

## Chemical Safety Data Sheet MSDS / SDS

## 2-Phenyl-1-propene

Revision Date:2025-06-14 Revision Number:1

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

## Product identifier

Product name : 2-Phenyl-1-propene  
CBnumber : CB5302758  
CAS : 98-83-9  
EINECS Number : 202-705-0  
Synonyms : AMS,  $\alpha$ -methylstyrene

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Warning

## Precautionary statements

P501 Dispose of contents/container to....

P405 Store locked up.

P403+P235 Store in a well-ventilated place. Keep cool.

P391 Collect spillage. Hazardous to the aquatic environment

P370+P378 In case of fire: Use ... for extinction.

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

Continuerinsing.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

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

P273 Avoid release to the environment.

P271 Use only outdoors or in a well-ventilated area.  
P270 Do not eat, drink or smoke when using this product.  
P264 Wash skin thoroughly after handling.  
P264 Wash hands thoroughly after handling.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P240 Ground/bond container and receiving equipment.  
P233 Keep container tightly closed.  
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.  
P202 Do not handle until all safety precautions have been read and understood.  
P201 Obtain special instructions before use.

#### **Hazard statements**

H411 Toxic to aquatic life with long lasting effects  
H401 Toxic to aquatic life  
H373 May cause damage to organs through prolonged or repeated exposure  
H371 May cause damage to organs  
H351 Suspected of causing cancer  
H335 May cause respiratory irritation  
H319 Causes serious eye irritation  
H315 Causes skin irritation  
H304 May be fatal if swallowed and enters airways  
H226 Flammable liquid and vapour

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## SECTION 3: Composition/information on ingredients

### **Substance**

Product name	: 2-Phenyl-1-propene
Synonyms	: AMS, $\alpha$ -methylstyrene
CAS	: 98-83-9
EC number	: 202-705-0
MF	: C <sub>9</sub> H <sub>10</sub>
MW	: 118.18

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## SECTION 4: First aid measures

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

#### **General advice**

Show this material safety data sheet to the doctor in attendance.

#### **If inhaled**

After inhalation: fresh air. Call in physician.

#### **In case of skin contact**

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

### In case of eye contact

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

### If swallowed

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting 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

Carbon oxides 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 vapours possible in the event of fire.

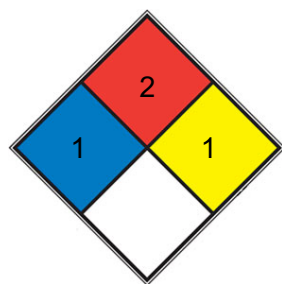
### Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### Further information

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

### NFPA 704



■ HEALTH 1 Exposure would cause irritation with only minor residual injury (e.g. [acetone](#), sodium bromate, potassium chloride)

Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely

■ FIRE 2 divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100

and 200 °F). (e.g. diesel fuel, [sulfur](#))

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☒ REACT 1 Normally stable, but can become unstable at elevated temperatures and pressures (e.g. [propene](#))

☐ SPEC.

☐ HAZ.

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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. For personal protection see section 8.

### Environmental precautions

Do not let product enter drains. Risk of explosion.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.

Chemisorb?). Dispose of properly. Clean up affected area.

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### Precautions for safe handling

### Advice on protection against fire and explosion

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

### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

### Conditions for safe storage, including any incompatibilities

### Storage conditions

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

### Storage stability

Recommended storage temperature 2 - 8 °C

### Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### control parameter

#### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

### Exposure controls

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact Material: Viton?

Minimum layer thickness: 0,7 mm Break through time: 480 min

Material tested: Vitoject? (KCL 890 / Aldrich Z677698, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,4 mm Break through time: 30 min

Material tested: Camatril? (KCL 730 / Aldrich Z677442, Size M)

##### Body Protection

Flame retardant antistatic protective clothing.

##### Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

##### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

#### Exposure limits

NIOSH REL: TWA 50 ppm (240 mg/m<sup>3</sup>), STEL 100 ppm (485 mg/m<sup>3</sup>), IDLH 700 ppm; OSHA PEL: ceiling 100 ppm; ACGIH TLV: TWA 50 ppm, STEL 100 ppm (adopted).

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## SECTION 9: Physical and chemical properties

## Information on basic physicochemical properties

Appearance	colorless clear, liquid
Odour	No data available
Odour Threshold	No data available
pH	5-6 (500g/l, H <sub>2</sub> O)
Melting point/freezing point	Melting point/range: -24 °C - lit.
Initial boiling point and boiling range	165 - 169 °C - lit.
Flash point	46 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 6,1 %(V) Lower explosion limit: 0,9 %(V)
Vapour pressure	2,53 hPa at 20 °C
Vapour density	4,08 - (Air = 1.0)
Relative density	No data available
Water solubility	560mg/l
Partition coefficient: n-octanol/water	log Pow: 3,48 at 25 °C - Bioaccumulation is not expected.
Autoignition temperature	574 °C at 1.013 hPa
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 0,94 mPa.s at 20 °C
Explosive properties	No data available
Oxidizing properties	No data available

## Other safety information

Relative vapor density

4,08 - (Air = 1.0)

## SECTION 10: Stability and reactivity

### Reactivity

Vapor/air-mixtures are explosive at intense warming.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Exothermic reaction with:

polymerisation initiators metallic salts organometallic compounds oxidisable substances acids

### Conditions to avoid

Heating.

## Incompatible materials

No data available

## Hazardous decomposition products

In the event of fire: see section 5

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# SECTION 11: Toxicological information

## Information on toxicological effects

### Acute toxicity

LD50 Oral - Rat - male - 4.900 mg/kg Remarks: (ECHA)

LC50 Inhalation - Rat - male - 6 h - 22,85 mg/l Remarks: (ECHA)

LD50 Dermal - Rabbit - male - 14.560 mg/kg Remarks: (ECHA)

### Skin corrosion/irritation

Skin - Rabbit

Result: slight irritation - 4 h Remarks: (ECHA)

### Serious eye damage/eye irritation

Causes serious eye irritation. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

### Respiratory or skin sensitization

(OECD Test Guideline 429)

### Germ cell mutagenicity

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473

Result: negative

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471

Result: negative

Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells

Metabolic activation: without metabolic activation Method: OECD Test Guideline 479

Result: negative

Test Type: In vivo micronucleus test Species: Mouse

Cell type: Red blood cells (erythrocytes) Application Route: Inhalation

Method: OECD Test Guideline 474 Result: negative

### Carcinogenicity

No data available

### Reproductive toxicity

Suspected of damaging the unborn child. Suspected of damaging fertility.

### Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation. - Upper respiratory tract Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

No data available

### Aspiration hazard

Aspiration may cause pulmonary edema and pneumonitis.

#### **Toxicity**

LD50 orally in Rabbit: 4900 mg/kg

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## **SECTION 12: Ecological information**

#### **Toxicity**

##### **Toxicity to fish**

static test LC50 - Danio rerio (zebra fish) - 2,97 mg/l - 96 h (OECD Test Guideline 203)

##### **Toxicity to daphnia and other aquatic invertebrates**

static test EC50 - Daphnia magna (Water flea) - 1,645 mg/l - 48 h (OECD Test Guideline 202)

##### **Toxicity to algae**

static test ErC50 - Desmodesmus subspicatus (green algae) - 11,44 mg/l - 72 h  
(OECD Test Guideline 201)

##### **Toxicity to bacteria**

static test EC50 - activated sludge - > 2.000 mg/l - 3 h (OECD Test Guideline 209)

#### **Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d

Result: 8 % - Not readily biodegradable. (OECD Test Guideline 301F)

#### **Bioaccumulative potential**

Bioaccumulation Cyprinus carpio (Carp) - 56 d

at 25 °C - 0,3 mg/l(2-Phenylpropene)

Bioconcentration factor (BCF): 15 - 140 (OECD Test Guideline 305C)

#### **Mobility in soil**

No data available

#### **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### **Toxics Screening Level**

The current ITSL for Alpha-Methyl Styrene is 230 µg/m<sup>3</sup>, with annual averaging time (AT).

#### **Other adverse effects**

Avoid release to the environment.

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## **SECTION 13: Disposal considerations**



## Waste treatment methods

### Incompatibilities

Vapors may form explosive mixture with air. Incompatible with oxidizers; contact may cause fires or explosions. Keep away from alkaline materials, strong bases, strong acids, oxoacids, epoxides, peroxides, halogens, catalysts for vinyl or ionic polymers; aluminum, iron chloride; copper. Methylstyrene may form unstable peroxides; may polymerize.

### Product

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

### Waste Disposal

incineration, often by admixture with a more flammable solvent

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## SECTION 14: Transport information

### UN number

ADR/RID: 2303 IMDG: 2303 IATA: 2303

### UN proper shipping name

	ADR/RID: ISOPROPENYLBENZENE IMDG: ISOPROPENYLBENZENE	
	IATA: Isopropenylbenzene	
14.3	Transport hazard class(es)	
	ADR/RID: 3 IMDG: 3	IATA: 3
14.4	Packaging group	
	ADR/RID: III IMDG: III	IATA: III
14.5	Environmental hazards	
	ADR/RID: yes IMDG Marine pollutant: yes	IATA: no
14.6	Special precautions for user	
	No data available	

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## SECTION 15: Regulatory information

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Listed. website: <https://www.mem.gov.cn/>

#### Measures for Environmental Management of New Chemical Substances

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

EC Inventory:Listed.

## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.