



## MATERIAL SAFETY DATA SHEET

### Methyl Crotonate

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Methyl Crotonate

**SYNONYM:** trans-2-Butenoic acid methyl ester

**MOLECULAR FORMULA:** C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>

**MOLECULAR WEIGHT:** 100.12 g/mol

**CREATION DATE:** Mar 02 2007

**CONTACT PERSON:**

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**REVISION DATE:** Jan 13 2016

#### 2. HAZARDS IDENTIFICATION

**Warning! Flammable liquid and vapor.** Causes eye, skin, and respiratory tract irritation.

**Target Organs:** None.

##### Potential Health Effects

**Eye:** Causes eye irritation.

**Skin:** Causes moderate skin irritation.

**Ingestion:** May cause irritation of the digestive tract.

**Inhalation:** Causes respiratory tract irritation. Vapors may cause dizziness or suffocation.

**Chronic:** No information found.

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### 3. COMPOSITION, INFORMATION ON INGREDIENTS

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CAS No.	EC No.	Chemical Name	Percent
623-43-8	210-793-7	Methyl Crotonate	>98

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### 4. FIRST AID MEASURES

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**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Treat symptomatically and supportively.

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### 5. FIRE FIGHTING MEASURES

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**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water.

Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Use agent most appropriate to extinguish fire. Do NOT use straight streams of water.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 2; Instability: 0

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## 6. ACCIDENTAL RELEASE MEASURES

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**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

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## 7. HANDLING AND STORAGE

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**Handling:** Wash thoroughly after handling. Use only in a well-ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**OSHA Vacated PELs:** trans-Methyl crotonate: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

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**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical State:</b>	Liquid
<b>Appearance:</b>	Colorless Liquid
<b>Odor:</b>	None reported
<b>pH:</b>	Not available
<b>Flash Point:</b>	-1 °C – Closed cup
<b>Vapor Pressure:</b>	Not available
<b>Vapor Density:</b>	Not available
<b>Evaporation Rate:</b>	Not available
<b>Viscosity:</b>	Not available
<b>Boiling Point:</b>	118.0 - 120.0 deg C @ 760.00m
<b>Freezing/Melting Point:</b>	Not available
<b>Decomposition Temperature:</b>	Not available
<b>Solubility:</b>	Immiscible with water
<b>Relative Density:</b>	0.9440g/cm <sup>3</sup> at 25 °C

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## 10. STABILITY AND REACTIVITY

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**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, ignition sources, excess heat, strong oxidants.

**Incompatibilities with Other Materials:** Strong oxidizing agents, acids, bases, heat.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.

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## 11. TOXICOLOGICAL INFORMATION

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**RTECS#:**

**CAS# 623-43-8:** GQ5710000

**LD50/LC50:**

**CAS# 623-43-8:**

Dermal, guinea pig: LD50 = 10 mL/kg;

Draize test, rabbit, skin: 500 mg/24H Moderate;

Oral, mouse: LD50 = 1600 mg/kg;

Oral, rat: LD50 = >3200 mg/kg;

Skin, rabbit: LD50 = >5 gm/kg;

**Carcinogenicity:**

CAS# 623-43-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Mutagenicity:** No information available.

**Neurotoxicity:** No information available.

**Other Studies:**

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## 12. ECOLOGICAL INFORMATION

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No information available.

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## 13. DISPOSAL CONSIDERATIONS

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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.

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## 14. TRANSPORT INFORMATION

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	US DOT	Canada TDG
<b>Shipping Name:</b>	FLAMMABLE LIQUIDS, N.O.S.	No information available.
<b>Hazard Class:</b>	3	
<b>UN Number:</b>	UN1993	
<b>Packing Group:</b>	II	

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## 15. REGULATORY INFORMATION

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**US FEDERAL****TSCA**

CAS# 623-43-8 is listed on the TSCA inventory.

**Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

**Section 313** No chemicals are reportable under Section 313.

**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 623-43-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

**California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations****European Labeling in Accordance with EC Directives****Hazard Symbols:**

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**Risk Phrases:**

R 11 Highly flammable.

**Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.

S 33 Take precautionary measures against static discharges.

S 9 Keep container in a well-ventilated place.

**WGK (Water Danger/Protection)**

CAS# 623-43-8: 1

**Canada - DSL/NDSL**

CAS# 623-43-8 is listed on Canada's NDSL List.

**Canada - WHMIS**

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products

Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

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**16. OTHER INFORMATION**

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The information in this safety data sheet is based on data and samples provided. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes.

The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. Godavari Biorefineries Limited does not guarantee the accuracy or exhaustiveness of the information provided.