

## SAFETY DATA SHEET

Revision Date 29-March-2024

Revision Number 3

### 1. Identification

**Product Name** Ethyl (ethoxymethylene)cyanoacetate

**Cat No. :** L04944

**CAS-No** 94-05-3  
**Synonyms** Ethyl 2-cyano-3-ethoxyacrylate

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

##### **Importer/Distributor**

Fisher Scientific  
112 Colonnade Road,  
Ottawa, ON K2E 7L6,  
Canada  
Tel: 1-800-234-7437

##### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

##### **WHMIS 2015 Classification**

Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

|   |            |
|---|------------|
| <b>Acute oral toxicity</b>                              | Category 4 |
| <b>Skin Corrosion/Irritation</b>                        | Category 2 |
| <b>Serious Eye Damage/Eye Irritation</b>                | Category 1 |
| <b>Respiratory Sensitization</b>                        | Category 1 |
| <b>Skin Sensitization</b>                               | Category 1 |
| <b>Specific target organ toxicity (single exposure)</b> | Category 3 |
| Target Organs - Respiratory system.                     |            |

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Harmful if swallowed  
Causes skin irritation  
May cause an allergic skin reaction  
Causes serious eye damage  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause respiratory irritation

**Precautionary Statements****Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Use only outdoors or in a well-ventilated area  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves/protective clothing/eye protection/face protection  
Wear respiratory protection

**Response**

IF ON SKIN: Wash with plenty of soap and water  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER/doctor  
Rinse mouth  
If experiencing respiratory symptoms: Call a POISON CENTER/doctor  
Take off contaminated clothing and wash it before reuse

**Storage**

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. Composition/Information on Ingredients

| Component  | CAS-No  | Weight % |
|--|---------|----------|
| 2-Propenoic acid, 2-cyano-3-ethoxy-, ethyl ester | 94-05-3 | >95      |

### 4. First-aid measures

|  |  |
|--|--|
| <b>Eye Contact</b>                     | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.              |
| <b>Skin Contact</b>                    | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention. |
| <b>Inhalation</b>                      | Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.   |
| <b>Ingestion</b>                       | Call a physician immediately. Clean mouth with water. Get medical attention.   |
| <b>Most important symptoms/effects</b> | Causes eye burns. May cause allergy or asthma symptoms or breathing difficulties if  |

**Notes to Physician**

inhaled. May cause allergic skin reaction. Causes severe eye damage. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing  
Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** 130 °C / 266 °F

**Method -** No information available

**Autoignition Temperature** No information available

**Explosion Limits**

**Upper** No data available

**Lower** No data available

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

Nitrogen oxides (NO<sub>x</sub>). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

**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.

**NFPA**

**Health**  
2

**Flammability**  
1

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment as required.

**Environmental Precautions** See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal.

## 7. Handling and storage

**Handling** Avoid contact with skin and eyes. Do not breathe dust.

**Storage.** Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Strong oxidizing agents. Strong acids. Strong bases. Strong reducing agents.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.  
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

#### **Hand Protection**

Protective gloves

| Glove material | Breakthrough time | Glove thickness | Glove comments         |
|----------------|-------------------|-----------------|------------------------|
| Natural rubber | See manufacturers | -               | Splash protection only |
| Nitrile rubber | recommendations   |                 |                        |
| Neoprene       |                   |                 |                        |
| PVC            |                   |                 |                        |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, 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. gloves with care avoiding skin contamination.

#### **Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Recommended Filter type:** Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

### Environmental exposure controls

No information available.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 9. Physical and chemical properties

|   |   |
|---|---|
| <b>Physical State</b>                         | Solid                                   |
| <b>Appearance</b>                             | Off-white                               |
| <b>Odor</b>                                   | No information available                |
| <b>Odor Threshold</b>                         | No information available                |
| <b>pH</b>                                     | No information available                |
| <b>Melting Point/Range</b>                    | 48 - 52 °C / 118.4 - 125.6 °F           |
| <b>Boiling Point/Range</b>                    | 190 - 191 °C / 374 - 375.8 °F @ 30 mmHg |
| <b>Flash Point</b>                            | 130 °C / 266 °F                         |
| <b>Evaporation Rate</b>                       | Not applicable                          |
| <b>Flammability (solid,gas)</b>               | No information available                |
| <b>Flammability or explosive limits</b>       |   |
| Upper   | No data available                       |
| Lower   | No data available                       |
| <b>Vapor Pressure</b>                         | 0,1 hPa @ 20 °C                         |
| <b>Vapor Density</b>                          | Not applicable                          |
| <b>Specific Gravity</b>                       | No information available                |
| <b>Solubility</b>                             | No information available                |
| <b>Partition coefficient; n-octanol/water</b> | No data available                       |
| <b>Autoignition Temperature</b>               | No information available                |
| <b>Decomposition Temperature</b>              | No information available                |
| <b>Viscosity</b>                              | Not applicable                          |
| <b>Molecular Formula</b>                      | C8 H11 N O3                             |

Molecular Weight

169.18

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactive Hazard</b>                  | None known, based on information available  |
| <b>Stability</b>                        | Stable under normal conditions.   |
| <b>Conditions to Avoid</b>              | Incompatible products.  |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents                 |
| <b>Hazardous Decomposition Products</b> | Nitrogen oxides (NO <sub>x</sub> ), Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ) |
| <b>Hazardous Polymerization</b>         | No information available.   |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component   | LD50 Oral                        | LD50 Dermal | LC50 Inhalation |
|---|----------------------------------|-------------|-----------------|
| 2-Propenoic acid,<br>2-cyano-3-ethoxy-, ethyl ester | <2000 mg/kg (Rat)<br>OECD TG 401 | Not listed  | Not listed      |

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                        |  |
|------------------------|--|
| <b>Irritation</b>      | No information available   |
| <b>Sensitization</b>   | May cause sensitization by skin contact  |
| <b>Carcinogenicity</b> | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component  | CAS-No  | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|--|---------|------------|------------|------------|------------|------------|
| 2-Propenoic acid,<br>2-cyano-3-ethoxy-,<br>ethyl ester | 94-05-3 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** Not mutagenic in AMES Test

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system  
**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

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| Component  | Freshwater Algae                             | Freshwater Fish                        | Microtox   | Water Flea           |
|--|--|--|------------|----------------------|
| 2-Propenoic acid, 2-cyano-3-ethoxy-, ethyl ester | EC50: 104 mg/L/72h (Scenedesmus subspicatus) | LC50: 135 mg/L/96h (Brachydanio rerio) | Not listed | EC50: 211.4 mg/L/48h |

**Persistence and Degradability** May persist based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN2811  
Hazard Class 6.1  
Packing Group III

### TDG

UN-No UN2811  
Hazard Class 6.1  
Packing Group III

### IATA

Not regulated

### IMDG/IMO

Not regulated

## 15. Regulatory information

### International Inventories

| Component  | CAS-No  | DSL | NDSL | TSCA | TSCA Inventory notification - Active-Inactive | EINECS    | ELINCS | NLP |
|--|---------|-----|------|------|---|-----------|--------|-----|
| 2-Propenoic acid, 2-cyano-3-ethoxy-, ethyl ester | 94-05-3 | -   | X    | X    | ACTIVE  | 202-299-5 | -      | -   |

| Component  | CAS-No  | IECSC | KECL | ENCS | ISHL | TCSI | AICS | NZIoC | PICCS |
|--|---------|-------|------|------|------|------|------|-------|-------|
| 2-Propenoic acid, 2-cyano-3-ethoxy-, ethyl ester | 94-05-3 | X     | -    | X    | X    | X    | -    | X     | X     |

### Legend:

X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

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

**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

**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

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

### Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous

Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

#### Other International Regulations

Authorisation/Restrictions according to EU REACH Not applicable

#### Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component  | CAS-No  | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|--|---------|----------------|------------------------------|---------------------------|--|
| 2-Propenoic acid, 2-cyano-3-ethoxy-, ethyl ester | 94-05-3 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |

| Component  | CAS-No  | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|--|---------|---|--|----------------------------|------------------------------------|
| 2-Propenoic acid, 2-cyano-3-ethoxy-, ethyl ester | 94-05-3 | Not applicable  | Not applicable   | Not applicable             | Not applicable                     |

## 16. Other information

**Prepared By** Product Safety Department  
Email: chem.techinfo@thermofisher.com  
www.thermofisher.com

**Revision Date** 29-March-2024  
**Print Date** 29-March-2024  
**Revision Summary** New emergency telephone response service provider.

#### 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 SDS**