

**Safety data sheet as per COMMISSION REGULATION (EU) No 453/2010
of 20 May 2010 amending Regulation (EC) No 1907/2006
Product: Alpha-Methylstyrene**



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

1.1 Product identifier

Trade name: alpha-Methylstyrene (AMS)

CAS No.: 98-83-9

EC No.: 202-705-0

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

Relevant identified uses: Monomer for resins/ polymers

Sectors of end use (SU): SU3; SU10; SU11; SU12.

Process category (PROC): PROC1; PROC2; PROC3; PROC8b.

Market sector by type of chemical product: PC19; PC32.

Environmental release category (ERC): ERC6a; ERC6c; ERC6d

Uses identified against: Dependent on relevant national regulations

1.3 Details of the supplier of the safety data sheet:

Manufacturer/Supplier:

Prasol Chemicals Ltd.,

Prasol House, Plot No.A-17/2/3,

T.T.C. Indl. Area, Khairne M.I.D.C.,

Navi Mumbai - 400 710.

Maharashtra, India.

Tel: +91-22-27782555

Fax: +91-22-27782430

Further information obtainable from:

Mr. Dhaval Parikh

e-mail:sales@prasolchem.com; inquiry@prasolchem.com

1.4 Information in case of emergency:

Product safety department Tel: +91-22- 27782555; Fax:+91-22- 27782430

Other Comments (e.g. language(s) of the phone service): English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 (CLP)

Flam. Liquid Category 3; H226: Flammable liquid and vapour

Eye Irrit. 2; H319: Causes serious eye irritation

STOT Single Exp. 3 H335: May cause respiratory irritation

Aquatic Chronic 2; H411: Toxic to aquatic life with long lasting effects.

2.1.2 Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Danger

N: Dangerous for the environment

R10 flammable.

R36/37 irritating to eyes and respiratory system.

R51/53 toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment: Not applicable

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008 (CLP)

The substance is classified and labeled according to the CLP regulation.

Hazard pictograms



GHS02

Flame



GHS05

Exclamation mark



GHS09

Environment

Signal word Danger

Hazard-determining components of labeling: Void

Hazard statements

H226: Flammable liquid and vapour

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H319: Causes serious eye irritation
H335: May cause respiratory irritation
H411: Toxic to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician. P361 Remove/Take off immediately all contaminated clothing.
P405 Store locked up
P501 Dispose of contents/container in accordance with local/ regional/ national/international regulations

2.3 Other hazards

Results of PBT and vPvB assessment: Not applicable

SECTION 3: Composition/information on ingredients

Chemical characterization:

| CAS No. | Description |
|---------|---------------------------|
| 98-83-9 | alpha-Methylstyrene (AMS) |

Identification number(s)

EC Number: 202-705-0

Index number: 601-027-00-6

Additional information:

Molecular Formula: C₉H₁₀

Molecular Weight: 118.18g/mol

SECTION 4: First aid measures

4.1 General information: Immediately remove any clothing soiled by the product. Remove breathing equipment only after contaminated clothing have been completely removed. In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation: Supply fresh air or oxygen; call for doctor.

In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

After eye contact: Rinse opened eye for several minutes under running water. Consult a doctor.

After swallowing: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Information for doctor: Treat symptomatically and supportively.

4.2 Most important symptoms and effects, both acute and delayed see Section 2

4.3 Indication of any immediate medical attention and special treatment needed No further relevant information

SECTION 5: Firefighting measures

5.1 Suitable extinguishing agents: Dry chemical, CO₂, water spray or regular foam.

Do not use water jet (straight streams) to extinguish

5.2 Special hazards arising from the substance or mixture Flammable liquid. Will be easily ignited by heat, sparks or flames. Flash point 57.8°C (open cup). Auto-ignition temperature: 574°C. Vapours may form explosive mixtures with air. Explosive limits, vol% in air: 0.9-6.6.. Vapours are heavier than air and will spread at floor level. In case of warming, development of explosive gases/vapours. Hazardous vapours may form during fires. Carbon monoxide and carbon dioxide may be liberated in case of fire

5.3 Protective equipment: Exclude air; treat like a gasoline or oil fire. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Additional information Do not expose to high temperature. Danger of bursting and explosion. Move container away or cool

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with water from a protected position. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

SECTION 6: Accidental release measures

6.1 Person-related safety precautions: Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations.

6.2 Measures for environmental protection: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Measures for cleaning/collecting: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Normal measures for preventive fire protection.

Information about fire - and explosion protection: Keep ignition sources away. Do not smoke.

7.2 Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well-ventilated area. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Information about storage in one common storage facility: Store away from incompatible materials.

Further information about storage conditions: No open flames. No contact with hot surfaces.

7.3 Specific end use(s) No further relevant information available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

Workplace exposure: Inhalation: DNEL/DMEL: 48 mg/m³ (10 ppm) -8-h TWA

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes and skin.

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Protection of hands: Protective gloves

Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer

Penetration time of glove material The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Tightly sealed goggles; Face shield (8-inch minimum).

Body protection: Complete suit protecting against chemical. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Risk management measures Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : clear colorless liquid
Odour : Characteristic strong aromatic odor
Odour threshold : 0.05 ppm to over 10 ppm
pH : no data
Melting point/Melting range : -23°C
Boiling point/Boiling range : 163°C
Flash point (open cup) : 57.8°C
Evaporation rate : no data available
Flammability (solid, gas) : Product is flammable
Upper/lower flammability or explosive limits:
Lower : 0.9%
Upper : 6.6%
Vapour pressure at 20°C : 2.53hPa
Vapour density : 4.08 (air=1)
Density at 25°C : 0.909 g/cm³
Solubility in / Miscibility with water : 0.1mg/l at 25°C, pH 6-7 (slightly soluble)
Partition coefficient (n-octanol/water) at 25°C: 3.48 at 25°C pH 6
Auto-ignition temperature : 574°C
Decomposition temperature : no data available
Viscosity : 0.94cP at 20°C
Explosive properties : no data available
Oxidising properties : no data available
9.2 Other information: no further data

SECTION 10: Stability and reactivity

10.1 Reactivity: no data available

10.2 Chemical stability: Product is stable under normal storage conditions

10.3 Possibility of hazardous reactions: no data available

10.4 Conditions to avoid: Heat, ignition sources (flames, sparks), light, incompatible materials

10.5 Incompatible materials: oxidizers, acids, alkalis, peroxides, halogens, organometallic compounds, metallic salts.

10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD50 Oral rat 4900 mg/kg Toxicity Category V
LC50 Inhalation rat 22.65mg/L practically nontoxic
LD50 Dermal rabbit 14560mg/kg Toxicity Category V

Skin corrosion/irritation: mild skin irritation 4h rabbit

Serious eye damage/irritation: mild irritation 24h rabbit

Respiratory or skin sensitization: No sensitizing effects known

Germ cell mutagenicity: non genotoxic

Carcinogenicity: class A3 substance –Confirmed Animal Carcinogen with Unknown Relevance to Humans.

Reproductive toxicity: no data available

STOT-single exposure: no data available

STOT-repeated exposure: Oral LOAEL (rat): 200 mg/kg bw/day NOAEL (rat): 40 mg/kg bw/day
Inhalation NOAEC (rat): 300 ppm

Aspiration hazard: no data available

Additional toxicological information: Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Acute (short term) toxicity

Fish: LC50 (96-hr, QSAR, experimental data) = 4.9 mg/L to 15mg/L.

Crustacea (Daphnid): LC50 (48-hr, QSAR) = 1.8 mg/L to 3.4mg/L.

Algae/aquatic plants (Green Algae): EC50 (96-hr, QSAR) = 3.0mg/L.

Other organisms: No data available

Chronic (long-term) toxicity:

Fish: NOEC (QSAR) = 0.6 mg/L to 1.6 mg/L.

Crustacea (Daphnid): NOEC (QSAR) = 0.1 mg/L to 0.5 mg/L.

Algae/aquatic plants (Green Algae): NOEC (QSAR) = 1.5 mg/L.

Other organisms: No data available.

Terrestrial environment: Soil macro-organisms: LC50 (14-day, QSAR, earthworm) = 145.6 mg/L (ppm)

12.2 Persistence and degradability

Biodegradation: Not readily biodegradable (56%)

12.3 Bio accumulative potential BCF 17.5, does not bioaccumulate.

12.4 Mobility in soil: log Koc (QSAR estimated) = 2.84 L/kg to 3.02 L/kg.

12.5 Results of PBT and vPvB assessment Alpha methyl styrene is considered persistent in sediment and is not considered bioaccumulative or toxic substance. Therefore, it is not a PBT or vPvB substance.

12.6 Other adverse effects toxic to aquatic life with long lasting effects

SECTION 13: Disposal considerations

Waste treatment methods

Product: This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Un-cleaned packaging/ contaminated packaging: Dispose of as unused product

SECTION 14: Transport information

Land Transport (ADR/RID) Marine Transport (IMDG) Air Transport (ICAO/ IATA)

14.1 UN/ID Number: 2303

14.2 UN proper shipping name: ISOPROPENYL BENZENE

14.3 Transport hazard class: 3

14.4 Packaging group: III

14.5 Environmental hazards: marine pollutant

14.6 Special precautions for the user: no data available

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: no data available

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006

Hazard pictograms Please refer section 2

Signal word Danger

Labeling according to EU guidelines: The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

Code letter and hazard designation of product: please refer Section 2

Risk phrases: please refer Section 2

15.2 Chemical safety assessment A Chemical Safety Assessment has not been carried out and shall be available at the time of REACH registration

Substances of very high concern (SVHC) according to REACH, Article 57: The substance is not listed as SVHC.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Product safety department.

Contact:

Tel: +91-022-27782555

Fax: +91-022-27782430

Use Descriptors:

Sector of end use:

SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites.

SU10: Formulation [mixing] of preparations and/or repackaging (excluding alloys).

SU11: Manufacture of rubber products.

SU12: Manufacture of plastics products, including compounding and conversion.

Process category:

PROC1: Use in closed process, no likelihood of exposure.

PROC2: Use in closed, continuous process with occasional controlled exposure.

PROC3: Use in closed batch process (synthesis or formulation).

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Market category:

PC 19: Intermediate.

PC 32: Polymer preparations and compounds.

Environmental release category:

ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates).

ERC 6c: Industrial use of monomers for manufacture of thermoplastics.

ERC 6d: Industrial use of process regulators for polymerization processes in production of resins, rubbers, polymers.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

CAS: Chemical Abstracts Service (division of the American Chemical Society)

EINECS: European Inventory of Existing Commercial Chemical Substances

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

IMDG: International Maritime Code for Dangerous Goods

LC50: Lethal concentration, 50 percent

LD50: Lethal dose 50 percent

LOAEL: lowest-observed-adverse-effect level

NOAEC: No Observed Adverse Effect Concentration

NOAEL: no observed adverse effect level

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

Sources

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

ECHA: <http://echa.europa.eu/brief-profile/-/briefprofile/100.002.459>

Sigma-Aldrich MSDS:

<http://www.sigmaaldrich.com/MSDS/MSDS/DisplayMSDSPage.do?country=IN&language=en&productNumber=M80903&brand=ALDRICH&PageToGoToURL=http%3A%2F%2Fwww.sigmaaldrich.com%2Fcatalog%2Fproduct%2Faldrich%2Fm80903%3Fflang%3Den>

CDC: <http://www.cdc.gov/niosh/npg/npgd0429.html>

ChemIDplus: <http://chem.sis.nlm.nih.gov/chemidplus/rn/98-83-9>

Toxnet database: <http://toxnet.nlm.nih.gov/cgi-bin/sis/search2/r?dbs+hsdb:@term+@rn+@rel+98-83-9>

Data compared to the previous version altered *New SDS.*

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