ChemicalBook

# Chemical Safety Data Sheet MSDS / SDS

## 3-Isocyanatopropyltriethoxysilane

Revision Date:2026-05-31 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### Product identifier

| | |
|---|---|
| Product name | : 3-Isocyanatopropyltriethoxysilane |
| CBnumber | : CB8706612 |
| CAS | : 24801-88-5 |
| EINECS Number | : 246-467-6 |
| Synonyms | : 3-Isocyanatopropyltriethoxysilane,3-(triethoxysilyl)propyl isocyanate |

### Relevant identified uses of the substance or mixture and uses advised against

| | |
|---|---|
| Relevant identified uses | : For R&D use only. Not for medicinal, household or other use. |
| Uses advised against | : none |

### Company Identification

| | |
|---|---|
| Company | : Chemicalbook |
| Address | : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing |
| Telephone | : 010-86108875 |

## SECTION 2: Hazards identification

### GHS Label elements, including precautionary statements

Symbol(GHS)

Signal word Danger

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

P301+P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

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

Continuerinsing.

**Hazard statements**

H314 Causes severe skin burns and eye damage

H317 May cause an allergic skin reaction

H330 Fatal if inhaled

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

## SECTION 3: Composition/information on ingredients

### Substance

| | |
|---|---|
| Product name | : 3-Isocyanatopropyltriethoxysilane |
| Synonyms | : 3-Isocyanatopropyltriethoxysilane,3-(triethoxysilyl)propyl isocyanate |
| CAS | : 24801-88-5 |
| EC number | : 246-467-6 |
| MF | : C10H21NO4Si |
| MW | : 247.36 |

## 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.

### 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

Difficulty in breathing. Causes burns by all exposure routes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. 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

Use personal protective equipment as required.

### Notes to Physician

Treat symptomatically.

## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, 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.

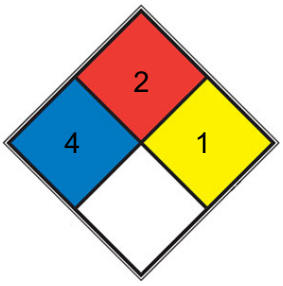
### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. 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.

### NFPA 704




| | | | |
|---|---|---|---|
| ■ | HEALTH | 4 | Very short exposure could cause death or major residual injury (e.g. hydrogen cyanide, phosgene, methyl isocyanate, hydrofluoric acid) |
| ■ | FIRE | 2 | Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100 and 200 °F). (e.g. diesel fuel, sulfur) |
| ■ | REACT | 1 | Normally stable, but can become unstable at elevated temperatures and pressures (e.g. propene) |
| □ | SPEC. HAZ. | | |

## 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

Should not be released into the environment.

### Methods for Containment and Clean Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition.
Refer to protective measures listed in Sections 8 and 13.

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## SECTION 7: Handling and storage

### Handling

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

### Storage

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

### Specific Use(s)

Use in laboratories

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## 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

Use only under a chemical fume hood. 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 | - | EN 374 | (minimum requirement) |
| Nitrile rubber | recommendations | | | |

| | | | | |
|---|---|---|---|---|
| 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 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.

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

| Small scale/Laboratory use | Use a NIOSH/MSHA or European Standard | EN 149:2001 approved respirator if exposure |
|---|---|---|
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. | |
| Environmental exposure controls | No information available. | |

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Light yellow

### Physical State

Liquid

### Odor

No information available

### Odor Threshold

No data available

### pH

No information available

### Melting Point/Range

No data available

### Softening Point

No data available

### Boiling Point/Range

130 °C / 266 °F @ 20 mmHg

### Flash Point

77 °C / 170.6 °F Method - No information available

### Evaporation Rate

No data available

### Flammability (solid,gas)

Not applicable Liquid

### Explosion Limits

No data available

### Vapor Pressure

0-7910Pa at 20-25℃

### Vapor Density

1 (Air = 1.0) (Air = 1.0)

### Specific Gravity / Density

0.990

### Bulk Density

Not applicable Liquid

### Water Solubility

Water reactive

### Solubility in other solvents

No information available

### Partition Coefficient (n-octanol/water)

No data available

### Autoignition Temperature

No data available

### Decomposition Temperature

No data available

### Viscosity

1.6mm2/s

### Explosive Properties

explosive air/vapour mixtures possible

### Oxidizing Properties

No information available

### Molecular Formula

C10 H21 N O4 Si

### Molecular Weight

247.37

### Colour

Clear colorless to yellow

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## SECTION 10: Stability and reactivity

### Stability

Stable under normal conditions. Moisture sensitive.

### Hazardous Reactions

None under normal processing.

### Hazardous Polymerization

Hazardous polymerization does not occur.

### Conditions to Avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to moist air or water.

### Materials to avoid

Strong oxidizing agents.

### Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO2). Thermal decomposition can lead to release of irritating gases and vapors.

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## SECTION 11: Toxicological information

### Product Information

### (a) acute toxicity;

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Silane, triethoxy(3-isocyanatopropyl)- | LD50 = 707 µL/kg ( Rat ) | LD50 = 1.26 mL/kg ( Rabbit ) | LC50 = 360 mg/m3 ( Rat ) 4 h |

### (b) skin corrosion/irritation;

Category 1 B

### (c) serious eye damage/irritation;

Category 1

### (d) respiratory or skin sensitization;

**Respiratory**

Category 1

**Skin**

No data available

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;

No data available

### (i) STOT-repeated exposure;

No data available

**Target Organs**

No information available.

### (j) aspiration hazard;

No data available

### Other Adverse Effects

The toxicological properties have not been fully investigated. The hazards associated with cyanide may be seen in this product.

### 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. Reacts with water so no ecotoxicity data for the substance is available.

### Persistence and Degradability

### Persistence

Reacts with water, Persistence is unlikely, based on information available.

### Degradability

Reacts with water.

### Degradation in sewage

Water reactive.

### treatment plant

### Bioaccumulative Potential

Bioaccumulation is unlikely; Product does not bioaccumulate due to reaction with water

### Mobility in soil

Reacts with water Will likely be mobile in the environment due to its water solubility Is not likely mobile in the environment Highly mobile in soils

### 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

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## 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**

UN2927

**Proper Shipping Name**

Toxic liquid, corrosive, organic, n.o.s.

**Hazard Class**

6.1

**Subsidiary Hazard Class**

8

**Packing Group**

II

### IMDG/IMO

**UN-No**

UN2927

**Proper Shipping Name**

Toxic liquid, corrosive, organic, n.o.s.

**Hazard Class**

6.1

**Subsidiary Hazard Class**

8

**Packing Group**

II

### IATA

**UN-No**

UN2927

**Proper Shipping Name**

TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.*

**Hazard Class**

6.1

**Subsidiary Hazard Class**

8

**Packing Group**

II

**Special Precautions for User**

No special precautions required

## SECTION 15: Regulatory information

### 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).

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Silane, triethoxy(3-isocyanatopropyl)- | - | - | X | X | 246-467-6 | X | - | X | X | X | X | 2004-3-2698 |

### National Regulations

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## SECTION 16: Other information

### Prepared By

Health, Safety and Environmental Department

### Creation Date

03-Sep-2010

### Revision Date

06-Sep-2025

### 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

**PICCS**

Philippines Inventory of Chemicals and Chemical Substances

**ENCS**

Japanese Existing and New Chemical Substances

**IECSC**

Chinese Inventory of Existing Chemical Substances

**AICS**

Australian Inventory of Chemical Substances

**KECL**

Korean Existing and Evaluated Chemical Substances

**NZIoC**

New Zealand Inventory of Chemicals

**WEL**

Workplace Exposure Limit

**TWA**

Time Weighted Average

**ACGIH**

American Conference of Governmental Industrial Hygienists

**IARC**

International Agency for Research on Cancer

**DNEL**

Derived No Effect Level

**PNEC**

Predicted No Effect Concentration

**RPE**

Respiratory Protective Equipment

**LD50**

Lethal Dose 50%

**LC50**

Lethal Concentration 50%

**EC50**

Effective Concentration 50%

**NOEC**

No Observed Effect Concentration

**POW**

Partition coefficient Octanol:Water

**PBT**

Persistent, Bioaccumulative, Toxic

**vPvB**

very Persistent, very Bioaccumulative

**ICAO/IATA**

International Civil Aviation Organization/International Air

Transport Association

**IMO/IMDG**

International Maritime Organization/International Maritime

Dangerous Goods Code

**ADR**

European Agreement Concerning the International Carriage of

Dangerous Goods by Road

**MARPOL**

International Convention for the Prevention of Pollution from

Ships

**OECD**

Organisation for Economic Co-operation and Development

**ATE**

Acute Toxicity Estimate

**BCF**

Bioconcentration factor

**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

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