoba	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Workplace Safety and Health Act, Part 36
Canada - Ontario	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Regulation 883, Control of Exposure to Biological or Chemical Agents
Canada - Quebec	10 mg/m ³ (total dust)	None established	Regulation respecting occupational safety and health
China	3 mg/m ³ (fiberglass reinforced plastic dust)	None established	GBZ 2.1-2007, Occupational exposure limits for hazardous agents in the workplace
Ireland	10 mg/m ³ (inhalable) 4 mg/m ³ (respirable)	None established	Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations
Malaysia	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations
New Zealand	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Workplace Exposure Standards and Biological Exposure Indices
Singapore	10 mg/m ³ (nuisance)	None established	Workplace Safety and Health (General Provisions) Regulations
South Korea	10 mg/m ³	None established	[Need reference]
USA (ACGIH)	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	None
USA (OSHA)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable)	None established	29 CFR 1910 Subpart Z, Toxic and Hazardous Substances

United Kingdom	10 mg/m ³ (inhalable) 4 mg/m ³ (respirable)	None established	EH40 Workplace exposure limits
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8.2 Exposure controls

Appropriate engineering controls

- Provide adequate general and local exhaust ventilation to control airborne concentrations to below the occupational exposure limit values.
- When sanding, cutting, grinding the cured product, it is recommended that all dust control equipment contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Personal protective equipment

- Eye and face protection
 - Approved safety glasses with side shields (e.g., ANSI Z87, EN166)
- Skin protection
 - Hand protection: Nitrile rubber gloves are generally recommended for styrene. Different glove materials, thicknesses, and from different glove manufacturers may provide varying degrees of protection. Temperature and specific use can impact glove effectiveness. Some gloves may be intended to be used only once and then discarded, while others may be used for longer periods of time. The glove supplier should provide the user with information regarding permeability and breakthrough time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
 - Other skin protection: Such clothing as to minimize or eliminate the chance of skin contact with the adhesive product.
- Respiratory protection
 - If ventilation is insufficient to keep airborne concentrations below the occupation exposure limit levels, full or half-mask respirator fitted with organic vapor cartridges (for styrene) and/or particulate filters (for sanding, grinding, cutting, etc. cured material). Filter masks may be of limited use in cases of high or unknown exposure.

Environmental exposure controls

- Do not flush into surface water or sanitary sewer system.
- Do not place directly onto ground.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance	Purple thixotropic paste
- Odor	Sweet (styrene)
- Odor threshold	< 1 ppm (styrene)
- pH	No data available
- Melting point/freezing point	-31°C / -24°F (styrene)
- Initial boiling point and boiling range	145°C / 293°F (styrene)

- Flash point	32°C / 90°F, TCC-ASTM D56 (styrene) 31-32°C / 88-90°F, ACC-IP 170 (styrene)
- Evaporation rate	No data available
- Flammability (solid, gas)	No data available
- Upper/lower flammability or explosive limits	0.9% / 6.8% (styrene)
- Vapor pressure	4.5 mmHg @ 20°C / 68°F (styrene)
- Vapor density (air = 1)	3.6 (styrene)
- Relative density	No data available
- Solubility(ies)	0.032 wt% in water @ 20°C / 68°F (styrene)
- Partition coefficient: n-octanol/water	Log Pow: 2,96 @ 25°C / 77°F (styrene)
- Auto-ignition temperature	490°C / 914°F (styrene)
- Decomposition temperature	No data available
- Viscosity	75,000-131,00 cP @ 26°C / 78°F
- Explosive properties	No data available
- Oxidizing properties	No data available

9.2 Other information

- No data available.

SECTION 10: Stability and Reactivity

10.1 Reactivity

- No decomposition expected if product is stored and used as directed.

10.2 Chemical stability

- Product is stable under normal conditions of storage and use.

10.3 Possibility of hazardous reactions

- Organic peroxides cause exothermic reactions.

10.4 Conditions to avoid

- Excessive heat, flames, and sparks.
- Avoid unintended mixing with organic peroxide catalyst.

10.5 Incompatible materials

- Styrene is corrosive to copper and copper-bearing alloys.
- Avoid contact with oxidizing materials and unintended mixing with organic peroxide catalyst.

10.6 Hazardous decomposition products

- On combustion, may emit toxic fumes of carbon monoxide (CO).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

- Styrene: Moderate acute toxicity via inhalation route of exposure.
- Styrene: Low acute toxicity via oral and dermal routes of exposure.
- Styrene: May be fatal if swallowed and enters the airways.

Irritation

- Product: Thick, sticky paste; may cause skin and eye irritation upon contact and removal.
- Styrene: Moderate irritation to the skin and eyes.

Corrosivity

- Not corrosive.

Sensitization

- May result in skin sensitization.

Repeated dose toxicity

- Styrene: May cause deafness after repeated inhalation as well as loss of color vision.

Carcinogenicity

- Styrene: Listed by NTP as reasonably anticipated to be a human carcinogen and by IARC as a group 2B carcinogen (possibly carcinogenic to humans).

Mutagenicity

- Styrene: Not expected to have mutagenic effects.

Toxicity for reproduction

- Styrene: Several studies suggest that reproductive and developmental effects in humans following exposure are not a major concern.

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity

- Styrene: Fish (*Pimephales promelas*), LC50 (96-hour), 4.02 to 10 mg/L
- Styrene: Aquatic invertebrates (*Daphnia magna*), EC50 (48-hour), 4.7 mg/L
- Styrene: Algae (*Selenastrum capricornutum*), EC50 (72-hour), 4.9 mg/L
- Styrene: Microorganisms/Effect on activated sludge, EC20 (30 minutes), 140 mg/L

Chronic toxicity

- Styrene: Fish, NOEC based on modeling, 0.1 to 1 mg/L

- Styrene: Aquatic invertebrates (*Daphnia magna*), NOEC (21-day), 1.01 mg/L
- Styrene: Soil-living organisms, LC50 (14-day), 120 mg/kg

12.2 Persistence and degradability

- Product: No data is available.
- Styrene: Readily biodegradable and does not bioaccumulate.

12.3 Bioaccumulative potential

- Product: No data is available.
- Styrene: Not bioaccumulative.

12.4 Mobility in soil

- Product: No data is available.
- Styrene: Rapidly evaporates; potential for mobility in soil is low.

12.5 Results of PBT and vPvB assessment

- Product: No data is available.
- Styrene: Does not fulfill criteria.

12.6 Other adverse effects

- No additional data is available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Must be disposed of in accordance with local regulatory requirements.
- Land disposal of uncured product is discouraged and illegal in many jurisdictions.
- Sewer disposal is discouraged.
- Empty containers may contain hazardous residue and must be disposed accordingly.

SECTION 14: Transport information

- The transport information provided below conforms to the following:
 - UN Model Regulations
 - International Carriage of Dangerous Goods by Road (ADR)
 - International Carriage of Dangerous Goods by Rail (RID)
 - International Carriage of Dangerous Goods by Inland Waterways (ADN)
 - International Maritime Dangerous Goods (IMDG) Code
 - International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air

If offered alone, the classification is as described below

If offered with the catalyst within the same inner packaging, the classification is as described below

14.1 UN number	1133	3269
14.2 UN proper shipping name	ADHESIVES containing flammable liquid	POLYESTER RESIN KIT
14.3 Transport hazard class(es)	3	3
14.4 Packing group	III	III
14.5 Environmental hazards	None	None
14.6 Special precautions for user	None	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Product is not offered nor intended to be transported in bulk quantities.	Product is not offered nor intended to be transported in bulk quantities.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The regulatory information provided below may not be comprehensive.

Canada

- Federal

Controlled Products Regulation

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

Ingredient Disclosure List

- All components of this mixture that are on the IDL above their specified concentration are disclosed in this SDS.

United States

- Federal

CAA Accidental Release Prevention

- The following ingredients are listed: None

CAA Hazardous Air Pollutants

- The following ingredients are listed: Styrene (CAS 100-42-5)

CERCLA/Superfund Hazardous Substances EPCRA Reportable Quantities

- The following ingredients are listed: Styrene (CAS 100-42-5): 1,000 pounds (454 kg)

CWA Hazardous Air Pollutants

- The following ingredients are listed: Styrene (CAS 100-42-5)

OSHA Highly Hazardous Chemicals

- The following ingredients are listed: None

RCRA Hazardous Waste

- Uncured product may be characteristically hazardous for ignitability (D001)

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

- The following ingredients are listed: None

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

- The following ingredients are listed: None

SARA (311/312) Hazard Categories

- Acute-Chronic-Fire-Reactivity

SARA 313 Emission Reporting

- The following ingredients are listed Styrene (CAS 100-42-5)

- State

Styrene (CAS 100-42-5) can be found on the following state right to know lists

- California, Florida, Massachusetts, Minnesota, New Jersey, Pennsylvania, Rhode Island

15.2 Chemical safety assessment

- Not required.

SECTION 16: Other information

Revision history

Revision Number	Revision Date	Revision Description
1	25-JUL-2013	Initial SDS creation in conformance with OSHA hazard communication standard (29 CFR 1910.1200) and UN Globally Harmonized System (GHS).
2	27-NOV-2013	Reformatted entire SDS.
3	3-APR-2014	Reformatted entire SDS and added information in conformance with Regulation (EC) No. 1907/2006 (REACH).

Legend to abbreviations and acronyms used

- ACC Abel Closed Cup
- ACGIH American Conference of Governmental Industrial Hygienists
- ANSI American National Standards Institute
- ASTM American Society for Testing and Materials
- °C Degrees Celsius
- CAA Clean Air Act
- CAS No. Chemical Abstract Service registry Number
- cc cubic centimeter

- cP centipoise
- CFR Code of Federal Regulations (US)
- CWA Clean Water Act
- EC50 Effective Concentration halfway between the baseline and maximum
- EC No. Number allocated by the Commission of the European Communities as a term used to replace the EINECS / ELINCS / NLP number designation
- EEG Electroencephalogram
- EN European Standard (French: *Européenne Norme*)
- EPCRA Emergency Planning and Community Right-to-Know Act
- °F Degrees Fahrenheit
- IARC International Agency for Research on Cancer
- GHS Globally Harmonized System of Classification and Labeling of Chemicals
- IBC Code International Bulk Chemical Code
- IP Institute of Petroleum standards
- LC50 Lethal Concentration for 50% of the of the test population
- MARPOL Marine Pollution
- mg/L milligrams per liter
- mg/m³ milligrams per cubic meter
- mmHg millimeters of mercury
- NIOSH National Institute for Occupational Safety and Health
- NOEC No Observed Effects Concentration
- NTP National Toxicological Program
- OSHA Occupational Safety and Health Administration (US)
- PBT Persistent Bioaccumulative and Toxic
- ppm parts per million
- RCRA Resource Conservation and Recovery Act
- SARA Superfund Amendments and Reauthorization Act
- STEL Short-Term Exposure Limit
- TCC Tag Closed Cup
- TWA Time-Weighted Average
- vPvB very Persistent and very Bioaccumulative
- wt% weight percent

Key literature references and sources for data

- ECHA. 2012. Opinion proposing harmonized classification and labeling at EU level of Styrene. EC number: 202-851-5, CAS number: 100-42-5. ECAH-RAC-O-0000002714-75-01/F. Adopted 28 November 2012.
- ECHA. 2013. Justification for the selection of a candidate CoRAP substance. 2-hydroxyethyl methacrylate. EC number: 212-782-2, CAS number: 868-77-9. Submitted by France 20 March 2003.
- ESIS. European chemical Substances Information System. <http://esis.jrc.ec.europa.eu/>.
- IARC. 2002. Monograph for Classification of Carcinogenic Risk to Humans, Styrene. Volume 82. pp 437-550.
- NTP. 2011. Report on Carcinogens. 12th Edition. Styrene. CAS number: 100-42-5. pp. 383-391.