

ALFAAL15993

## 3-Chloropropyl isocyanate

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

产品说明:  
 Product Description: 3-氯丙基异氰酯, 97%  
 3-Chloropropyl isocyanate

Cat No. : L15993  
 CAS No 13010-19-0  
 Molecular Formula C4 H6 Cl N O

Supplier Avocado Research Chemicals Ltd.  
 (Part of Thermo Fisher Scientific)  
 Shore Road, Heysham  
 Lancashire, LA3 2XY,  
 United Kingdom  
 Office Tel: +44 (0) 1524 850506  
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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

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
 Liquid

**Appearance**  
 Colorless

**Odor**  
 No information available

#### Emergency Overview

Toxic if swallowed. Toxic in contact with skin. Combustible liquid. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. Lachrymator (substance which increases the flow of tears). Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Moisture sensitive.

#### Classification of the substance or mixture

|  |            |
|--|------------|
| Flammable liquids.                                 | Category 4 |
| Acute Oral Toxicity                                | Category 3 |
| Acute Dermal Toxicity                              | Category 3 |
| Acute Inhalation Toxicity - Vapors                 | Category 3 |
| Skin Corrosion/Irritation                          | Category 2 |
| Serious Eye Damage/Eye Irritation                  | Category 2 |
| Respiratory Sensitization                          | Category 1 |
| Skin Sensitization                                 | Category 1 |
| Specific target organ toxicity - (single exposure) | Category 3 |

#### Label Elements

## 3-Chloropropyl isocyanate



## Signal Word

Danger

## Hazard Statements

H227 - Combustible liquid  
H319 - Causes serious eye irritation  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H335 - May cause respiratory irritation  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled

## Precautionary Statements

## Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P284 - In case of inadequate ventilation wear respiratory protection

## Response

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P311 - Call a POISON CENTER or doctor  
P330 - Rinse mouth  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse

## Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up

## Disposal

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

## Physical and Chemical Hazards

Combustible material.

## Health Hazards

Toxic if swallowed. Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction. May cause respiratory irritation. Causes serious eye irritation. Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Lachrymator (substance which increases the flow of tears).

## Environmental hazards

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

## Other Hazards

Lachrymator (substance which increases the flow of tears)  
This product does not contain any known or suspected endocrine disruptors.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component                 | CAS No     | Weight % |
|---------------------------|------------|----------|
| 3-Chloropropyl isocyanate | 13010-19-0 | 96       |

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## 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. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. 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. Immediate medical attention is required.

**Ingestion**

Do NOT induce vomiting. Call a physician or poison control center immediately.

**Most important symptoms and effects**

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: 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: 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

**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**

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

Combustible material. Flammable. 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**

Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**

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Should not be released into the environment.

**Methods for Containment and Clean Up**

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition.

Refer to protective measures listed in Sections 8 and 13.

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

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

**Storage**

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

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control Parameters****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. MDHS70 General methods for sampling airborne gases and vapours

**Exposure Controls****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 (European standard - EN 166)

**Hand Protection**

Protective gloves

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

Wear appropriate protective gloves and clothing to prevent skin exposure

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|  |   |
|--|---|
| <b>Respiratory Protection</b>          | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.<br>To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly   |
| <b>Large scale/emergency use</b>       | Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced<br><b>Recommended Filter type:</b> Organic gases and vapours filter Type A Brown conforming to EN14387  |
| <b>Small scale/Laboratory use</b>      | 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.<br><b>Recommended half mask:-</b> Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141<br>When RPE is used a face piece Fit Test should be conducted |
| <b>Hygiene Measures</b>                | Handle in accordance with good industrial hygiene and safety practice.  |
| <b>Environmental exposure controls</b> | No information available.   |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |                                 |  |
|--|---------------------------------|--|
| <b>Appearance</b>                              | Colorless                       |  |
| <b>Physical State</b>                          | Liquid                          |  |
| <b>Odor</b>                                    | No information available        |  |
| <b>Odor Threshold</b>                          | No data available               |  |
| <b>pH</b>                                      | No information available        |  |
| <b>Melting Point/Range</b>                     | No data available               |  |
| <b>Softening Point</b>                         | No data available               |  |
| <b>Boiling Point/Range</b>                     | 152 - 154 °C / 305.6 - 309.2 °F |  |
| <b>Flash Point</b>                             | 62 °C / 143.6 °F                | <b>Method -</b> CC (closed cup)        |
| <b>Evaporation Rate</b>                        | No data available               |  |
| <b>Flammability (solid,gas)</b>                | Not applicable                  | Liquid                                 |
| <b>Explosion Limits</b>                        | No data available               |  |
| <b>Vapor Pressure</b>                          | No data available               |  |
| <b>Vapor Density</b>                           | 4.12                            | (Air = 1.0)                            |
| <b>Specific Gravity / Density</b>              | 1.165                           |  |
| <b>Bulk Density</b>                            | Not applicable                  | Liquid                                 |
| <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>                               | No data available               |  |
| <b>Explosive Properties</b>                    |                                 | explosive air/vapour mixtures possible |
| <b>Oxidizing Properties</b>                    | No information available        |  |
| <b>Molecular Formula</b>                       | C4 H6 Cl N O                    |  |
| <b>Molecular Weight</b>                        | 119.55                          |  |
| <b>Refractive index</b>                        | 1.4510                          |  |

## SECTION 10. STABILITY AND REACTIVITY

|                            |   |
|----------------------------|---|
| <b>Stability</b>           | Decomposes in contact with water. Moisture sensitive. |
| <b>Hazardous Reactions</b> | None under normal processing.                         |

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|   |   |
|---|---|
| <b>Hazardous Polymerization</b>         | No information available.   |
| <b>Conditions to Avoid</b>              | Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Incompatible products. Exposure to moist air or water.       |
| <b>Materials to avoid</b>               | Acids. Strong oxidizing agents. Strong acids. Strong bases. Alcohols. Amines.   |
| <b>Hazardous Decomposition Products</b> | Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Hydrogen cyanide (hydrocyanic acid). Hydrogen chloride gas. |

## SECTION 11. TOXICOLOGICAL INFORMATION

## Product Information

## (a) acute toxicity;

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

## (d) respiratory or skin sensitization;

Respiratory Category 1  
Skin Category 1

No information available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; Category 3

Results / Target organs Respiratory system

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; No data available

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

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: 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: 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

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** Do not empty into drains.

## 3-Chloropropyl isocyanate

**Persistence and Degradability** No information available

**Bioaccumulative Potential** No information available

**Mobility in soil** No information available

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors  
**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Waste from Residues/Unused Products** 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.

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**Other Information** 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**

**UN-No** UN2206  
**Proper Shipping Name** ISOCYANATES, TOXIC, N.O.S.  
**Technical Shipping Name** 3-Chloropropyl isocyanate  
**Hazard Class** 6.1  
**Packing Group** III

**IMDG/IMO**

**UN-No** UN2206  
**Proper Shipping Name** ISOCYANATES, TOXIC, N.O.S.  
**Technical Shipping Name** 3-Chloropropyl isocyanate  
**Hazard Class** 6.1  
**Packing Group** III

**IATA**

**UN-No** UN2206  
**Proper Shipping Name** ISOCYANATES, TOXIC, N.O.S.\*  
**Technical Shipping Name** 3-Chloropropyl isocyanate  
**Hazard Class** 6.1  
**Packing Group** III

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

**SECTION 15. REGULATORY INFORMATION**

**International Inventories**

**SAFETY DATA SHEET****3-Chloropropyl isocyanate**

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).

| Component                 | The Inventory of Hazardous Chemicals (2015 Edition) | List of dangerous goods GB 12268 - 2012 | TCSI | IECSC | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL |
|---------------------------|---|---|------|-------|--------|------|-----|-------|------|------|------|------|
| 3-Chloropropyl isocyanate | -   | -                                       | X    | -     | -      | -    | -   | -     | -    | -    | -    | -    |

**National Regulations****SECTION 16. OTHER INFORMATION**

**Prepared By** Health, Safety and Environmental Department  
**Revision Date** 27-Apr-2024  
**Revision Summary** New emergency telephone response service provider.

**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

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

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

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

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

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

**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



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**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**