

ETHYL CROTONATE

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	:	Ethyl Crotonate
CAS No	:	623-70-1
EC/ List No	:	210-808-7
Formula	:	C ₆ H ₁₀ O ₂
Molecular weight	:	114.14 g/mol
Synonyms	:	2-Butenoic acid, ethyl ester; But-2-enoate, ethyl; Crotonic acid, ethyl ester

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

Use of the substance/mixture	:	Laboratory chemicals, Manufacture of substances
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.
T 0091 22 22048272
Email: alka@somaiya.com
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

Flammable liquid (Category 2)	:	H225
Eye irritation (Category 2A)	:	H319

2.2: GHS labeling

Hazard pictograms (GHS)



GHS 02



GHS 07

Signal word (GHS) : Danger

Hazard statements (GHS) : H225 - Highly flammable liquid and vapour.
H319 - Causes serious eye irritation.

Precautionary statements (GHS)

P210	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	:	Keep container tightly closed.

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P240	:	Ground/bond container and receiving equipment
P241	:	Use explosion-proof electrical/ventilating/lighting equipment
P242	:	Use only non-sparking tools.
P243	:	Take precautionary measures against static discharge.
P264	:	Wash skin thoroughly after handling.
P280	:	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	:	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305 + P351 + P338	:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	:	If eye irritation persists: Get medical advice/ attention.
P370 + P378	:	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P235	:	Store in a well-ventilated place. Keep cool.
P501	:	Dispose of contents/ container to an approved waste disposal plant
Supplemental Hazard information:	:	None.

2.3 Other hazards

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 Lachrymator.

2.4 Unknown acute toxicity (GHS)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1 Substance

Name	Product identifier CAS No. EC No.	Concentration %	GHS classification
Ethyl Crotonate	623-70-1 210-808-7	≥99	Flam. Liq. 2, H225 Eye Irrit. 2, H319

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

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	:	Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.
Skin contact	:	Change contaminated, saturated clothing. Water After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician. Do not wash with: Solvents/Thinner
Eye contact	:	Rinse immediately carefully and thoroughly with eye-bath or water. Call a physician immediately.
Ingestion	:	If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting..

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4.2 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)

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, Extinguishing powder, carbon dioxide
Unsuitable extinguishing media : Strong water jet

5.2. Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

Firefighting instructions : As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

5.4 Additional information

No data available.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

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 contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

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.

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end uses

No data available.

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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

Appropriate engineering controls

- : Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas

Personal protective equipment



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

Eye/face protection

- : Eye glasses with side protection

Skin protection:

- : Handle with gloves. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Hand protection

Body protection:

- : Impervious protecting clothing,

Respiratory protection

- : Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.

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
Color	: Colorless to light yellow
pH	: Not data available
Melting Point/ Freezing point	: No data available
Initial boiling point/boiling range	: 142- 143 °C
Flash Point:	: 2 °C – closed cup
Relative vapor density:	: 3.94(Air =1)
Relative density:	: 0.918 g/cm ³ at 25 °C
Partition Coefficient n-octanol/water:	: No data available
Auto-ignition temperature	: No data available
Viscosity	: No data available
Decomposition temperature:	: No data available

9.2 Other information

No data available.

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SECTION 10: Stability and reactivity

- | | | |
|--|---|--|
| 10.1 Reactivity | : | The product is stable and non-reactive under normal conditions of use, storage and transport |
| 10.2 Chemical Stability | : | Stable under recommended storage conditions. |
| 10.3 Possibility of hazardous reactions | : | Violent reactions possible with: Strong oxidizing agents, Bases, & acids. |
| 10.4 Conditions to avoid | : | Heat, flames and sparks. Extremes of temperature and direct sunlight. |
| 10.5 Incompatible materials | : | Strong Oxidizing agents. |
| 10.6 Hazardous decomposition products | : | Carbon monoxide (CO), Carbon dioxide (CO ₂) |

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- | | | |
|--|---|--|
| Acute oral toxicity LD50 | : | Rat - 3.000 mg/kg |
| Acute dermal toxicity | : | Guinea pig - > 5.000 mg/kg |
| Eye damage/irritation | : | Rabbit, Classification: Severe eye irritation |
| 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 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 on OSHA's list of regulated carcinogens. |
| Teratogenicity | : | No data available |
| Reproductive toxicity | : | No data available |
| Specific target organ toxicity (single exposure) | : | Acute oral toxicity - Nausea, Vomiting, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Headache |
| Specific target organ toxicity (repeated exposure) | : | No data available |
| Aspiration hazard | : | No data available |
| Signs and Symptoms of Exposure | : | Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. |
| Synergistic effects | : | No data available |

SECTION 12: Ecological information

Do not empty into drains. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

12.1 Toxicity

Toxicity

- | | | |
|-----------|---|-------------------|
| Crustacea | : | No data available |
| Algae | : | No data available |

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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 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** : Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
- Packaging** : Dispose of as unused product.

SECTION 14 : TRANSPORT INFORMATION

Marine transport (IMDG)

- UN number : 1862
- Proper shipping name and description : Ethyl Crotonate
- Class : 3
- Packaging group : II
- Hazard Identification Number : 33
- EmS code : F-E, S-D
- Marine pollutant : No

Air transport ICAO/IATA

- UN number : 1862
- Proper shipping name and description : Ethyl Crotonate
- Class : 3
- Packaging group : II
- Hazard Labels : 3
- Environmentally hazardous : No

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Department of Transportation (DOT)

UN number : 1862
 Proper shipping name and description : Ethyl Crotonate
 Class : 3
 Packaging group : II
 Reportable Quantity (RQ) : Not applicable
 Poison Inhalation Hazard : No
 Hazard labels (DOT) :



3 - Flammable liquid

SECTION 15: Regulatory information

15.1 National regulations

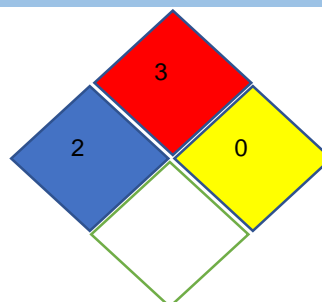
Country	National Inventories	Listing
AU	AICS	Listed
CA	DSL	Listed
CN	IECSC	Listed
JP	CSCL-ENCS	Listed
MX	INSQ	Listed
NZ	NZIoC	Listed
PH	PICCS	Listed
TW	TCSI	Listed
US	TSCA	Listed

SECTION 16: Other information

16.1 Hazard Statement

H225 : Highly flammable liquid and vapour
 H319 : Causes serious eye irritation

16.2 NFPA Rating



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

16.4 Further information:

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and Godavari Biorefineries Ltd. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application