

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihal Produk: **Acetone cyanohydrin, stabilized**  
 Product Description: **Acetone cyanohydrin, stabilized**  
 Cat No. : 102380000; 102380050; 102380250  
 Synonyms 2-Hydroxyisobutyronitrile; 2-Methylactonitrile.  
 CAS No 75-86-5  
 Molecular Formula C<sub>4</sub>H<sub>7</sub>NO

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

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

**Details of the supplier of the safety data sheet**
**Company**

Fisher Scientific (M) Sdn Bhd No. 3, Jalan Sepadu 25/123,  
 Taman Perindustrian Axis, Seksyen 25,  
 40400 Shah Alam, Selangor Darul Ehsan, Malaysia.  
 Tel: +03-5525 7888  
 Fax: +603 51257978.

E-mail address Enquiry.my@thermofisher.com

**Emergency Telephone Number**

Tel: +03-5525 7888  
 CHEMTREC Malaysia 1-800-815-308 (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) +(60)-327884561 (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Acute oral toxicity	Category 2 (H300)
Acute dermal toxicity	Category 1 (H310)
Acute Inhalation Toxicity - Vapors	Category 2 (H330)
Acute aquatic toxicity	Category 1 (H400)
Chronic aquatic toxicity	Category 1 (H410)

**Label Elements**


Signal Word

Danger

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## Hazard Statements

H410 - Very toxic to aquatic life with long lasting effects

H300 + H310 + H330 - Fatal if swallowed, in contact with skin or if inhaled

## Precautionary Statements

P330 - Rinse mouth

P280 - Wear protective gloves/protective clothing

P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water

P310 - Immediately call a POISON CENTER or doctor/physician

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

## Other Hazards

Combustible liquid

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Acetone cyanohydrin	75-86-5	>95

## SECTION 4: FIRST AID MEASURES

### Description of 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.

#### Ingestion

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

#### 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.

#### Self-Protection of the First Aider

Use personal protective equipment as required.

### Most important symptoms and effects, both acute and delayed

Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

### Indication of any immediate medical attention and special treatment needed

#### Notes to Physician

Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

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## Extinguishing media

### **Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), 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.

## Special hazards arising from the substance or mixture

Combustible material. Containers may explode when heated. Do not allow run-off from fire-fighting to enter drains or water courses.

## **Hazardous Combustion Products**

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

## Advice for fire-fighters

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, Protective Equipment and Emergency Procedures

Use personal protective equipment as required. Ensure adequate ventilation. 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

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

### Methods and Material for Containment and Cleaning Up

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

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe 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 mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

### Conditions for Safe Storage, Including any Incompatibilities

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

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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## Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
Acetone cyanohydrin		Ceiling: 5 mg/m <sup>3</sup> Skin	

## Exposure Controls

### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. 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

Wear safety glasses with side shields (or goggles)

#### Hand Protection

Protective gloves

#### Skin and body protection

Long sleeved clothing

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.

#### Respiratory Protection

No protective equipment is needed under normal use conditions

### Hygiene Measures

When using do not eat, drink or smoke Provide regular cleaning of equipment, work area and clothing

### Environmental exposure controls

Prevent product from entering drains Do not allow material to contaminate ground water system Local authorities should be advised if significant spillages cannot be contained

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### Appearance

Colorless

#### Physical State

Liquid

#### Odor

bitter almonds

#### Odor Threshold

No data available

#### pH

No data available

#### Melting Point/Range

-19 °C / -2.2 °F

#### Softening Point

No data available

#### Boiling Point/Range

95 °C / 203 °F

#### Flash Point

73 °C / 163.4 °F

@ 23 mmHg

Method - No information available

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Evaporation Rate	No information available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	<b>Lower</b> 2.2 Vol% <b>Upper</b> 12 Vol%	
Vapor Pressure	1.3 mbar (20°C)	
Vapor Density	2.93 (Air = 1.0)	(Air = 1.0)
Specific Gravity / Density	.9320	
Bulk Density	Not applicable	Liquid
Water Solubility	Soluble	
Solubility in other solvents	No information available	

## Partition Coefficient (n-octanol/water)

Autoignition Temperature	540 °C / 1004 °F	
Decomposition Temperature	>118 °C	
Viscosity	4.8 cPs (20°C)	
Explosive Properties		explosive air/vapour mixtures possible
Oxidizing Properties	No information available	

Molecular Formula	C4H7NO
Molecular Weight	85.11

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

### Conditions to Avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

### Incompatible Materials

Strong oxidizing agents. Acids. Bases.

### Hazardous Decomposition Products

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

## SECTION 11: TOXICOLOGICAL INFORMATION

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## Information on Toxicological Effects

### Product Information

#### (a) acute toxicity;

Oral	Category 2
Dermal	Category 1
Inhalation	Category 2

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetone cyanohydrin	LD50 = 15.8 mg/kg ( Rat )	LD50 = 17 mg/kg ( Rabbit )	-

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

#### (d) respiratory or skin sensitization;

Respiratory	No data available
Skin	No data 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

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

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity effects

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
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Acetone cyanohydrin	LC50: = 0.22 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 0.42 mg/L, 96h static (Lepomis macrochirus)	EC50: = 0.13 mg/L, 48h (Daphnia magna)		
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## Persistence and degradability

### **Persistence**

Persistence is unlikely, based on information available, Soluble in water.

### **Degradation in sewage treatment plant**

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

## Bioaccumulative potential

Bioaccumulation is unlikely

## Mobility in soil

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its volatility. Will likely be mobile in the environment due to its water solubility. Disperses rapidly in air. Highly mobile in soils.

## Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## Other adverse effects

No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### **Waste from Residues/Unused Products**

Should not be released into the environment 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**

Do not flush to sewer 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 let this chemical enter the environment

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

#### **UN-No**

UN1541

#### **Hazard Class**

6.1

#### **Packing Group**

I

#### **Proper Shipping Name**

Acetone cyanohydrin, stabilized

### Road and Rail Transport

#### **UN-No**

UN1541

#### **Hazard Class**

6.1

#### **Packing Group**

I

#### **Proper Shipping Name**

Acetone cyanohydrin, stabilized

### IATA

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**UN-No** UN1541  
**Hazard Class** 6.1  
**Packing Group** I  
**Proper Shipping Name** Acetone cyanohydrin, stabilized

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

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories** X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Acetone cyanohydrin	200-909-4	X	-	X	X	X	X	X	2008-1-583

### National Regulations

**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 16: OTHER INFORMATION

### 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/NDL** - 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

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**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

**Revision Date** 24-Aug-2023  
**Revision Summary** Not applicable.

ACR10238



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**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## **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**