

## SAFETY DATA SHEET

Creation Date 27-Oct-2015

Revision Date 27-Mar-2024

Revision Number 3

### 1. Identification

**Product Name** alpha-Methylstyrene

**Cat No. :** L03609

**CAS No** 98-83-9

**Synonyms** Isopropenylbenzene; 2-Phenyl-1-propene

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757

##### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### **Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Carcinogenicity	Category 2
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system, Central nervous system (CNS).	
Aspiration Toxicity	Category 1

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Flammable liquid and vapor  
May be fatal if swallowed and enters airways  
May cause an allergic skin reaction  
Causes serious eye irritation  
May cause respiratory irritation  
May cause drowsiness or dizziness  
Suspected of causing cancer  
Suspected of damaging fertility or the unborn child



### Precautionary Statements

#### Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Contaminated work clothing should not be allowed out of the workplace  
Use only outdoors or in a well-ventilated area  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Keep cool  
Wear protective gloves/protective clothing/eye protection/face protection

#### Response

IF exposed or concerned: Get medical attention/advice

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

#### Skin

If skin irritation or rash occurs: Get medical advice/attention

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

#### Eyes

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

If eye irritation persists: Get medical advice/attention

#### Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Do NOT induce vomiting

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Toxic to aquatic life with long lasting effects

#### Other hazards

Contains a known or suspected endocrine disruptor.

WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

### 3. Composition/Information on Ingredients

Component	CAS No	Weight %
alfa-Methylstyrene	98-83-9	>95
4-tert-Butyl catechol	98-29-3	0.0015

### 4. First-aid measures

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. Risk of serious damage to the lungs (by aspiration).
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward.
<b>Most important symptoms and effects</b>	May cause allergic skin reaction. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media</b>	Do not use a solid water stream as it may scatter and spread fire
<b>Flash Point</b>	45 °C / 113 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	445 °C / 833 °F
<b>Explosion Limits</b>	
<b>Upper</b>	6.6%
<b>Lower</b>	0.9%
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Flammable. Vapors may travel to source of ignition and flash back. Vapors may form explosive mixture with air. Containers may explode when heated. Vapors may form explosive mixtures with air.

#### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full

protective gear.

**NFPA**

**Health**  
3

**Flammability**  
2

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
<b>Environmental Precautions</b>	Do not flush into surface water or sanitary sewer system.
<b>Methods for Containment and Clean Up</b>	Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

<b>Handling</b>	Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.
<b>Storage.</b>	Keep away from heat, sparks and flame. Keep container tightly closed in a dry and well-ventilated place. Keep refrigerated. Incompatible Materials. Acids. Strong oxidizing agents. Finely powdered metals. Peroxides.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
alfa-Methylstyrene	TWA: 10 ppm	(Vacated) TWA: 50 ppm (Vacated) TWA: 240 mg/m <sup>3</sup> Ceiling: 100 ppm Ceiling: 480 mg/m <sup>3</sup> (Vacated) STEL: 100 ppm (Vacated) STEL: 485 mg/m <sup>3</sup>	IDLH: 700 ppm TWA: 50 ppm TWA: 240 mg/m <sup>3</sup> STEL: 100 ppm STEL: 485 mg/m <sup>3</sup>	TWA: 10 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists  
OSHA - Occupational Safety and Health Administration  
NIOSH: NIOSH - National Institute for Occupational Safety and Health

<b>Engineering Measures</b>	Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.
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**Personal Protective Equipment**

<b>Eye/face Protection</b>	Tight sealing safety goggles. Face protection shield.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
<b>Recommended Filter type:</b>	Organic gases and vapours filter. Type A. Brown. conforming to EN14387.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties**

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>Odor</b>	aromatic
<b>Odor Threshold</b>	No information available
<b>pH</b>	5-6 500 g/l aq.sol
<b>Melting Point/Range</b>	-23 °C / -9.4 °F
<b>Boiling Point/Range</b>	165 - 169 °C / 329 - 336.2 °F @ 760 mmHg
<b>Flash Point</b>	45 °C / 113 °F
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid,gas)</b>	Not applicable
<b>Flammability or explosive limits</b>	
<b>Upper</b>	6.6%
<b>Lower</b>	0.9%
<b>Vapor Pressure</b>	2.9 mbar @ 20 °C
<b>Vapor Density</b>	4.1 (Air = 1.0)
<b>Specific Gravity</b>	0.909
<b>Solubility</b>	Insoluble in water
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	445 °C / 833 °F
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	0.94 cP at 20 °C
<b>Molecular Formula</b>	C9 H10
<b>Molecular Weight</b>	118.18

**10. Stability and reactivity**

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under recommended storage conditions.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
<b>Incompatible Materials</b>	Acids, Strong oxidizing agents, Finely powdered metals, Peroxides
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
<b>Hazardous Polymerization</b>	Hazardous polymerization may occur.
<b>Hazardous Reactions</b>	None under normal processing.

**11. Toxicological information****Acute Toxicity****Product Information****Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
alfa-Methylstyrene	LD50 = 4900 mg/kg ( Rat )	14560 mg/kg (Rabbit)	22.85 mg/L/6h (Rat)
4-tert-Butyl catechol	815 mg/kg ( Rat )	1331 mg/kg ( Rat )	Not listed

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** Irritating to eyes and respiratory system

**Sensitization** May cause sensitization by skin contact

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
alfa-Methylstyrene	98-83-9	Group 2B	Not listed	A3	X	A3
4-tert-Butyl catechol	98-29-3	Not listed	Not listed	Not listed	Not listed	Not listed

*IARC (International Agency for Research on Cancer)*

*IARC (International Agency for Research on Cancer)*

*Group 1 - Carcinogenic to Humans*

*Group 2A - Probably Carcinogenic to Humans*

*Group 2B - Possibly Carcinogenic to Humans*

*A1 - Known Human Carcinogen*

*A2 - Suspected Human Carcinogen*

*A3 - Animal Carcinogen*

*ACGIH: (American Conference of Governmental Industrial Hygienists)*

*ACGIH: (American Conference of Governmental Industrial Hygienists)*

**Mutagenic Effects** No information available

**Reproductive Effects** Contains ingredients that are suspected reproductive hazards.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system Central nervous system (CNS)

**STOT - repeated exposure** None known

**Aspiration hazard** Category 1

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
alfa-Methylstyrene	Not listed	LC50: 28 mg/L/48h (Leuciscus idus) LC50: 2,97 mg/L/96h (Brachydanio rerio)	Not listed	EC50: 1,645 mg/L/48h
4-tert-Butyl catechol	Not listed	LC50 = 0.12 mg/L 96h	Not listed	EC50=0.48 mg/L 48h

**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Is not likely mobile in the environment due its low water solubility.

Component	log Pow
alfa-Methylstyrene	3.48
4-tert-Butyl catechol	1.98

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and

national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN2303  
 Proper Shipping Name ISOPROPENYL BENZENE  
 Hazard Class 3  
 Packing Group III

### TDG

UN-No UN2303  
 Proper Shipping Name ISOPROPENYL BENZENE  
 Hazard Class 3  
 Packing Group III

### IATA

UN-No UN2303  
 Proper Shipping Name ISOPROPENYL BENZENE  
 Hazard Class 3  
 Packing Group III

### IMDG/IMO

UN-No UN2303  
 Proper Shipping Name ISOPROPENYL BENZENE  
 Hazard Class 3  
 Packing Group III

## 15. Regulatory information

### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
alfa-Methylstyrene	98-83-9	X	ACTIVE	-
4-tert-Butyl catechol	98-29-3	X	ACTIVE	-

#### Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b)** - Notices of Export Not applicable

### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
alfa-Methylstyrene	98-83-9	X	-	202-705-0	X	X	X	X	X	KE-23939
4-tert-Butyl catechol	98-29-3	X	-	202-653-9	X	X	X	X	X	KE-11368

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**California Proposition 65** This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
alfa-Methylstyrene	98-83-9	Carcinogen	-	Carcinogen

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
alfa-Methylstyrene	X	X	-	X	-
4-tert-Butyl catechol	X	-	X	-	-

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** Moderate risk, Grade 2

**Authorisation/Restrictions according to EU REACH**

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
alfa-Methylstyrene	98-83-9	-	Use restricted. See item 75. (see link for restriction details)	-
4-tert-Butyl catechol	98-29-3	-	Use restricted. See item 75. (see link for restriction details)	-

**REACH links**

<https://echa.europa.eu/substances-restricted-under-reach>



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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
alfa-Methylstyrene	98-83-9	Listed	Not applicable	Not applicable	Not applicable
4-tert-Butyl catechol	98-29-3	Listed	Not applicable	Not applicable	Not applicable

## Contains component(s) that meet a 'definition' of per &amp; poly fluoroalkyl substance (PFAS)?

Not applicable

## Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
alfa-Methylstyrene	98-83-9	Not applicable	Not applicable	Not applicable	Not applicable
4-tert-Butyl catechol	98-29-3	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

<b>Prepared By</b>	Health, Safety and Environmental Department Email: chem.techinfo@thermofisher.com www.thermofisher.com
<b>Creation Date</b>	27-Oct-2015
<b>Revision Date</b>	27-Mar-2024
<b>Print Date</b>	27-Mar-2024
<b>Revision Summary</b>	New emergency telephone response service provider.

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**