

CROTONIC ANHYDRIDE

Safety Data Sheet

Supersedes: 02/05/2022

Revision: 1.2

Revision date: 12/12/2023

SECTION 1: Identification

1.1 Identification

Product form	:	Substance
Substance name	:	Crotonic Anhydride
CAS No	:	78957-07-0
EC/ List No	:	629-639-9
Formula	:	C ₈ H ₁₀ O ₃
Molecular weight	:	154.16 g/mol
Synonyms	:	Trans-crotonic anhydride, Trans-2-Butenoic anhydride

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

Use of the substance/mixture	:	Manufacture of substances, Laboratory chemicals
Relevant identified uses	:	Intermediate
Uses advised against:	:	Not known

1.3 Details of the supplier of the safety data sheet

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

Skin corrosion (Category 1B), H314
Causes skin irritation (Category 2), H315
Serious eye damage/eye irritation (Category 1), H318
May cause respiratory irritation (Category 3), H335

2.2 GHS labeling

Hazard pictograms (GHS)



GHS 05



GHS 07

Signal word (GHS)

: Danger

Hazard statements (GHS)

: H315 - Causes skin irritation (Category 2),
H-318 - Causes serious eye damage/eye irritation (Category 1),
H335 - May cause respiratory irritation (Category 3),

Precautionary statements (GHS)

: P264 - Wash skin thoroughly after handling.
: P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
: P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
: P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all

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contaminated clothing. Rinse skin with water/ shower.

- : P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position Comfortable for breathing.
- : P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- : P310 - Immediately call a POISON CENTER / doctor
- : None

Supplemental Hazard information:

2.3 Other hazards

Not available.

2.4 Unknown acute toxicity (GHS US)

Not applicable.

SECTION 3: Composition/Information on ingredients

3.1 Substance

Name	Product Identifier CAS No. EC No.	Concentration %	GHS Classification
Crotonic Anhydride	78957-07-0 629-639-9	Minimum 97	Skin Corr. 1B; Eye Dam. 1; H314

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

3.2. Mixture

Not applicable.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General information** : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
- Inhalation : Keep at rest. Move to fresh air. Call a physician immediately.
- Skin contact : Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Obtain medical attention.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately
- Ingestion : If swallowed give 1-2 glasses of water to drink immediately. Call a physician immediately. DO NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Water spray, alcohol-resistant foam, dry chemical or carbon dioxide
- Unsuitable extinguishing media : Solid water stream

5.2 Special hazards arising from the substance or mixture

Under conditions giving incomplete combustion, hazardous gases produced may consist of carbon monoxide, carbon dioxide (CO₂). Combustion gases of organic materials must in principle be graded as inhalation poisons.

Hazardous combustion products : Carbon monoxide (CO) Carbon dioxide (CO₂)

5.3 Advice for firefighters

Firefighting instructions : Use self-contained breathing apparatus. Wear protective clothing.

5.4 Additional information

No data available.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with the skin and the eyes. Keep away from heat and sources of ignition. Provide adequate ventilation.

6.2 Environmental precautions

Prevent further leakage or spillage. Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling : Avoid inhalation of vapour or mist. Normal measures for preventive fire protection. For precautions see section 2.2

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage and exposure to moisture.

7.3 Specific end uses

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.1.1 Occupational exposure limits:

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

8.2.1 Appropriate engineering controls : General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems

8.2.2 Personal protective equipment:

General Advice : Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Use only in an area equipped with a safety shower. Hold eye wash fountain available.

Personal protective equipment :



Protective goggles. Gloves. Protective clothing. Face shield. Gas mask with filter.

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Hygiene Measures	:	When using, do not eat, drink or smoke Take off all contaminated clothing immediately Wash hands before breaks and immediately after handling the product
Eye/face protection	:	Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face. Equipment should conform to NIOSH (US) or EN 166.
Skin/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.
Body protection:	:	Impervious clothing
Respiratory protection	:	Respirator with ABEK filter. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus. Equipment should conform to NIOSH (US) or CEN (EU).
Environmental exposure controls	:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Colour	:	Colourless to yellowish
Odour	:	No Data Available
pH	:	No Data Available
Melting point	:	No Data Available
Freezing point	:	No Data Available
Initial boiling point/boiling range	:	248 °C
Flash Point	:	93.4 °C – closed cup
Relative evaporation rate	:	No Data Available
Relative density	:	1.04 g/cm ³ at 25 °C
Relative vapour density at 20°C	:	No Data Available
Specific gravity/ density	:	No Data Available
Molecular mass	:	154.16 g/mol
Flammability(Solid, Gas)	:	No Data Available
Upper/lower flammability or Explosive limit	:	No Data Available
Solubility	:	No Data Available
Vapor pressure	:	No Data Available
Vapour density	:	No Data Available
Evaporation Rate	:	No Data Available
Partition coefficient n-octanol/water	:	log Pow: 3.63 at 20°C
Auto-ignition temperature	:	No Data Available
Decomposition temperature	:	No Data Available
Viscosity	:	No Data Available
Explosive Limits	:	No Data Available
Oxidizing properties	:	No Data Available

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9.2 Other information

No additional data Available

SECTION 10: Stability and reactivity

10.1 Reactivity	:	Stable if protected from heat and exposure to air.
10.2 Chemical Stability	:	No decomposition if used as directed
10.3 Possibility of hazardous reactions	:	No Data Available
10.4 Conditions to avoid	:	Avoid any source of ignition. Avoid contact with heat, sparks, open flame, and static discharge.
10.5 Incompatible materials	:	Strong Oxidizing agents, Peroxides, Acids and bases
10.6 Hazardous decomposition products	:	Carbon oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	:	No data available.
Skin corrosion/irritation	:	No data available.
Eye irritation	:	No data available.
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. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Teratogenicity	:	No data available.
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.
Signs and Symptoms of Exposure	:	Not data available
Synergistic effects	:	Not data available

SECTION 12: Ecological information

12.1 Toxicity

Toxicity	:	Rat LD50 (oral) 2830 mg/kg
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12.2 Persistence and degradability

No data available

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12.3 Bio accumulative potential

No Data Available

12.4 Mobility in soil

No Data Available

12.5 Results of PBT and vPvB assessment

No Data Available

12.6 Other adverse effects

No Data Available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product disposal** : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
- Packaging:** : Dispose of as unused product.

SECTION 14: Transport Information

Marine transport (IMDG)

- UN/ID No : UN 3265
- Proper Shipping Name: : Corrosive liquid, acidic, organic, n.o.s. (Crotonic anhydride)
- Class : 8
- Packing group : III
- Hazard identification Number : 80
- EMS Code : F-A, S-B
- Marine Pollutant : No

Air transport ICAO/IATA

- UN/ID No : UN 3265
- Proper Shipping Name: : Corrosive liquid, acidic, organic, n.o.s. (Crotonic anhydride)
- Class : 8
- Packing group : III
- Hazard Labels : 8
- Environmentally hazardous : No

D.O.T. (49CFR)

- UN/ID No : UN 3265
- Proper Shipping Name: : Corrosive liquid, acidic, organic, n.o.s. (Crotonic anhydride)
- Class : 8
- Packing group : III
- Reportable Quantity (RQ) : Not applicable
- Poison Inhalation Hazard : No
- Marine Pollutant : No
- Hazard labels (DOT) : 8 - Corrosive liquid



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SECTION 15: Regulatory information

15.1 National regulations

Country	National Inventories	Listing
CANADA	NDSL	Not Listed
JAPAN	ENCS	Not Listed
PHILIPPINES	PICCS	Listed
SOUTH KOREA	KECL	Not Listed
USA	TSCA	Not Listed
EUROPE	EINECS	Not Listed

15.2 Chemical Safety Assessment

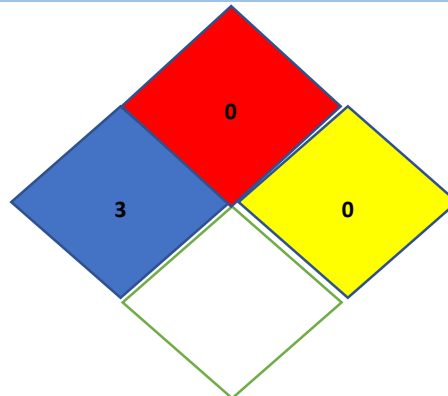
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

16.1 Hazard Statement

H 318 : Causes severe skin burns and 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

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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
ICAO = International Civil Aviation Organization
IATA/DGR= International Air Transport Association/Dangerous Goods Regulation

16.4 Further information:

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