

ALFAAL03816

## 3-(Trifluoromethyl)crotonic acid

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明:  
Product Description: 3-(三氟甲基)丁烯酸  
3-(Trifluoromethyl)crotonic acid

Cat No. : L03816  
CAS No 69056-67-3  
Molecular Formula C5 H5 F3 O2

Supplier Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
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United Kingdom  
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**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.  
Uses advised against No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
Solid Low melting solid

**Appearance**  
White

**Odor**  
pungent

**Emergency Overview**  
Causes severe skin burns and eye damage.

#### Classification of the substance or mixture

|                                   |              |
|-----------------------------------|--------------|
| Skin Corrosion/Irritation         | Category 1 C |
| Serious Eye Damage/Eye Irritation | Category 1   |

#### Label Elements



Signal Word **Danger**

Hazard Statements  
H314 - Causes severe skin burns and eye damage

**Precautionary Statements****Prevention**

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response**

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

P362 + P364 - Take off contaminated clothing and wash it before reuse

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**

None identified.

**Health Hazards**

Corrosive. Causes skin and eye burns.

**Environmental hazards**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

This product does not contain any known or suspected endocrine disruptors.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Component                        | CAS No     | Weight % |
|----------------------------------|------------|----------|
| 3-(Trifluoromethyl)crotonic acid | 69056-67-3 | <=100    |

**SECTION 4. FIRST AID MEASURES****General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Keep eye wide open while rinsing.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Ingestion**

Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects**

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Self-Protection of the First Aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Notes to Physician**

Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

The product causes burns of eyes, skin and mucous membranes. Combustible material. Containers may explode when heated.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**

Should not be released into the environment. Do not allow material to contaminate ground water system. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Remove all sources of ignition.

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7. HANDLING AND STORAGE****Handling**

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

**Storage**

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control Parameters**

## 3-(Trifluoromethyl)crotonic acid

**Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust MDHS70 General methods for sampling airborne gases and vapours

**Exposure Controls****Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

**Personal protective equipment**

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time                 | Glove thickness | EU standard | Glove comments        |
|----------------|-----------------------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers recommendations | -               | EN 374      | (minimum requirement) |
| Butyl rubber   |                                   |                 |             |                       |
| Nitrile rubber |                                   |                 |             |                       |
| Neoprene       |                                   |                 |             |                       |
| PVC            |                                   |                 |             |                       |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Long sleeved clothing

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particulates filter conforming to EN 143

**Small scale/Laboratory use** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141  
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance** White  
**Physical State** Solid Low melting solid

**Odor** pungent  
**Odor Threshold** No data available  
**pH** No information available

## 3-(Trifluoromethyl)crotonic acid

|  |   |  |
|--|---|--|
| <b>Melting Point/Range</b>                     | 28 - 30 °C / 82.4 - 86 °F                                   |  |
| <b>Softening Point</b>                         | No data available   |  |
| <b>Boiling Point/Range</b>                     | 158 - 163 °C / 316.4 - 325.4 °F                             |  |
| <b>Flash Point</b>                             | 79 °C / 174.2 °F  | <b>Method</b> - No information available |
| <b>Evaporation Rate</b>                        | Not applicable  | Solid                                    |
| <b>Flammability (solid,gas)</b>                | No information available                                    |  |
| <b>Explosion Limits</b>                        | No data available   |  |
| <b>Vapor Pressure</b>                          | No data available   |  |
| <b>Vapor Density</b>                           | Not applicable  | Solid                                    |
| <b>Specific Gravity / Density</b>              | 1.318 g/cm <sup>3</sup>                                     | @ 20 °C                                  |
| <b>Bulk Density</b>                            | No data available   |  |
| <b>Water Solubility</b>                        | No information available                                    |  |
| <b>Solubility in other solvents</b>            | No information available                                    |  |
| <b>Partition Coefficient (n-octanol/water)</b> |   |  |
| <b>Autoignition Temperature</b>                | No data available   |  |
| <b>Decomposition Temperature</b>               | No data available   |  |
| <b>Viscosity</b>                               | Not applicable  | Solid                                    |
| <b>Explosive Properties</b>                    |   | explosive air/vapour mixtures possible   |
| <b>Oxidizing Properties</b>                    | No information available                                    |  |
| <b>Molecular Formula</b>                       | C <sub>5</sub> H <sub>5</sub> F <sub>3</sub> O <sub>2</sub> |  |
| <b>Molecular Weight</b>                        | 154.09  |  |

## SECTION 10. STABILITY AND REACTIVITY

|   |   |
|---|---|
| <b>Stability</b>                        | Stable under normal conditions.                                   |
| <b>Hazardous Reactions</b>              | None under normal processing.                                     |
| <b>Hazardous Polymerization</b>         | No information available.   |
| <b>Conditions to Avoid</b>              | Keep away from open flames, hot surfaces and sources of ignition. |
| <b>Materials to avoid</b>               | No information available.   |
| <b>Hazardous Decomposition Products</b> | None under normal use conditions.                                 |

## SECTION 11. TOXICOLOGICAL INFORMATION

## Product Information

|   |   |
|---|---|
| <b>(a) acute toxicity;</b>                    |   |
| <b>(b) skin corrosion/irritation;</b>         | Category 1 C  |
| <b>(c) serious eye damage/irritation;</b>     | Category 1  |
| <b>(d) respiratory or skin sensitization;</b> |   |
| <b>Respiratory</b>                            | No data available   |
| <b>Skin</b>                                   | No data available   |
| <b>(e) germ cell mutagenicity;</b>            | No data available   |
| <b>(f) carcinogenicity;</b>                   | No data available   |
|   | There are no known carcinogenic chemicals in this product |

|                                    |                           |
|------------------------------------|---------------------------|
| <b>(g) reproductive toxicity;</b>  | No data available         |
| <b>(h) STOT-single exposure;</b>   | No data available         |
| <b>(i) STOT-repeated exposure;</b> | No data available         |
| <b>Target Organs</b>               | No information available. |
| <b>(j) aspiration hazard;</b>      | Not applicable<br>Solid   |

**Symptoms / effects, both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

## SECTION 12. ECOLOGICAL INFORMATION

|  |   |
|--|---|
| <b>Ecotoxicity effects</b>             | Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants. |
| <b>Persistence and Degradability</b>   | No information available  |
| <b>Bioaccumulative Potential</b>       | No information available  |
| <b>Mobility in soil</b>                | No information available  |
| <b>Endocrine Disruptor Information</b> | This product does not contain any known or suspected endocrine disruptors   |
| <b>Persistent Organic Pollutant</b>    | This product does not contain any known or suspected substance  |
| <b>Ozone Depletion Potential</b>       | This product does not contain any known or suspected substance  |

## SECTION 13. DISPOSAL CONSIDERATIONS

|  |   |
|--|---|
| <b>Waste from Residues/Unused Products</b> | Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.  |
| <b>Contaminated Packaging</b>              | Dispose of this container to hazardous or special waste collection point.   |
| <b>Other Information</b>                   | Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH and harm aquatic organisms. |

## SECTION 14. TRANSPORT INFORMATION

### Road and Rail Transport

|                                |  |
|--------------------------------|--|
| <b>UN-No</b>                   | UN3261                                   |
| <b>Proper Shipping Name</b>    | Corrosive solid, acidic, organic, n.o.s. |
| <b>Technical Shipping Name</b> | (3-(Trifluoromethyl)crotonic acid)       |
| <b>Hazard Class</b>            | 8  |

# SAFETY DATA SHEET

## 3-(Trifluoromethyl)crotonic acid

**Packing Group** III

### IMDG/IMO

**UN-No** UN3261  
**Proper Shipping Name** Corrosive solid, acidic, organic, n.o.s.  
**Technical Shipping Name** (3-(Trifluoromethyl)crotonic acid)  
**Hazard Class** 8  
**Packing Group** III

### IATA

**UN-No** UN3261  
**Proper Shipping Name** Corrosive solid, acidic, organic, n.o.s.  
**Technical Shipping Name** (3-(Trifluoromethyl)crotonic acid)  
**Hazard Class** 8  
**Packing Group** III

**Special Precautions for User** No special precautions required

## SECTION 15. REGULATORY INFORMATION

### Measures on the Environmental Administration of New Chemical Substances Registration

Registration/Notification number B1A222250628

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

### International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

### National Regulations

## SECTION 16. OTHER INFORMATION

**Prepared By** Health, Safety and Environmental Department  
**Revision Date** 02-Jan-2026  
**Revision Summary** Not applicable.

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

### Legend

**CAS** - Chemical Abstracts Service

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**3-(Trifluoromethyl)crotonic acid**

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**IECSC** - Chinese Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**DNEL** - Derived No Effect Level  
**RPE** - Respiratory Protective Equipment  
**LC50** - Lethal Concentration 50%  
**NOEC** - No Observed Effect Concentration  
**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average  
**IARC** - International Agency for Research on Cancer  
**PNEC** - Predicted No Effect Concentration  
**LD50** - Lethal Dose 50%  
**EC50** - Effective Concentration 50%  
**POW** - Partition coefficient Octanol:Water  
**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association  
**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road  
**OECD** - Organisation for Economic Co-operation and Development  
**BCF** - Bioconcentration factor

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code  
**MARPOL** - International Convention for the Prevention of Pollution from Ships  
**ATE** - Acute Toxicity Estimate  
**VOC** - (Volatile Organic Compound)

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>  
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**