



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/04/2016

Version 1.2

## SECTION 1. Identification

### Product identifier

Product number	806086
Product name	$\alpha$ -Methylstyrene (stabilised with 4-tert-butylpyrocatechol) for synthesis
CAS-No.	98-83-9

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

Identified uses	Chemical for synthesis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Flammable liquid, Category 3, H226  
Eye irritation, Category 2A, H319  
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system, H335  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

#### Hazard pictograms



#### Signal Word

Warning

#### Hazard Statements

H226 Flammable liquid and vapor.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

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## *Precautionary Statements*

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 dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing.

Rinse skin with water/ shower.

P304 + P340 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.

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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.

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

## **Other hazards**

None known.

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## **SECTION 3. Composition/information on ingredients**

Formula

$C_6H_5C(CH_3)=CH_2$

$C_9H_{10}$  (Hill)

Molar mass

118.18 g/mol

## **Hazardous ingredients**

*Chemical Name (Concentration)*

CAS-No.

*2-phenylpropene (>= 90 % - <= 100 % )*

98-83-9

Exact percentages are being withheld as a trade secret.

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## **SECTION 4. First aid measures**

### **Description of first-aid measures**

*Inhalation*

After inhalation: fresh air.

*Skin contact*

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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### *Eye contact*

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

### *Ingestion*

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately. Subsequently administer: activated charcoal (20 - 40 g in 10% slurry).

Never give anything by mouth to an unconscious person.

### **Most important symptoms and effects, both acute and delayed**

irritant effects, Cough, Shortness of breath

### **Indication of any immediate medical attention and special treatment needed**

No information available.

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## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

#### *Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### **Special hazards arising from the substance or mixture**

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapors possible in the event of fire.

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

In the event of fire, wear self-contained breathing apparatus.

#### *Further information*

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact.

Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### **Environmental precautions**

Do not let product enter drains. Risk of explosion.

### **Methods and materials for containment and cleaning up**

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Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

#### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Store at +15°C to +25°C (+59°F to +77°F).

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

Basis	Value	Threshold limits	Remarks
<i>2-phenylpropene 98-83-9</i>			
ACGIH	Time Weighted Average (TWA):	10 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	50 ppm 240 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	100 ppm 485 mg/m <sup>3</sup>	
OSHA_TRANS	Ceiling Limit Value:	100 ppm 480 mg/m <sup>3</sup>	
Z1A	Short Term Exposure Limit (STEL):	100 ppm 485 mg/m <sup>3</sup>	
	Time Weighted Average (TWA):	50 ppm 240 mg/m <sup>3</sup>	

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

#### *Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

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### *Eye/face protection*

Safety glasses

### *Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### *Other protective equipment:*

Flame retardant antistatic protective clothing.

### *Respiratory protection*

required when vapors/aerosols are generated.

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## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	unpleasant
Odor Threshold	0.05 - 195.4 ppm
pH	5 - 6 at 500 g/l
Melting point	-23 °C
Boiling point/boiling range	164 °C (164 °C) at 1,013 hPa
Flash point	40 °C (40 °C) Method: c.c. DIN 51758
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	0.9 %(V)
Upper explosion limit	6.6 %(V)
Vapor pressure	2.9 hPa at 20 °C (20 °C)  15 hPa at 50 °C (50 °C)

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Relative vapor density	No information available.
Density	0.91 g/cm <sup>3</sup> at 20 °C (20 °C)
Relative density	No information available.
Water solubility	560 mg/l at 20 °C (20 °C)
Partition coefficient: n-octanol/water	log Pow: 3.48 (experimental) Bioaccumulation is not expected. (Lit.)
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	0.9 mPa.s at 20 °C (20 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	445 °C (445 °C) Method: DIN 51794

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## SECTION 10. Stability and reactivity

### Reactivity

tends to polymerize  
Vapor/air-mixtures are explosive at intense warming.

### Chemical stability

heat-sensitive  
Upon decomposition in closed containers and tubes risk of bursting due to buildup of overpressure.  
Please observe stabilization.

### *Stabilizer*

4-tert-butylpyrocatechol

### Possibility of hazardous reactions

Exothermic reaction with:  
polymerization initiators, metallic salts, organometallic compounds, oxidizable substances, acids

### Conditions to avoid

Heating.

### Incompatible materials

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no information available

## Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

#### *Target Organs*

Eyes

Skin

Respiratory system

Central nervous system

#### *Acute oral toxicity*

LD50 Rat: 4,900 mg/kg (IUCLID)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

#### *Acute inhalation toxicity*

Symptoms: Cough, Shortness of breath, mucosal irritations, Possible damages:, damage of respiratory tract

Irritating to respiratory system.

#### *Eye irritation*

Causes serious eye irritation.

#### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

(National Toxicology Program)

#### *Specific target organ systemic toxicity - single exposure*

May cause respiratory irritation.

#### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## Carcinogenicity

IARC

Group 2B: Possibly carcinogenic to humans

2-phenylpropene

98-83-9

OSHA

No ingredient of this product present at levels greater than or

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	equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	Confirmed animal carcinogen with unknown relevance to humans.
	2-phenylpropene                      98-83-9

## Further information

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### Ecotoxicity

#### *Toxicity to fish*

LC50 *Leuciscus idus* (Golden orfe): 28 mg/l; 48 h

DIN 38412 part 15 (IUCLID)

#### *Toxicity to bacteria*

EC10 *Pseudomonas putida*: 283 mg/l; 18 h (IUCLID)

### Persistence and degradability

No information available.

### Bioaccumulative potential

#### *Partition coefficient: n-octanol/water*

log Pow: 3.48

(experimental)

Bioaccumulation is not expected. (Lit.)

### Mobility in soil

No information available.

#### *Additional ecological information*

Biological effects:

Endangers drinking-water supplies if allowed to enter soil or water.

Neutralize before sewage disposal.

Change in the flavor characteristics of fish protein.

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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**SECTION 14. Transport information**

**Land transport (DOT)**

UN number UN 2303  
Proper shipping name ISOPROPENYLBENZENE  
Class 3  
Packing group III  
Environmentally hazardous --

**Air transport (IATA)**

UN number UN 2303  
Proper shipping name ISOPROPENYLBENZENE  
Class 3  
Packing group III  
Environmentally hazardous --  
Special precautions for user no

**Sea transport (IMDG)**

UN number UN 2303  
Proper shipping name ISOPROPENYLBENZENE  
Class 3  
Packing group III  
Environmentally hazardous --  
Special precautions for user yes  
EmS F-E S-D

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**SECTION 15. Regulatory information**

**United States of America**

**SARA 313**

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.

**SARA 302**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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## Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

## DEA List I

Not listed

## DEA List II

Not listed

## US State Regulations

### Massachusetts Right To Know

#### *Ingredients*

2-phenylpropene

### Pennsylvania Right To Know

#### *Ingredients*

2-phenylpropene

### New Jersey Right To Know

#### *Ingredients*

2-phenylpropene

### California Prop 65 Components

WARNING: this product contains a chemical known in the State of California to cause cancer.

#### *Ingredients*

2-phenylpropene

## Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Labeling

#### *Hazard pictograms*



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## *Signal Word*

Warning

## *Hazard Statements*

H226 Flammable liquid and vapor.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H411 Toxic to aquatic life with long lasting effects.

## *Precautionary Statements*

Prevention

P210 Keep away from heat.

P273 Avoid release to the environment.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## **Full text of H-Statements referred to under sections 2 and 3.**

H226 Flammable liquid and vapor.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

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

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 01/04/2016

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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