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

1.1 Product identifier

- Trade name ALPHAMETHYLSTYRENE

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

Uses of the Substance / Mixture

- Manufacture of synthetic resins
- Adhesives
- Waxes

1.3 Details of the supplier of the safety data sheet

Distributor

Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North
Seattle WA 98109, USA
Phone: 1-866-282-3384
Info@silverfernchemical.com

1.4 Emergency telephone

24 Hour Emergency Contact
Infotrac 1-800-535-5053 (USA & Canada)
Outside USA & Canada 1-352-323-3500

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

Flammable liquids, Category 3	H226: Flammable liquid and vapor.
Eye irritation, Category 2A	H319: Causes serious eye irritation.
Skin sensitization, Sub-category 1B	H317: May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, Category 3	H335: May cause respiratory irritation. (Respiratory system)
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

Pictogram

Signal Word

- Danger

Hazard Statements

- H226 Flammable liquid and vapor.
- H304 May be fatal if swallowed and enters airways.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

Precautionary Statements

Prevention

- P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing mist or vapors.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P280 Wear protective gloves/ eye protection/ face protection.

Response

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P331 Do NOT induce vomiting.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P363 Wash contaminated clothing 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.
- P405 Store locked up.

Disposal

- P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

- H401: Toxic to aquatic life.
- H411: Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1 Substance

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Alpha-Methylstyrene	98-83-9	>= 99 - <= 100

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

3.2 Mixture

- Not applicable, this product is a substance.

SECTION 4: First aid measures

4.1 Description of first-aid measures

In case of inhalation

- Quickly move the person away from the contaminated area. Make the affected person rest.
- Immediate medical attention is required.
- Show this sheet to the doctor.
- Be prepared to provide first aid or medical support if necessary.

In case of skin contact

- Wash off immediately with plenty of water for at least 15 minutes.
- Use appropriate protective equipment when treating a contaminated person.
- Obtain medical attention.
- Show this sheet to the doctor.
- Be prepared to provide first aid or medical support if necessary.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Keep eye wide open while rinsing.
- Show this sheet to the doctor.
- Always obtain medical advice, even if there are no symptoms.
- Be prepared to provide first aid or medical support if necessary.

In case of ingestion

- Do NOT induce vomiting.
- Immediate medical attention is required.
- Show this sheet to the doctor.
- Do not give anything to drink.
- Be prepared to provide first aid or medical support if necessary.

4.2 Most important symptoms and effects, both acute and delayed

Effects

- Effects on health may appear after exposure.
- The effects will depend on target organs.
- May be fatal if swallowed and enters airways.
- Chronic exposure may cause allergic dermatitis.
- Exposure may cause allergic rhinitis, conjunctivitis, asthma or shock.
- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- respiratory tract irritation

- Risk of respiratory disorder
- bronchitis
- Nose bleeding
- Chemical pneumonitis
- pulmonary edema
- Chronic exposure may cause dermatitis.

Symptoms

- Symptoms will depend on the target organs.
- Inhalation may provoke the following symptoms:
- Cough
- Breathing difficulties
- Irritation
- Redness
- Swelling of tissue
- Ingestion may provoke the following symptoms:
- Nausea
- Diarrhea
- Abdominal pain
- Asphyxia
- Unconsciousness
- Bloody vomiting
- allergic rhinitis
- Severe allergic skin reactions, bronchiospasm and anaphylactic shock
- Itching
- Dermatitis
- Lachrymation
- Conjunctivitis
- Eye irritation
- Suffocation

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

- Be aware to maintain life support if necessary.
- Take victim to hospital if symptoms persist.
- Get medical advice/ attention.
- Burns must be treated by a physician.
- Treat symptomatically.
- Contact a poison control center.
- Keep under medical follow up for at least 48 hours.

SECTION 5: Firefighting measures

Flash point	129 °F (54 °C) closed cup Flammability class: Flammable
Autoignition temperature	1065.9 °F (574.4 °C)

Flammability / Explosive limit Lower flammability/explosion limit : 1.90 %(V)

Upper flammability/explosion limit : 6.10 %(V)

5.1 Extinguishing media

Suitable extinguishing media

- Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

- High volume water jet

5.2 Special hazards arising from the substance or mixture

- Flammable liquid
- Vapor/air-mixtures are explosive at intense warming.
- Heating increases the inner pressure of the bottle, risk of explosion.

- Under fire conditions:
- Will burn
- On combustion, toxic gases are released.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.
- In the event of fire, wear self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
- For further information refer to section 8 "Exposure controls / personal protection."

Specific fire fighting methods

- Cool containers/tanks with water spray.
- Do not use a solid water stream as it may scatter and spread fire.

Further information

- Standard procedure for chemical fires.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Mark the contaminated area with signs and prevent access to unauthorized personnel.
- Avoid contact with the skin and the eyes.
- Do not breathe vapor.
- Store away from heat.
- Remove all sources of ignition.
- Do not smoke.
- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.
- Use personal protective equipment.

- Where exposure level is not known, wear approved, positive pressure, self-contained respirator.
- Where exposure level is known, wear approved respirator suitable for level of exposure.
- In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

6.2 Environmental precautions

- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.
- Contain the spilled material by diking.
- Do not let product enter drains.
- Do not allow uncontrolled discharge of product into the environment.

- Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies

6.3 Methods and materials for containment and cleaning up

- Flammable product. Take all necessary precautions. Earth the containers and the equipment.

- Remove all sources of ignition.
- Stop leak if safe to do so.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.
- Wash nonrecoverable remainder with large amounts of water.
- Soak up with inert absorbent material and dispose of as hazardous waste.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of in accordance with local regulations.
- Never return spills in original containers for re-use.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Ground the equipment.
- Ground/bond container and receiving equipment.
- No smoking.
- Take measures to prevent the build up of electrostatic charge.
- Provide adequate ventilation.
- Provide sufficient air exchange and/or exhaust in work rooms.
- Electrical installations / working materials must comply with the technological safety standards.
- No sparking tools should be used.
- Wear personal protective equipment.
- Avoid inhalation, ingestion and contact with skin and eyes.

- Containers must be bonded and grounded when pouring or transferring material.
- This material contains a flammable or combustible liquid and vapor.
- Do not release to water.

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Ensure that eyewash stations and safety showers are close to the workstation location.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Keep in a dry, cool and well-ventilated place.
- The floor of the depot should be impermeable and designed to form a watertight basin.
- Electrical installations / working materials must comply with the technological safety standards.

- Keep away from open flames, hot surfaces and sources of ignition.
- Store in original container.
- Keep away from heat.
- Keep under inert gas.
- To prevent leaks or spillages from spreading, provide a suitable liquid retention system.

- Observe the general rules of industrial fire protection.
- Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines. Standards are primarily based on the material`s flashpoint, but may also take into account properties such as miscibility with water or toxicity. All local and national regulations should be followed. |par In the Americas, National Fire Protection Association (NFPA) 30: Flammable and Combustible Liquids Code, is a widely used standard. NFPA 30 establishes storage conditions for the following classes of materials: Class I Flammable Liquids, Flashpoint <37.8 °C. Class II Combustible Liquids, 37.8 °C < Flashpoint <60 °C. Class IIIa Combustible Liquids, 60 °C < Flashpoint < 93 °C. Class IIIb Combustible Liquids, Flashpoint > 93 °C.
- Keep away from sources of ignition - No smoking.

Packaging material

Suitable material
- glass
- Stainless steel
- Carbon steel

Unsuitable material
- Plastic materials.
- Nonferrous metals (Al, Zn, Sn) and their alloys.
- copper
- Copper alloys

7.3 Specific end use(s)

- no data available

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance

with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Components with workplace occupational exposure limits

Components	Value type	Value	Basis
Alpha-Methylstyrene	TWA	50 ppm 240 mg/m3	National Institute for Occupational Safety and Health
Alpha-Methylstyrene	ST	100 ppm 485 mg/m3	National Institute for Occupational Safety and Health
Alpha-Methylstyrene	TWA	10 ppm	American Conference of Governmental Industrial Hygienists
Alpha-Methylstyrene	C	100 ppm 480 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Components	CAS-No.	Concentration
Alpha-Methylstyrene	98-83-9	700 parts per million

8.2 Exposure controls

Control measures

Engineering measures

- Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures :
- Use only in an area equipped with explosion proof exhaust ventilation.
- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection

- When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.
- Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate local standard(s):
- If the occupational exposure limit is exceeded:
- Full face-mask
- Recommended Filter type:
- ABEK-filter
- Wear self-contained breathing apparatus in confined spaces, in cases where the oxygen level is depleted, or in case of significant emissions.
- Self-contained breathing apparatus in confined spaces/insufficient oxygen/in case of large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection.
- Use only respiratory protection that conforms to international/ national standards.
- Respirator with a vapor filter (EN 141)
- Respirator with a full face mask.
- Use the indicated respiratory protection if the occupational exposure limit is exceeded.

Hand protection

- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Impervious gloves

Suitable material

- Nitrile or fluorinated rubber gloves.

Eye protection

- Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.
- Eye contact should be prevented through the use of:

- Chemical resistant goggles must be worn.
- Tightly fitting safety goggles

Skin and body protection

- Impervious clothing
- Full protective suit
- Change working clothes after each work-shift.
- Contaminated work clothing should not be allowed out of the workplace.

- Wear as appropriate:
- Flame retardant protective clothing
- Solvent-resistant apron and boots
- Footwear protecting against chemicals

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

Physical state	liquid
Form	transparent
Color	colorless
Odor	aromatic
Odor Threshold	No data available
Melting point/freezing point	Melting point/range: -9.8 °F (-23.2 °C)
Initial boiling point and boiling range	Boiling point/boiling range: 329.9 °F (165.5 °C)
Flammability (solid, gas)	No data available
Flammability (liquids)	No data available
Flammability / Explosive limit	Lower flammability/explosion limit: 1.90 %(V) Upper flammability/explosion limit: 6.10 %(V)
Flash point	129 °F (54 °C) closed cup Flammability class: Flammable
Autoignition temperature	No data available
Decomposition temperature	No data available
pH	Not applicable
Viscosity	Viscosity, dynamic : 0.954 mPa.s (68 °F (20 °C))
Solubility	Water solubility: 0.56 g/l negligible Solubility in other solvents: Chloroform: miscible Ether: miscible Benzene: miscible Alcohol: miscible
Partition coefficient: n-octanol/water	Pow: 3.36 (68 °F (20 °C))Monomer

Vapor pressure	1.90 mmHg (2.53 hPa) (68 °F (20 °C))
Density	ca. 0.909 g/cm3 (77 °F (25 °C))
Relative density	No data available
Relative vapor density	4.1
Particle characteristics	No data available
Evaporation rate (Butylacetate = 1)	No data available

9.2 Other information

Self-ignition	1065.9 °F (574.4 °C)
Surface tension	33.88 mN/m

SECTION 10: Stability and reactivity

10.1 Reactivity

- Not classified as a reactivity hazard.

10.2 Chemical stability

- Stable at room temperature.
- Stable under normal conditions.

10.3 Possibility of hazardous reactions

- Avoid The Following To Inhibit Hazardous Polymerization:, Loss of polymerization inhibitor

10.4 Conditions to avoid

- Heat, flames and sparks.
- Decomposes on heating.

10.5 Incompatible materials

- Strong oxidizing agents
- Aluminum
- Copper
- Iron chlorides
- Peroxides
- Chlorates.
- Halogenated compounds
- Alkali metals

10.6 Hazardous decomposition products

Hazardous decomposition products

- On combustion or on thermal decomposition (pyrolysis), releases:
- hazardous gases.
- Organic acids
- Carbon monoxide
- Carbon dioxide (CO2)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Alpha-Methylstyrene	LD50 : 4,900 mg/kg - Rat , male The product has a low acute toxicity Published data

Acute inhalation toxicity

Alpha-Methylstyrene	LC50 - 6 h (vapor) : ca. 22.85 mg/l - Rat , male Target Organs: Central nervous system Symptoms: Drowsiness Unpublished reports

Acute dermal toxicity

Alpha-Methylstyrene	LD50 : ca. 14,560 mg/kg - Rabbit , male Unpublished reports

Acute toxicity (other routes of administration)	No data available

Skin corrosion/irritation

Alpha-Methylstyrene	Rabbit slight irritation Method: according to a standardized method Unpublished reports

Serious eye damage/eye irritation

Causes serious eye irritation.
According to the available data on the components
According to the classification criteria for mixtures.
Unpublished reports
Published data

Respiratory or skin sensitization

Alpha-Methylstyrene	Local lymph node assay - Mouse EC 3 value > 2 % Classified as a skin sensitizer sub-category 1B according to GHS criteria Method: OECD Test Guideline 429 Unpublished reports

Mutagenicity

Genotoxicity in vitro

Alpha-Methylstyrene	Ames test with and without metabolic activation negative Method: OECD Test Guideline 471 Unpublished reports Published data

Mutagenicity (Escherichia coli - reverse mutation assay)
with and without metabolic activation

negative
Method: OECD Test Guideline 471
Unpublished reports

Chromosome aberration test in vitro
Strain: CHO
with and without metabolic activation

negative
Method: OECD Test Guideline 473
Published data

sister chromatid exchange assay
Strain: CHO
without metabolic activation

negative
Method: OECD Test Guideline 479
Published data

sister chromatid exchange assay
Strain: CHO
with metabolic activation

positive
Method: OECD Test Guideline 479
Published data

Gene mutation assays in mammalian cells.
Strain: Chinese hamster ovary cells
with and without metabolic activation

negative
Method: according to a standardized method
Unpublished reports

Genotoxicity in vivo

Alpha-Methylstyrene

In vivo micronucleus test - 90-day - Mouse
male
inhalation (vapor)
Method: according to a standardized method

negative
Published data

In vivo micronucleus test - 90-day - Mouse
female
inhalation (vapor)
Method: according to a standardized method

positive
Published data

Carcinogenicity

Alpha-Methylstyrene

Rat , male and female
Inhalation
Exposure time: two-year
Target Organs: Kidney
Method: OECD Test Guideline 451
Expert judgment and weight of evidence determination.
Not relevant for Humans

Rat , male and female
Inhalation
Exposure time: two-year
LOAEL: 100ppmTarget Organs: Nose
Symptoms: Hyperplasia
Published data

Note: IARC Classification: Group 2B

Mouse , male and female
Inhalation
Exposure time: two-year
LOAEL: 100ppmTarget Organs: Nose
Symptoms: Hyperplasia
Method: OECD Test Guideline 451
Published data

Components	CAS-No.	Rating	Basis
Alpha-Methylstyrene	98-83-9	Group 2B: Possibly carcinogenic to humans	IARC

This product does not contain any ingredient designated as probable or suspected human carcinogens by:
NTP
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility

Alpha-Methylstyrene

Reproduction / developmental toxicity screening test - Rat, male, Oral
Fertility NOEL: 1,000 mg/kg
Method: OECD Test Guideline 422
GLP: yes

, female, Oral
Fertility NOEL: 200 mg/kg
Gavage, The product is not considered to affect fertility., Unpublished reports

Developmental Toxicity/Teratogenicity

Alpha-Methylstyrene

Rat
Did not show teratogenic effects in animal experiments., Published data

STOT

STOT-single exposure

Alpha-Methylstyrene

Routes of exposure: Inhalation
Target Organs: Respiratory Tract
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation according to GHS criteria.

STOT-repeated exposure

Alpha-Methylstyrene	The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
Alpha-Methylstyrene	Oral >= 43 Days - Rat , male and female NOEL: 40 mg/kg Target Organs: Kidney, Liver Method: OECD Test Guideline 422 Unpublished reports Inhalation (vapor) 14 Weeks - Rat , male and female NOEC: 300 ppm Target Organs: Kidney Method: according to a standardized method Effects on the kidney not relevant for humans. Published data
Experience with human exposure	No data available

Experience with human exposure : Inhalation

Alpha-Methylstyrene	Target Organs: Eyes Target Organs: Respiratory Tract At high concentrations: Vapor during processing may be irritating to the respiratory tract and to the eyes. Published data

CMR effects

Carcinogenicity

Alpha-Methylstyrene	This substance has been reported to cause tumors in certain animal species. Not classified as a carcinogen according to GHS criteria: the mechanism or mode of action of tumour formation is considered not relevant for humans.

Mutagenicity

Alpha-Methylstyrene	The product is considered to be non-mutagenic based on an overall assessment of the data from animal and/or in vitro testing.

Teratogenicity

Alpha-Methylstyrene	Did not show teratogenic effects in animal experiments.

Reproductive toxicity

Alpha-Methylstyrene	No toxicity to reproduction

Aspiration toxicity

Alpha-Methylstyrene	May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Alpha-Methylstyrene	LC50 - 96 h : 4.9 mg/l - Fish Toxic to fish. Structure-activity relationship (SAR) internal evaluation

Acute toxicity to daphnia and other aquatic invertebrates

Alpha-Methylstyrene	EC50 - 48 h : 3.2 mg/l - Daphnia magna (Water flea) Toxic to aquatic invertebrates. Structure-activity relationship (SAR) internal evaluation

Toxicity to aquatic plants

Alpha-Methylstyrene	ErC50 - 72 h : 4.8 mg/l - Pseudokirchneriella subcapitata (green algae) static test Analytical monitoring: yes Method: OECD Test Guideline 201 Growth rate Toxic to algae. Published data EC50 - 96 h : 4.122 mg/l - Algae Growth inhibition Structure-activity relationship (SAR) Toxic to algae. internal evaluation NOErC - 72 h : 0.3 mg/l - Pseudokirchneriella subcapitata (green algae) static test Analytical monitoring: yes Method: OECD Test Guideline 201 Growth rate Published data Toxic to algae with long lasting effects.

Toxicity to microorganisms

Alpha-Methylstyrene	EC50 - 3 h : > 2,000 mg/l - activated sludge static test Analytical monitoring: no Endpoint: Respiration inhibition Method: OECD Test Guideline 209 Unpublished reports

Chronic toxicity to fish	No data available

Chronic toxicity to daphnia and other aquatic invertebrates

Alpha-Methylstyrene	semi-static test NOEC: 0.401 mg/l - 21 d - Daphnia magna (Water flea) Reproduction Test Analytical monitoring: no Method: OECD Test Guideline 211 Toxic to aquatic invertebrates with long lasting effects. Unpublished reports

12.2 Persistence and degradability

Abiotic degradation

Stability in water

Alpha-Methylstyrene	pH: 6.0 Temperature of hydrolysis: 25 °C Method: OECD Test Guideline 111 Stable Published data pH: 7.0 Temperature of hydrolysis: 25 °C Method: OECD Test Guideline 111 Stable Published data pH: 9.0 Temperature of hydrolysis: 25 °C Method: OECD Test Guideline 111 Stable Published data

Photodegradation

Alpha-Methylstyrene	Substance concentration in std unit mg / l: 1 mg/l Sensitizer: OH Concentration sensitizer in molecule/cm3: 500,000 1/cm3 Rate constant in cm3 / molecule*s: 5.3E-11 cm3/s Half-life indirect photolysis: 7.27 Days Decomposes rapidly in contact with light. Published data

Physical- and photo-chemical elimination — No data available

Biodegradation

Biodegradability

Alpha-Methylstyrene	Ready biodegradability study: - 28 Days The substance does not fulfill the criteria for ready biodegradability but fulfills the criteria for ultimate aerobic biodegradability According to the results of tests of biodegradability this product is not readily biodegradable. Unpublished reports

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

Alpha-Methylstyrene	Not potentially bioaccumulable

Bioconcentration factor (BCF)

Alpha-Methylstyrene	Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): 12 - 113 Exposure time: 56 Days Temperature: 25 °C Concentration: 0.03 mg/l Method: OECD Test Guideline 305 Not potentially bioaccumulable Published data

Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 15 - 140
Exposure time: 56 Days
Temperature: 25 °C
Concentration: 0.3 mg/l
Method: OECD Test Guideline 305
Not potentially bioaccumulable
Published data

12.4 Mobility in soil

Adsorption potential (Koc)

Alpha-Methylstyrene	Adsorption/Soil Log Koc: 2.84 Method: OECD Test Guideline 121 Product adsorbs onto soil. Unpublished reports

Known distribution to environmental compartments

Alpha-Methylstyrene	Ultimate destination of the product: Air Water Soil Structure-activity relationship (SAR) Unpublished reports

12.5 Results of PBT and vPvB assessment

Alpha-Methylstyrene	This substance is not considered to be persistent, bioaccumulating, and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard

Alpha-Methylstyrene	Toxic to aquatic life.

Long-term (chronic) aquatic hazard

Alpha-Methylstyrene	Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

- Do not dispose of with domestic refuse.
- The product should not be allowed to enter drains, water courses or the soil.
- Dispose of in accordance with local regulations.

- Dispose of contents/ container to an approved incineration plant.
- Send to a licensed waste management company.

- The Company encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, The Company recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

Waste Code

- RCRA Hazardous Waste (40 CFR 302)
- D001 - Ignitable waste – (I)

Advice on cleaning and disposal of packaging

Prohibition

- Do not dispose of with domestic refuse.
- Beware of residues or vapors which remain in the drums.
- Do not burn, or use a cutting torch on, the empty drum.

- Dispose of in accordance with local regulations.

SECTION 14: Transport information

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification.
The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

49 CFR

14.1 UN number	UN 2303
14.2 Proper shipping name	ISOPROPENYLBENZENE
14.3 Transport hazard class	3
Label(s)	3
14.4 Packing group	
Packing group	III
ERG No	128
14.5 Environmental hazards	YES
Marine pollutant	Marine Pollutant

TDG

14.1 UN number	UN 2303
14.2 Proper shipping name	ISOPROPENYLBENZENE
14.3 Transport hazard class	3
Label(s)	3
14.4 Packing group	
Packing group	III
ERG No	128

14.5 Environmental hazards	YES
Marine pollutant	Marine Pollutant

NOM

14.1 UN number	UN 2303
14.2 Proper shipping name	ISOPROPENYLBENZENE
14.3 Transport hazard class	3
Label(s)	3
14.4 Packing group	
Packing group	III
ERG No	128
14.5 Environmental hazards	YES
Marine pollutant	

IMDG

14.1 UN number	UN 2303
14.2 Proper shipping name	ISOPROPENYLBENZENE
14.3 Transport hazard class	3
Label(s)	3
14.4 Packing group	
Packing group	III
14.5 Environmental hazards	YES
Marine pollutant	
14.6 Special precautions for user	
EmS	F-E , S-D

For personal protection see section 8.

14.7 Transport in bulk vessels according to IMO instruments

No data available

IATA

14.1 UN number	UN 2303
14.2 Proper shipping name	ISOPROPENYLBENZENE
14.3 Transport hazard class Label(s):	3 3
14.4 Packing group Packing group	III
Packing instruction (cargo aircraft) Max net qty / pkg Packing instruction (passenger aircraft) Max net qty / pkg	366 220.00 L 355 60.00 L
14.5 Environmental hazards	YES

14.6 Special precautions for user
For personal protection see section 8.

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- One or more components not listed on inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIoC inventory. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand.
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a legal entity based in the EEA ("European

	Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA Hazard Designation Sections 311/312 (40 CFR 370)

Flammable (gases, aerosols, liquids, or solids)	Yes
Respiratory or skin sensitization	Yes
Aspiration hazard	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	Yes

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)
This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Phenol	108-95-2	1000 lb

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Phenol	108-95-2	1000 lb

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Components	CAS-No.	Reportable quantity
Unlisted Hazardous Wastes - Characteristic of Ignitability	Not Assigned	100 lb
Ethylbenzene	100-41-4	1000 lb
Acetophenone	98-86-2	5000 lb
Cumene	98-82-8	5000 lb
Phenol	108-95-2	1000 lb
Acetone	67-64-1	5000 lb
Ethylbenzene	100-41-4	1000 lb

15.3 State Regulations

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product can expose you to chemicals including Alpha-Methylstyrene (CAS # 98-83-9), Cumene (CAS # 98-82-8), Ethylbenzene

(CAS # 100-41-4) , which is/are known to the State of California to cause cancer, and
This product can expose you to chemicals including Alpha-Methylstyrene (CAS # 98-83-9) , which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Further information

- Distribute new edition to clients
- Update
- See section 1

Date Prepared: 08/31/2023

Key or legend to abbreviations and acronyms used in the safety data sheet

- C: Ceiling
- PEL: Permissible exposure limit
- ST: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
- STEL: Short term exposure limit
- TWA: 8-hour, time-weighted average
- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- NTP: National Toxicology Program
- IARC: International Agency for Research on Cancer
- NIOSH: National Institute for Occupational Safety and Health
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Specification for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.