



# MATERIAL SAFETY DATA SHEET

## Crotonic Anhydride

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Crotonic Anhydride

**SYNONYM:** 2-Butenoic Acid Anhydride

**MOLECULAR FORMULA:** C<sub>8</sub>H<sub>10</sub>O<sub>3</sub>

**MOLECULAR WEIGHT:** 154.16 g/mol

**CREATION DATE:** Mar 02 2007

**CONTACT PERSON:**

Mr. S.G.Mokashi  
Godavari Biorefineries Ltd.  
45-47, Somaiya Bhavan  
M.G.Road, P.O.Box384  
Fort, Mumbai 400001  
Tel: 0091 22 22048272  
Fax: 0091 22 22047297

**REVISION DATE:** Jan 13 2016

### 2. HAZARDS IDENTIFICATION

#### Acute Health Effects;

Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

#### Chronic Health Effects

**CARCINOGENIC EFFECTS:** Not available.

**MUTAGENIC EFFECTS:** Not available.

**TERATOGENIC EFFECTS:** Not available.

**DEVELOPMENTAL TOXICITY:** Not available.

Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

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### 3. COMPOSITION, INFORMATION ON INGREDIENTS

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CAS No.	Chemical Name	Percent
78957-07-0	Crotonic Anhydride	>98

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### 4. FIRST AID MEASURES

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**Eye Contact:** Check for and remove any contact lenses. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.

**Skin Contact:** If the chemical gets spilled on a clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.

**Inhalation:** Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. **WARNING:** It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

**Ingestion:** INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

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### 5. FIRE FIGHTING MEASURES

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**Flammability:** Combustible.

**Auto-Ignition:** Not available

**Flash Points:** 93.4 °C – Closed cup

**Flammable Limits:** Not available

**Combustion Products:** These products are toxic carbon oxides (CO, CO 2)

**Fire Hazards:** No specific information is available regarding the flammability of this compound in the presence of various materials.

**Explosion Hazards:**

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

No additional information is available regarding the risks of explosion.

**Fire Fighting Media and Instructions:**

SMALL FIRE: Use DRY chemicals, CO2, water spray or foam.

LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Spill Cleanup Instructions:** Corrosive liquid.

Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.

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## 7. HANDLING AND STORAGE

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**Handling and Storage Information:**

CORROSIVE. MOISTURE SENSITIVE. Keep container dry. Keep away from heat and sources of ignition. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. Do not breathe gas, fumes, vapor or spray. Avoid contact with eyes. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Treat symptomatically and supportively.

Always store away from incompatible compounds such as oxidizing agents, acids, alkalis (bases), moisture.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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**Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

**Personal Protection:** Face shield. Lab coat. Vapor respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical state @ 20°C:</b>	Yellow liquid
<b>Solubility:</b>	Soluble in diethyl ether
<b>Specific Gravity:</b>	1.04 g/cm <sup>3</sup> at 25 °C
<b>Partition Coefficient:</b>	Not available
<b>Boiling Point:</b>	248 °C (478.4°F)
<b>Flash Point:</b>	93.4 °C – Closed cup
<b>Vapor Pressure:</b>	Not available
<b>Melting Point:</b>	Not available
<b>Vapor Density:</b>	Not available
<b>Refractive Index:</b>	Not available
<b>Volatility:</b>	Not available
<b>Critical Temperature:</b>	Not available
<b>Viscosity:</b>	Not available

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## 10. STABILITY AND REACTIVITY

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**Stability:** This material is stable if stored under proper conditions. (See Section VII for instructions)

**Conditions of Instability:** Moisture sensitive. May decompose on exposure to moist air or water. Avoid excessive heat and light.

**Incompatibilities:** Reactive with oxidizing agents, acids, alkalis (bases), moisture.

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## 11. TOXICOLOGICAL INFORMATION

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RTECS Number: GQ6125000

Routes of Exposure: Eye contact. Inhalation. Ingestion. Skin contact.

Toxicity Data: Rat LD50 (oral) 2830 mg/kg

### Chronic Toxic Effects

**CARCINOGENIC EFFECTS :** Not available.

**MUTAGENIC EFFECTS :** Not available.

**TERATOGENIC EFFECTS :** Not available.

**DEVELOPMENTAL TOXICITY:** Not available.

Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

### Acute Toxic Effects:

Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

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## 12. ECOLOGICAL INFORMATION

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**Ecotoxicity:** Not available.

**Environmental Fate:** Not available.

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### 13. DISPOSAL CONSIDERATIONS

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**Waste Disposal:** Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of this substance.

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### 14. TRANSPORT INFORMATION

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DOT Classification DOT CLASS 8: Corrosive liquid.

PIN Number UN3265

Proper Shipping Name Corrosive liquid, acidic, organic, n.o.s.

Packing Group (PG) II

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### 15. REGULATORY INFORMATION

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**TSCA Chemical Inventory (EPA):** This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list.

**WHMIS Classification (Canada):** WHMIS CLASS E: Corrosive liquid.

**EINECS Number (EEC);** Not available.

**EEC Risk Statements:** R35- Causes severe burns.  
R41- Risk of serious damage to eyes.

**Japanese Regulatory Data;** Not available.

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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.