

CROTONIC ACID

Safety Data Sheet

Supersedes: 29/07/2024

Revision: 1.2

Revision date: 01/10/2026

SECTION 1: Identification

1.1 Identification

Product form	: Substance
Substance name	: Crotonic acid
CAS No	: 107-93-7
EC/ List No	: 203-533-9
Formula	: C ₄ H ₆ O ₂
Molecular weight	: 86.09 g/mol
Synonyms	: trans-2-Butenoic acid

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

Use of the substance/mixture	: Manufacturing of chemicals, laboratory chemicals.
Relevant identified uses	: Manufacturing uses.

1.3 Details of the supplier of the safety data sheet

Godavari Biorefineries Ltd.
45/47, Somaia bhavan,
Mahatma Gandhi Road,
Fort, Mumbai -400001, INDIA.
T 0091 22 22048272
Email: alka@somaia.com
www.somaia.com

1.4 Emergency telephone Number

Emergency number	: 0091 2423 279308 0091 22 22048272 (Monday – Friday - 09.30 hrs to 18.00 hrs)
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SECTION 2: Hazard(s) identification

GHS classification

2.1 Classification of the substance or mixture

H318	: Causes serious eye damage.
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2.2: GHS labeling

Hazard pictograms (GHS)



GHS05

Signal word (GHS)	: Danger
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Hazard statements (GHS)

H318	: Causes serious eye damage.
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Precautionary Statements:

P280	: Wear protective gloves / protective clothing / eye protection / face protection.
P305+P351+P338	: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310	: Immediately call a POISON CENTER or doctor / physician.

2.3 Other hazards

Other hazards not contributing to the Classification	: No data available.
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2.4 Unknown acute toxicity (GHS)

Not applicable.

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SECTION 3: Composition/Information on ingredients

3.1 Substance

Substance type : Mono-constituent

Name	Product identifier CAS No EC No	Concentration %	GHS classification
Crotonic acid (Main constituent)	107-93-7 203-533-9	Min. 99.00%	Serious eye damage, Category 1, H318

Full text of hazard classes and H-statements: see section 16

3.2 Mixture

None.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information	:	Consult a physician and refer to the safety data sheet.
Inhalation	:	Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.
Skin contact	:	In case of contact with skin, wash off immediately with polyethylene glycol 400, then with plenty of water. If polyethylene glycol is not available, rinse with plenty of water. Consult a doctor if skin irritation persists.
Eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.
Ingestion	:	Call a physician immediately. Do not induce vomiting without medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	:	None reported
Symptoms/injuries after skin contact	:	None reported
Symptoms/injuries after eye contact	:	Risk of serious damage to eyes
Symptoms/injuries after ingestion	:	Vomiting.
Chronic symptoms	:	None reported

4.3 Indication of any immediate medical attention and special treatment needed

Seek medical assistance. Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	water spray jet, carbon dioxide
Unsuitable extinguishing media	:	Foam.

5.2 Special hazards arising from the substance or mixture

Fire hazard	:	Source of combustible material for fire. In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO2)
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| Explosion hazard | : | Organic products which are intentionally or unintentionally in powdered form have, in principle, the possibility of creating a dust explosion hazard. Avoid impact, friction and accumulation of electrostatic charge. Keep away from sources of ignition - refrain from smoking |
| Reactivity | : | No data available. |

5.3 Advice for firefighters

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| Firefighting instructions | : | Firefighters must always wear appropriate protective equipment (helmet, boots, fireproof gloves and positive pressure self-contained breathing apparatus with facial protective screen) |
| Protection during firefighting | : | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA, respiratory protection. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

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|----------------------|---|--|
| Protective equipment | : | Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor.

Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. |
| Emergency procedures | : | Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires. |

6.1.2 For Emergency responders

- | | | |
|----------------------|---|---|
| Protective equipment | : | Equip cleanup crew with proper protection. |
| Emergency procedures | : | Evacuate and isolate the area until complete dispersion of the substance, by limiting access only to trained personnel. |

6.2 Environmental precautions

Retain and dispose of contaminated wash water. Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

6.3 Methods and material for containment and cleaning up

- | | | |
|-------------------------|---|---|
| For containment | : | Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). |
| Methods for cleaning up | : | Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities, clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. |

6.4 Reference to other sections

No additional information available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- | | | |
|-------------------------------|---|--|
| Precautions for safe handling | : | Keep the formation and deposition of dust to a minimum. Provide good ventilation of the working area (local exhaust ventilation if necessary). Organic products which are intentionally or unintentionally in powdered form have, in principle, the possibility of creating a dust explosion hazard. Avoid impact, friction and accumulation of electrostatic charge. Keep away from sources of ignition - refrain from smoking. |
| Hygiene measures | : | Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. |

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7.2 Conditions for safe storage, including any incompatibilities

Incompatible products	:	Strong bases.
Incompatible materials	:	Heat sources. Sources of ignition.
Prohibitions on mixed storage	:	Do not store or transport together with foodstuffs
Storage area	:	Keep the container tightly closed in a cool, well-ventilated place. Keep only in the original container
Special rules on packaging	:	As per Section 14

7.3 Specific end uses

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.1.1 Occupational exposure limits:

Occupational exposure limit values (Workplace Exposure Limits) This information is not available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls : Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment :



Protective goggles.



Gloves.



Protective clothing.

Materials for protective clothing : Nitrile gloves or Butyl rubber Butyl glycollate Type : Butoject (Company KCL) or comparable article; or refer to glove manufacturer's recommendation Evaluation : according to EN 374: level 6 Material thickness : approx 0.3 mm Break through time: 480 min Suitable material: butyl-rubber comparable article;

Eye protection : Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection : Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the 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.

Respiratory protection : If ventilation is insufficient, suitable respiratory protection must be provided.

Thermal hazard protection : Wear appropriate thermal protective clothing, when necessary.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: Flakes
Appearance	: White
Odour	: Characteristic smell.
Colour	: White to off white
pH	: No Data Available.
Melting point / Freezing point	: 70 - 73°C
Initial boiling point/boiling range	: 185°C at 101,325 Pa
Flash Point	: 88 °C (Open cup)
Relative density	: 1,027 g/cm ³ at 25 °C
Relative vapour density at 20°C	: Not determined.
Specific gravity/ density	: No Data Available
Molecular mass	: 86.09 g/mol
Flammability(Solid, Gas)	: No Data Available.
Upper/lower flammability or Explosive limit	: Upper explosion limit: 15,1 %(V) Lower explosion limit: 2,2 %(V)
Solubility	: Soluble in water 94 g/l at 25 °C
Vapor pressure	: 0.25 hPa at 20 °C
Partition coefficient n-octanol/water	: n-octanol/water log Pow: 0,71 at 25 °C
Auto-ignition temperature	: > 400 °C at 1.013 hPa
Decomposition temperature	: No Data Available
Viscosity	: No Data Available.
Oxidizing properties	: No Data Available

9.2 Other information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity	: Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical. The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.
10.2 Chemical Stability	: Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	: Violent reactions possible with: Strong oxidizing agents peroxi compounds alkalines, strong reducing agents
10.4 Conditions to avoid	: Strong heating.
10.5 Incompatible materials	: No Data Available.
10.6 Hazardous decomposition products	: In the event of fire: See section 5

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Likely routes of exposure : Ingestion, Inhalation; Skin and eye contact.

Acute toxicity : Not classified as acutely toxic.

Crotonic acid (107-93-7)

LD50 oral toxicity : 2610 mg/kg (Rat)

LC50 inhalation toxicity : No Data Available

LD50 dermal toxicity : 2000 mg/kg bw (Rat)

Skin irritation : No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/irritation : The substance causes serious eye damage.

Respiratory or skin sensitization : No Data Available

Germ cell mutagenicity : No Data Available

Carcinogenicity : IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity : No Data Available

Specific target organ toxicity (single exposure) : No Data Available

Specific target organ toxicity (repeated exposure) : No Data Available

Aspiration hazard : No Data Available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately. Handle in accordance with good industrial hygiene and safety practice.

11.2 Other hazards

No Data Available.

SECTION 12: Ecological information

12.1 Toxicity

Ecology – general : Based on available data, the test item is not classified for environmental hazards according to Regulation (EC) No 1272/2008

Ecology – air : No Data Available.

Ecology – water : K_{susp-water}: 1.62 (according to EUSES)
 RHO_{susp}: 1150 kg/m³(According to the CSA Guidance document equation R10-2)
 PNEC_{sediment-freshwater}=(K_{susp-water}/RHO_{susp}) * PNEC_{freshwater}*1000
 PNEC_{sediment-freshwater}= (1.62/1150) * 0.031 mg/L * 1000
 PNEC_{sediment-freshwater}= 0.043 mg/kg wwt
 PNEC_{sediment-freshwater}= 0.2008 mg/kg dwt (factor 4.6)
 PNEC_{sediment-marine water}= (K_{susp-water}/RHO_{susp}) * PNEC_{marine-water}*1000
 PNEC_{sediment-marine water}= (1.62/1150) * 0.0031 mg/L * 1000
 PNEC_{sediment-marine water}= 0.0043 mg/kg wwt.

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PNECsediment-marine water= 0.020088 mg/kg dwt (factor 4.6)

PNEC soil

Ksoil-water: 1.07 (according to EUSES)

RHOsoil: 1150 kg/m³(According to the CSA Guidance document equation R10-2)

PNECsoil= (Ksoil-water/RHOsoil) * PNECfreshwater*1000

PNECsoil= (1.07/1150) * 0.031 mg/L * 1000

PNECsoil= 0.0288 mg/kg dwt

PNECsoil= 0.0288 mg/kg soil dwt

Crotonic acid (107-93-7)				
	:	Toxicity to Fish	Toxicity to aquatic invertebrates	Toxicity to Microorganisms
Species		Pimephales promelas (fathead minnow)	Daphnia magna	Algae
Value	:	LC50	EC50	ErC50
Exposure time	:	31 mg/l - 96 h	150 mg/l - 48 h	> 57,5 mg/l - 72 h
Test method: OECD		According to a method similar to the OECD 203	According to a method similar to the OECD 202 guideline	According to a method similar to the OECD 201 guideline

12.2 Persistence and degradability

Crotonic acid (107-93-7)

Persistence and degradability : Aerobic - Exposure time 28 day
Result: 100 % - Readily biodegradable. (OECD Test Guideline 301F)

12.3 Bioaccumulative potential

Crotonic acid (107-93-7)

Log Pow	:	The substance is readily biodegradable, is very water soluble, has a LogPow < 4 and is not expected to bioaccumulate. A potential for bioaccumulation of Crotonic acid is not expected due to the log Pow of 0.85 (no B).
Bioaccumulative potential	:	The study on bioaccumulation in aquatic species, preferably fish, does not need to be conducted because the substance's log Pow of 0.85 indicates a low potential for bioaccumulation.

12.4 Mobility in soil

Crotonic acid (107-93-7)

Surface tension	:	No Data Available.
Ecology – soil	:	No Data Available.

12.5 Results of PBT and vPvB assessment

Regarding all available data on biotic and abiotic degradation, bioaccumulation and toxicity it can be stated that Crotonic acid does neither fulfill the PBT nor the vPvB criteria.

12.6 Other adverse effects

No data available.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste disposal recommendations : Remove and dispose of waste in accordance with applicable local and/or national regulations through an authorized waste management or disposal through an authorized waste incineration facility. Do not discharge waste into drains, soil, water bodies, or the environment. Contaminated packaging shall be handled and disposed of in accordance with applicable regulations.

SECTION 14 : TRANSPORT INFORMATION

Marine transport (IMDG)

UN/ID No. : UN 2823
 Proper shipping name : Crotonic acid, solid
 Hazard Class : 8
 Subsidiary Risk : -
 Packing group : III
 Marine pollutant : -
 Hazard Labels : 
 EMS Code : F-A, S-B

Air transport ICAO/IATA

UN number : UN 2823
 Proper shipping name : Crotonic acid, solid
 Hazard Class : 8
 Subsidiary Risk : -
 Packing group : III
 Hazard Labels : 

Department of Transportation (DOT)

UN number : UN 2823
 Proper shipping name and description : Crotonic acid, solid
 Class : 8
 Packaging group : III
 Reportable Quantity (RQ) : -
 Poison Inhalation Hazard : -
 Hazard labels : 

SECTION 15: Regulatory information

15.1 National regulations

Country/State of regulations	National Inventories	Listing
US Federal Regulations	TSCA	Listed
Japan	Existing Chemical Substances	Listed
EU	ECSI	Listed
New Zealand	NZIoC	Listed
China	IECSC	Listed

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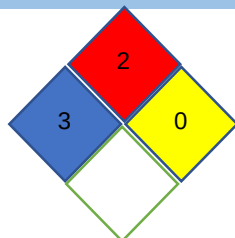
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SECTION 16: Other information

16.1 Hazard Statement

H318 : Causes serious eye damage.

16.2 NFPA Rating



16.3 Abbreviations and acronyms

PBT =Persistent Bioaccumulative and Toxic
 vPvB= Very Persistent and Very Bioaccumulative
 SCBA= Self Contained Breathing Apparatus
 NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit
 OSHA PEL=Occupational Safety and Health Administration Permissible Exposure Limit
 OELTWA= Occupational Exposure Limit Time Weighted Averages
 IDLH= Immediately Dangerous to Life or Health
 UEL= Upper Explosive Limit
 LEL= Lower Explosive Limit
 RTECS= Registry of Toxic Effects of Chemical Substances
 NTP=National Toxicology Programm
 IARC= International Agency for Research on Cancer
 EPA=Environmental Protection Agency
 TSCA= Toxic Substances Control Act
 NFPA= National Fire Protection Association
 CSR=Chemical Safety Report
 BCF = Bio Concentration Factor
 DNEL = Derived No Effect Level
 PNEC = Predicted No Effect Concentration
 TLV = Threshold Limit Value
 ACGIH = American Conference of Governmental Industrial Hygienist
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 CLP = Classification, Labelling and Packaging
 LD / LC = Lethal Doses / Lethal Concentration
 GHS = Globally Harmonised System
 ADR = Accord europeen relative au transport international de marchandises
 IMDG-Code = International Maritime Code for Dangerous Goods
 EmS = Emergency measures on Sea

16.4 Further information:

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