METHYL 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	:	Methyl Crotonate
CAS No	:	623-43-8
EC/ List No	:	210-793-7
Formula	:	$C_5H_8O_2$
Molecular weight	:	100.12 g/mol
Synonyms	:	2-Butenoic acid, methyl 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)

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	Flammable liquids (Category 2)
		H319	Eye irritation (Category 2A)

Precautionary statements (GHS)

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

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.

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
Methyl Crotonate	623-43-8 210-793-7	Minimum 98	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 at least 15 min. Call a physician immediately.
Ingestion	:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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) and/or in section 11

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	:	Dry powder and dry sand
Unsuitable extinguishing media	:	Do not use Strong water jet

5.2 Special hazards arising from the substance or mixture

Fire hazard	:	No data Available
Hazardous combustion products	:	Carbon dioxide (CO_2) Carbon monoxide (CO)oxide

5.3 Advice for firefighters

Firefighting instructions	:	Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Additional information

Not 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.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

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

Personal protective equipment	:	 Protective goggles. Gloves. Protective clothing. Face shield. Gas mask with filter.
Eye/face 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 protection: 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. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
Body protection:	:	Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection	:	Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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).
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	:	Clear, Liquid
Colour	:	Colourless
Odour	:	No data available
pH	:	No Data Available
Melting point	:	2 °C – closed cup
Freezing point	:	No Data Available
Initial boiling point/boiling range	:	118 - 120 °C @ 760 mm Hg.
Flash Point	:	-1 °C - closed cup
Relative evaporation rate	:	No Data Available
Relative density	:	No Data Available
Relative vapour density at 20°C	:	No Data Available
Specific gravity/ density	:	0.944 g/cm^3 at 25 °C
Molecular mass	:	100.12 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	:	3.46 (Air = 1)

Evaporation Rate	:	No Data Available
Partition coefficient n-octanol / water	:	No Data Available
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

9.2 Other information

No Data Available.

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	:	Vapours may form explosive mixture with air.
10.4 Conditions to avoid	:	Heat, flames and sparks.
10.5 Incompatible materials	:	Strong oxidizing agents, acids, bases
10.6 Hazardous decomposition products	:	Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available. In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity LD50	:	Species: Rat - > 3200 mg/kg
Acute dermal toxicity LD50	:	Species: Rabbit - > 5.000 mg/kg
Eye damage/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.
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
Synergistic effects	:	No data available

SECTION 12: Ecological information

12.1 Toxicity

No Data Available.

12.2 Persistence and degradability

No Data Available.

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 : 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 : 1993
Proper shipping name and description: Flammable Liquids (N.O.S.) : Methyl Crotonate
Class : 3
Packaging group : II

Air transport ICAO/IATA :
UN number : 1993
Proper shipping name and description: Flammable Liquids (N.O.S.) : Methyl Crotonate
Class : 3
Packaging group : II

Marine transport (IMDG) :
UN number : 1993
Proper shipping name and description: Flammable Liquids (N.O.S.) : Methyl Crotonate
Class : 3
Packaging group : II

Environmental hazards : No

special precautions for user : No data available

SECTION 15: Regulatory information

15.1 National regulations

Country	National Inventories	Listing
AUSTRALIA	AICS	Listed
CANADA	DSL	Listed
CHINA	IECSC	Listed
JAPAN	ENCS	Listed
PHILIPPINES	PICCS	Listed
SOUTH KOREA	KECL	Listed
USA	TSCA	Listed

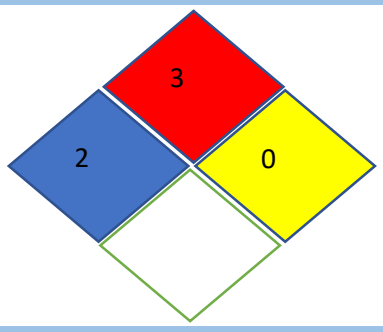
SECTION 16: Other information

16.1 Hazard Statement

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

16.2 NFPA Rating

:



16.4 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 Adminstration 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
LD / LC = Lethal Doses / Lethal Concentration
GHS = Globally Harmonised System
IMDG-Code = International Maritime Code for Dangerous Goods

16.4 Further information:

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