



# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name trans-crotonic acid

### 1.2 Other means of identification

Product number -

Other names 2-Butenoic acid, (E)-; Crotonic acid; (E)-But-2-enoic acid

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.

Uses advised against no data available

### 1.4 Supplier's details

Company Shanghai Yien Chemical Technology Co., Ltd  
Address Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
Telephone +86-400-133-2688

### 1.5 Emergency phone number

Emergency phone number +86-400-133-2688

Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Serious eye damage, Category 1

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger

Hazard statement(s) H318 Causes serious eye damage

Precautionary statement(s)

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

Response P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy

	to do. Continue rinsing. P317 Get medical help.
<b>Storage</b>	none
<b>Disposal</b>	none

### 2.3 Other hazards which do not result in classification

no data available

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
trans-crotonic acid	trans-crotonic acid	107-93-7	203-533-9	100%

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

Fresh air, rest. Seek medical attention if you feel unwell.

#### Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention if skin irritation occurs.

#### Following eye contact

Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer immediately for medical attention.

#### Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Seek medical attention if you feel unwell.

### 4.2 Most important symptoms/effects, acute and delayed

no data available

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

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## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

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

### 5.2 Specific hazards arising from the chemical

Combustible. Risk of fire and explosion on contact with incompatible substances. See Chemical Dangers. Above 88°C explosive vapour/air mixtures may be formed.

### 5.3 Special protective actions for fire-fighters

Use water spray, foam, dry powder, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

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## SECTION 6: Accidental release measures

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

Evacuate danger area! Remove all ignition sources. Consult an expert! Personal protection: face shield. Do NOT let this chemical enter the environment. Let solidify. Sweep spilled substance into covered containers. Carefully collect remainder. Then store and dispose of according to local regulations.

## **6.2 Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

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

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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# **SECTION 7: Handling and storage**

## **7.1 Precautions for safe handling**

NO open flames. NO contact with incompatible substances. See Chemical Dangers. Above 88°C use a closed system and ventilation. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

## **7.2 Conditions for safe storage, including any incompatibilities**

Store only in original container. Store only if stabilized. Separated from food and feedstuffs, strong bases and peroxides. Well closed. Dry. Keep in the dark. Ventilation along the floor. Store in an area without drain or sewer access.

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# **SECTION 8: Exposure controls/personal protection**

## **8.1 Control parameters**

### **Occupational Exposure limit values**

no data available

### **Biological limit values**

no data available

## **8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

## **8.3 Individual protection measures, such as personal protective equipment (PPE)**

### **Eye/face protection**

Wear safety goggles or face shield.

### **Skin protection**

Protective gloves.

### **Respiratory protection**

Use local exhaust or breathing protection.

### **Thermal hazards**

no data available

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# **SECTION 9: Physical and chemical properties and safety characteristics**

## **Physical state**

Solid. Crystalline.

<b>Colour</b>	White.
<b>Odour</b>	no data available
<b>Melting point/freezing point</b>	> 71.5 - < 71.7 °C.
<b>Boiling point or initial boiling point and boiling range</b>	185 °C. Atm. press.:760 Torr.
<b>Flammability</b>	no data available
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	88 °C. Atm. press.:1 013 hPa.
<b>Auto-ignition temperature</b>	> 400 °C. Remarks:At atm. press. of 1.0 atm.
<b>Decomposition temperature</b>	no data available
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	In water: 94 g/L. Temperature:25 °C. pH:2.3.
<b>Partition coefficient n-octanol/water</b>	log Pow = 0.85. Temperature:25 °C. Remarks:QSAR predicted value. The substance is within the applicability domain of the model.
<b>Vapour pressure</b>	0.23 hPa. Temperature:20 °C. Remarks:Based on extrapolation of measured values according to ANTOINE.;2.17 hPa. Temperature:50 °C. Remarks:Based on extrapolation of measured values according to ANTOINE.
<b>Density and/or relative density</b>	1.018. Temperature:15 °C.;0.96. Temperature:77 °C.
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

The vapour is heavier than air. The substance may polymerize under the influence of UV light or moisture. This generates fire and explosion hazard. The solution in water is a weak acid. Reacts violently with strong bases and peroxides. This generates fire and explosion hazard.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - rat (female) - 2 610 mg/kg bw.
- Inhalation: LC0 - rats (wistar) and guinea pig (female) - > 0.9 - < 1.2 mg/L air.
- Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

The substance is corrosive to the eyes. The substance may be irritating to the respiratory tract.

**STOT-repeated exposure**

no data available

**Aspiration hazard**

A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

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**SECTION 12: Ecological information****12.1 Toxicity**

- Toxicity to fish: LC50 - Pimephales promelas - 31 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 150 mg/L - 48 h.
- Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - > 57.5 mg/L - 72 h.
- Toxicity to microorganisms: no data available

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Other adverse effects**

no data available

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**SECTION 13: Disposal considerations****13.1 Disposal methods****Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN2823 (For reference only, please check.)

IMDG: UN2823 (For reference only, please check.)

IATA: UN2823 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: CROTONIC ACID, SOLID (For reference only, please check.)

IMDG: CROTONIC ACID, SOLID (For reference only, please check.)

IATA: CROTONIC ACID, SOLID (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)

IMDG: 8 (For reference only, please check.)

IATA: 8 (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
trans-crotonic acid	trans-crotonic acid	107-93-7	203-533-9
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Not Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Not Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

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## SECTION 16: Other information

### Information on revision

**Creation Date** July 15, 2019

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 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)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

The CAS number of unspecified crotonic acid is 3724-65-0 and cis-crotonic acid has CAS 503-64-0. The trans isomer is also called just crotonic acid, while the cis isomer is called isocrotonic acid. Commercially (unspecified) crotonic acid consists mainly (or even completely) of the trans isomer. Synonyms of unspecified crotonic acid are: alpha-crotonic acid, beta-methylacrylic acid and 3-methylacrylic acid. In general the substance will be transported as molten liquid.

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*