Room: 618, Tianhong Building, No.27 Shunhe Road, Zhengzhou,450004,China

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MATERIAL SAFETY DATA SHEET

-- Crotonic Acid

Ref: MSDSHTW-CTA201

Section 1-name of the substance/preparation and the company undertaking:

1.1 Name of the substance or preparation

Crotonic Acid

1.2 Company/undertaking Identification

Henan Techway Chemical Co.,Ltd.

No. 27 Shunhe Road, Zhengzhou, 450004, Henan, China

Tel: +86-371 6638 0080 Fax: +86-371 6638 0070

1.3 Emergency telephone: +86-371 6638 0080

Section 2-Composition/Information on Ingredients

Synonyms: trans-2-Butenoic acid

Formula: C4H6O2 C4H6O2 Molecular Weight: 86.09 g/mol

Components

Chemical Name	CAS#	Percent(%)	EINECS/ELINCS
Crotonic Acid	107-93-7	99	203-533-9

Section 3-Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to light yellow flakes, Flash Point: 88 deg C.

Signal word Danger

Causes eye, skin, and respiratory tract irritation. Toxic to aquatic organisms, may

cause long-term adverse effects in the aquatic environment. The toxicological properties of this material have not been fully investigated.

Target Organs: Respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes redness and pain. Causes eye irritation and possible burns. May cause chemical conjunctivitis.

Skin: Causes skin irritation. Causes redness and pain. May be harmful if absorbed through the skin.

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Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be

hamful if swallowed.

Inhalation: Causes respiratory tract irritation. May be harmful if inhaled.

Chronic: No information found.

Section 4-First Aid Measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled if breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

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

Section 5-Fire-fighting Measures

Suitable extinguishing media

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Section 6-Accidental Release measures

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas.

Ensure adequate

ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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Section 7-handling and Storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Section 8- Exposure controls/Personal Protection

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

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

Skin and body protection

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

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9-Physical and chemical Properties

Physical state Not available.

Appearance: White particles

Odor: None reported.

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pH: Not available.

Vapor Pressure: 0.25 mbar @ 20°C

Vapor Density : Not available. Evaporation Rate : Not available.

Viscosity: Not available.

Boiling Point: 185 deg C @ 760.00mm Hg

Freezing/Melting point: 70-73 deg C

Autoignition Temperature: 396 deg C(744.80 deg F)

Flash point 88 deg C(190.40 deg F)

Decomposition temperature: Not available.

NFPA Rating: health -3;flammability -2; reactivity -0

Explosion Limits, Lower: Not applicable.

Upper. Not applicable.

Solubility:94 G/L IN WATER

Specific Gravity /Density: Not available.

Molecular Formula: C4H6O2

Molecular Weight: 86.09

Section 10-Stability and Reactivity

Chemical stability Stable under recommended storage conditions.

Possibility of hazardous reactions no data available

Conditions to avoid no data available

Materials to avoid Bases, Oxidizing agents, Reducing agents

Hazardous decomposition products Hazardous decomposition products formed under fire

conditions. - Carbon oxides

Other decomposition products - no data available

Section 11-Toxicological information

Acute toxicity Oral LD50

LD50 Oral - rat - 400 - 800 mg/kg

Inhalation LC50 no data available

Dermal LD50

Other information on acute toxicity no data available

Skin corrosion/irritation

Skin - guinea pig - Severe skin irritation

Serious eye damage/eye irritation

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Eyes - rabbit - Severe eye irritation

Respiratory or skin sensitization no data available

Germ cell mutagenicity

Genotoxicity in vitro - Human - lymphocyte

Sister chromatid exchange

Section 12. Ecological information

Not information available.

Section 13-Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a

hazardous waste. US EPA guidelines for the classification.

Determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state

and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed. RCRA U-Series: None listed.

Section 14- Transport Information

DOT (US)

UN-Number: 2823 Class: 8 Packing group: III

Proper shipping name: Crotonic acid

Marine pollutant: No

Poison Inhalation Hazard No

IMDG

UN-Number: 2823 Class: 8 Packing group: III EMS-No: F-A, S-B

Proper shipping name: CROTONIC ACID, SOLID

Marine pollutant: No

IATA

UN-Number: 2823 Class: 8 Packing group: III Proper shipping name: Crotonic acid, solid

Section 15-Regulatory Information

OSHA Hazards

Toxic by ingestion, Corrosive

DSL Status

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

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CAS-No.

trans-Crotonic acid 107-93-7

SARA 302 Components

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

SARA 313 Components

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 311/312 Hazards Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

CAS-No. Revision Date

trans-Crotonic acid 107-93-7

New Jersey Right To Know Components

CAS-No Revision Date

trans-Crotonic acid 107-93-7

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm

Section 16-other information

The Information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assure no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular proposes. In no event shall Henan Techway Chemical Co.,Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Henan Techway Chemical Co.,Ltd has been advised of the possibility of such damages.