

## Chemical Safety Data Sheet MSDS / SDS

## Acetone cyanohydrin

Revision Date:2026-03-21 Revision Number:1

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

## Product identifier

Product name : Acetone cyanohydrin  
CBnumber : CB1730599  
CAS : 75-86-5  
EINECS Number : 200-909-4  
Synonyms : 2-Hydroxy-2-methylpropanenitrile;Acetonecyanhydrine

## 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

P501 Dispose of contents/container to.....  
P391 Collect spillage. Hazardous to the aquatic environment  
P273 Avoid release to the environment.  
P501 Dispose of contents/container to.....  
P405 Store locked up.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P320 Specific treatment is urgent (see ... on this label).  
P310 Immediately call a POISON CENTER or doctor/physician.  
P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.  
P284 Wear respiratory protection.

P271 Use only outdoors or in a well-ventilated area.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P501 Dispose of contents/container to.....  
P405 Store locked up.  
P363 Wash contaminated clothing before reuse.  
P361 Remove/Take off immediately all contaminated clothing.  
P322 Specific measures (see ...on this label).  
P310 Immediately call a POISON CENTER or doctor/physician.  
P302+P350 IF ON SKIN: Gently wash with plenty of soap and water.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P270 Do not eat, drink or smoke when using this product.  
P264 Wash skin thoroughly after handling.  
P262 Do not get in eyes, on skin, or on clothing.  
P501 Dispose of contents/container to.....  
P405 Store locked up.  
P330 Rinse mouth.  
P321 Specific treatment (see ... on this label).  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P270 Do not eat, drink or smoke when using this product.  
P264 Wash skin thoroughly after handling.

**Hazard statements**

H300 Fatal if swallowed  
H310 Fatal in contact with skin  
H330 Fatal if inhaled  
H410 Very toxic to aquatic life with long lasting effects

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## SECTION 3: Composition/information on ingredients

### Substance

Product name	: Acetone cyanohydrin
Synonyms	: 2-Hydroxy-2-methylpropanenitrile;Acetonecyanhydrine
CAS	: 75-86-5
EC number	: 200-909-4
MF	: C4H7NO
MW	: 85.1

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## SECTION 4: First aid measures

### General advice

First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.

### If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### **In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### **In case of eye contact**

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### **If swallowed**

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

#### **Protection of first-aiders**

For personal protection see section 8.

#### **Notes to physician**

No data available

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## SECTION 5: Firefighting measures

#### **Suitable extinguishing media**

Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

#### **Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

#### **Specific hazards during fire fighting**

Combustible. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

#### **Hazardous combustion products**

Carbon oxides Nitrogen oxides (NO<sub>x</sub>)

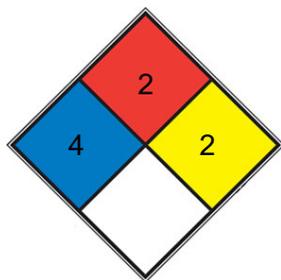
#### **Specific extinguishing methods**

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

#### **Special protective equipment for fire-fighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

## NFPA 704



<input type="checkbox"/> HEALTH	4	Very short exposure could cause death or major residual injury (e.g. hydrogen cyanide, phosgene, methyl isocyanate, <a href="#">hydrofluoric acid</a> )
<input type="checkbox"/> 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, <a href="#">sulfur</a> )
<input type="checkbox"/> REACT	2	Undergoes violent chemical change at elevated temperatures and pressures, reacts violently with water, or may form explosive mixtures with water (e.g. white phosphorus, <a href="#">potassium</a> , <a href="#">sodium</a> )
<input type="checkbox"/> SPEC.		
<input type="checkbox"/> HAZ.		

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

### Environmental precautions

Do not let product enter drains.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.

## SECTION 7: Handling and storage

### Handling

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### Avoidance of contact

Strong acids Strong bases Strong oxidizing agents Strong reducing agents

## Storage

### Further information on storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

### Storage class

6.1A, Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

### Recommended storage temperature

Recommended storage temperature see product label.

### Packaging material

Suitable material: Amber Glass Bottle/Jar

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## SECTION 8: Exposure controls/personal protection

### control parameter

#### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

#### Engineering measures

No data available

#### Personal protective equipment

##### Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

##### Recommended Filter type

Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Safety glasses

##### Skin and body protection

protective clothing

##### Hand protection

##### Material

natural latex

##### Break through time

15 min

##### Glove thickness

0.6 mm

##### Protective index

Splash contact

**Manufacturer**

Lapren® (KCL 706 / Aldrich Z677558, Size M)

**Material**

butyl-rubber

**Break through time**

480 min

**Glove thickness**

0.7 mm

**Protective index**

Full contact

**Manufacturer**

KCL 898 Butoject®

**Remarks**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D- 36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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## SECTION 9: Physical and chemical properties

**Information on basic physicochemical properties**

liquid

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**Color**

light yellow

**Odor**

pungent

**Odor Threshold**

No data available

**pH**

No data available

**Melting point/ range**

-19 °C

Method: lit.

**Boiling point/boiling range**

82 °C (31 hPa)

Method: lit.

**Flash point**

75 °C

Method: closed cup

**Evaporation rate**

No data available

**Flammability (solid, gas)**

No data available

**Flammability (liquids)**

No data available

**Burning rate**

No data available

**Upper explosion limit / Upper flammability limit**

11 %(V)

**Lower explosion limit / Lower flammability limit**

2.25 %(V)

**Vapor pressure**

0.3 hPa (20 °C)

Method: OECD Test Guideline 104

**Relative vapor density**

No data available

**Relative density**

0.932 g/mL at 25 °C (lit.)

**Density**

0.932 g/cm<sup>3</sup> (25 °C)

Method: lit.

**Water solubility**

miscible

**Partition coefficient: n-octanol/water**

No data available

**Autoignition temperature**

No data available

**Decomposition temperature**

No data available

#### **Viscosity, dynamic**

No data available

#### **Viscosity, kinematic**

No data available

#### **Flow time**

No data available

#### **Explosive properties**

Not classified as explosive.

#### **Oxidizing properties**

none

#### **Molecular weight**

85.10 g/mol

#### **Particle characteristics Particle size**

No data available

#### **Solubility**

very soluble in water, alcohol, and ether; slightly soluble in petroleum ether

#### **Physical state**

Liquid

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## SECTION 10: Stability and reactivity

#### **Reactivity**

Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.

#### **Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

#### **Possibility of hazardous reactions**

No data available

#### **Conditions to avoid**

Strong heating.

#### **Incompatible materials**

Strong acids Strong bases Strong oxidizing agents Strong reducing agents

## Hazardous decomposition

In the event of fire: see section 5 products

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male - 16 mg/kg

Acute toxicity estimate Inhalation - 4 h - 0.6 mg/l - vapour (Expert judgement)

LD50 Dermal - Rabbit - 15.8 mg/kg

#### Skin corrosion/irritation

Remarks: No data available

#### Serious eye damage/eye irritation

Remarks: No data available

#### Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

#### Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

#### Carcinogenicity

Classified based on available data. For more details, see section 2

#### Reproductive toxicity

Classified based on available data. For more details, see section 2

#### Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

#### Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

#### Aspiration hazard

Classified based on available data. For more details, see section 2

### 11.2 Additional Information

RTECS: OD9275000

Cough, Shortness of breath, Headache, Nausea, Vomiting, May cause cyanosis.,

Convulsions, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

Systemic effects:

Headache confusion

Nausea

Vomiting agitation, spasms respiratory arrest

#### Other information

The following applies to cyanogen compounds/ nitriles in general: utmost caution!

Release of hydrocyanic acid is possible - blockade of cellular respiration. Cardiovas- cular disorders, dyspnoea, unconsciousness.

Further data:

This substance should be handled with particular care.

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## SECTION 12: Ecological information

### Ecotoxicity

#### Components:

##### 2-Cyanopropan-2-ol:

#### Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.22 mg/l End point: mortality Exposure time: 96 h Test Type: static test Analytical monitoring: yes GLP: yes Remarks: (ECHA)

#### Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.13 mg/l End point: mortality Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes

#### M-Factor (Acute aquatic toxicity)

10

#### M-Factor (Chronic aquatic toxicity)

1

#### Toxicity to microorganisms

EC50 (Vibrio fischeri): 21 mg/l Exposure time: 0.25 h Remarks: (ECHA)

### Persistence and degradability

#### Components:

##### 2-Cyanopropan-2-ol:

#### Biodegradability

Remarks: No data available

#### Bioaccumulative potential

No data available

#### Mobility in soil

No data available

#### Other adverse effects

#### Components:

##### 2-Cyanopropan-2-ol:

### **Additional ecological information**

Discharge into the environment must be avoided.

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## **SECTION 13: Disposal considerations**

### **Disposal methods**

#### **Waste from residues**

Offer surplus and non-recyclable solutions to a licensed disposal company.

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## **SECTION 14: Transport information**

### **International Regulations**

#### **IATA-DGR**

Not permitted for transport

#### **IMDG-Code**

UN number : UN 1541

Proper shipping name : ACETONE CYANOHYDRIN, STABILIZED

Class : 6.1

Packing group : I

Labels : 6.1

EmS Code : F-A, S-A

Marine pollutant : yes

#### **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

### **National Regulations**

#### **JT/T 617**

UN number : UN 1541

Proper shipping name : ACETONE CYANOHYDRIN, STABILIZED

Class : 6.1

Packing group : I

Labels : 6.1

Environmentally hazardous : no

### **Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15: Regulatory information

### **National regulatory information**

#### **Law on the Prevention and Control of Occupational Diseases**

#### **Regulations on Safety Management of Hazardous Chemicals**

#### **Catalogue of Hazardous Chemicals**

Listed

#### **Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)**

**No. / Code Chemical name / Category Threshold quantity** 18 Acetone cyanohydrin 20 t

#### **Hazardous Chemicals for Priority Management**

Listed under SAWS

#### **Catalogue of Specially Controlled Hazardous**

Not listed Chemicals

#### **List of Explosive Precursors**

Not listed

#### **Regulations on Labour Protection in Workplaces where Toxic Substances are Used**

#### **Catalogue of Highly Toxic Chemicals**

Not listed

#### **Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

#### **China Severely Restricted Toxic Chemicals for Import and Export**

Not listed

#### **Regulation on the Administration of Precursor Chemicals**

#### **Catalogue and Classification of Precursor Chemicals**

Not listed

#### **Regulations on the Administration of Controlled Chemicals**

#### **List of Controlled Chemicals**

Not listed

#### **Regulations of Ozone Depleting Substances Management**

## List of Controlled Ozone Depleting Substances

Not listed

## List of Controlled Ozone Depleting Substances Import and Export

Not listed

## Environmental Protection Law

## List of Priority Controlled Chemicals

Listed

## List of Key Controlled New Pollutants

Not listed

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## SECTION 16: Other information

### Full text of other abbreviations

#### ACGIH

USA. ACGIH Threshold Limit Values (TLV)

#### GBZ 2.1-2007

Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

#### ACGIH / C

Ceiling limit

**GBZ 2.1-2007 / MAC AIC - Australian Invent Transport by Land of Bra bw - Body weight; CMR Standard of the German List (Canada); ECx - Conc associated with x%respo Chemical Substances (Jap response; ERG - Emerge GLP - Good Laboratory P cer; IATA - International Construction and Equipm Half maximal inhibitory c tion; IECSC - Inventory o tional Maritime Dangerou Industrial Safety and H Standardisation; KECl - K tration to 50 % of a test (Median Lethal Dose); MA lution from Ships; MERC of Dangerous Goods; n.o. - No Observed (Adverse) fect Level; NOELR - No Norm; NTP - National Toxi icals; OECD - Organisatio fice of Chemical Safety a and Toxic substance; PIC stances; (Q)SAR - (Quant (EC) No 1907/2006 of th Registration, Evaluation, Accelerating Decompositi Chemical Substance Inve Thailand Existing Chemicala States); UN - United Nat Transport of Dangerous**  
**WHMIS - Workplace Hazar**

Maximum allowable concentration ry of Industrial Chemicals

ANTT - National Agency for il

ASTM - American Society for the Testing of Materials

- Carcinogen, Mutagen or Reproductive Toxicant

DIN nstitute for Standardisation

DSL - Domestic Substances ntration associated with x% response

ELx - Loading rate se

EmS - Emergency Schedule

ENCS - Existing and New n)

ErCx - Concentration associated with x% growth rate cy Response Guide

GHS - Globally Harmonised System

actice

IARC - International Agency for Research on Cancer Transport Association  
IBC - International Code for the Intent of Ships carrying Dangerous Chemicals in Bulk  
LC50 - Lethal Concentration  
ICAO - International Civil Aviation Organization - Existing Chemical Substances in China  
IMDG - International Maritime Dangerous Goods  
IMO - International Maritime Organisation  
ISHL - International Safety Law (Japan)  
ISO - International Organisation for Standardisation Existing Chemicals Inventory  
LC50 - Lethal Concentration  
LD50 - Lethal Dose to 50% of a test population  
POL - International Convention for the Prevention of Pollution from Ships  
SUR - The Agreement for the Facilitation of the Transport of Dangerous Goods - Not Otherwise Specified  
NCh - Chilean Norm  
NO(A)EC - No Observed Effect Concentration  
NO(A)EL - No Observed (Adverse) Effect Loading Rate  
NOM - Official Mexican Nomenclature Program  
NZIC - New Zealand Inventory of Chemicals for Economic Co-operation and Development  
OPPTS - Office of Pollution Prevention and Control  
PBT - Persistent, Bioaccumulative and Toxic - Philippines Inventory of Chemicals and Chemical Substances Structure Activity Relationship  
REACH - Regulation of the European Parliament and of the Council concerning the Restriction of Chemicals  
SADT - Self-Heating Temperature  
SDS - Safety Data Sheet  
TCSI - Taiwan Chemical Safety Information  
TDG - Transportation of Dangerous Goods  
TECS Inventory  
TSCA - Toxic Substances Control Act (United States)  
UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods  
vPvB - Very Persistent and Very Bioaccumulative  
GHS - Globally Harmonized System of Classification and Labelling of Chemicals  
HMIS - Hazardous Materials Information System

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.