



MATERIAL SAFETY DATA SHEET

Ethyl-3-Aminocrotonate

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Ethyl-3-Aminocrotonate

SYNONYM: Ethyl-3-amino-2-butenate

MOLECULAR FORMULA: C₆H₁₁NO₂

MOLECULAR WEIGHT: 129.16 g/mol

CREATION DATE: Mar 02 2007

CONTACT PERSON:

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REVISION DATE: Jan 13 2016

2. HAZARDS IDENTIFICATION

Hazard Symbols: C

Risk Phrases: 34

EMERGENCY OVERVIEW

Danger! Corrosive. Lachrymator (substance which increases the flow of tears). The toxicological properties of this material have not been fully investigated. Causes eye and skin burns. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Target Organs: No data found.

POTENTIAL HEALTH EFFECTS

EYE: Causes eye burns. Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. Lachrymator (substance which increases

the flow of tears). May cause chemical conjunctivitis and corneal damage.

Skin: Causes skin burns. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. The toxicological properties of this substance have not been fully investigated. May cause systemic effects.

Inhalation: May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract. The toxicological properties of this substance have not been fully investigated. Aspiration may lead to pulmonary edema. May cause systemic effects.

Chronic: Effects may be delayed.

3. COMPOSITION, INFORMATION ON INGREDIENTS

CAS No.	EC No.	Chemical Name	Percent
7318-00-5	230-782-0	Ethyl-3-Aminocrotonate	>98

4. FIRST AID MEASURES

Eyes: Get medical aid. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

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

Ingestion: Do not induce vomiting. 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. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

5. FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Auto-ignition Temperature: Not applicable.

Flash Point: 97 deg C (206.60 deg F)

Explosion Limits:

Lower: Not available

Explosion Limits:

Upper: Not available

NFPA Rating: health: 3; flammability: 1; instability: 0;

6. ACCIDENTAL RELEASE MESAURES

General

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

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, and then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

7. HANDLING AND STORAGE

Handling:

Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Do not breathe dust, mist, or vapor. Keep container tightly closed. Avoid ingestion and inhalation. Discard contaminated shoes.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethyl-3-Aminocrotonate	none listed	none listed	none listed

OSHA Vacated PELs: Ethyl 3-Aminocrotonate: None listed

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.

Exposure Limits

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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Semi Solid
Color:	after melting, clear colorless
pH:	Not available
Vapor Pressure:	Not available
Vapor Density:	Not available
Evaporation Rate:	Not available
Viscosity:	Not available
Boiling Point:	210-215 deg C @ 760.00mm Hg
Flash Point:	97 °C (206.60 °F)

Freezing/Melting Point: 33.00 - 35.00 deg C

Solubility in water: Not available

Relative Density: 1.022 g/cm³

10. CHEMICAL STABILITY

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, dust generation, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, oxides of nitrogen, oxides of nitrogen, carbon dioxide.

Hazardous Polymerization: Has not been reported.

11. TOXICOLOGY INFORMATION

RTECS#: CAS# 7318-00-5: None listed

LD50/LC50: RTECS: Not available.

Carcinogenicity: Ethyl 3-Aminocrotonate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

12. ECOLOGY INFORMATION

Not available

13. DISPOSAL CONSIDERATION

Dispose of in a manner consistent with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

US DOT

Hazard Class: 8

UN Number: UN3267

Packing Group: III

Canada TDG

Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

15. REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 34 Causes burns.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

S 28A After contact with skin, wash immediately with plenty of water.

S 37 Wear suitable gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 7318-00-5: Not available

Canada

Canadian WHMIS Classifications: E

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.

CAS# 7318-00-5 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 7318-00-5 is not listed on the TSCA Inventory. It is for research and development use only.

16. OTHER INFORMATION

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.