

## Chemical Safety Data Sheet MSDS / SDS

**DICHLOROACETALDEHYDE HYDRATE**Revision Date:2026-05-31 Revision Number:1

---

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : DICHLOROACETALDEHYDE HYDRATE  
CBnumber : CB6249515  
CAS : 16086-14-9  
EINECS Number : 240-238-4  
Synonyms : 2,2-Dichloro-1,1-ethanediol,Dichloroacetaldehyde hydrate

**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.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P405 Store locked up.  
P501 Dispose of contents/container to.....

**Hazard statements**

H314 Causes severe skin burns and eye damage

---

**SECTION 3: Composition/information on ingredients**

## Substance

|              |                                                            |
|--------------|------------------------------------------------------------|
| Product name | : DICHLOROACETALDEHYDE HYDRATE                             |
| Synonyms     | : 2,2-Dichloro-1,1-ethanediol,Dichloroacetaldehyde hydrate |
| CAS          | : 16086-14-9                                               |
| EC number    | : 240-238-4                                                |
| MF           | : C2H4Cl2O2                                                |
| MW           | : 130.96                                                   |

---

## SECTION 4: First aid measures

### First Aid Measures

#### General advice

Consult a physician if necessary. Remove to fresh air.

#### Eye contact

Wash with plenty of water.

#### Skin Contact

Wash skin with soap and water.

#### Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.

#### Ingestion

Never give anything by mouth to an unconscious person. Clean mouth with water.

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

#### Symptoms

No information available.

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

#### Note to physicians

Treat symptomatically.

---

## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

#### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable Extinguishing Media

None.

### Specific hazards arising from the chemical

#### Specific hazards arising from the chemical

Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

#### Hazardous combustion products

Carbon oxides. Phosgene.

## Explosion data

### Sensitivity to Mechanical Impact

No information available.

### Sensitivity to Static Discharge

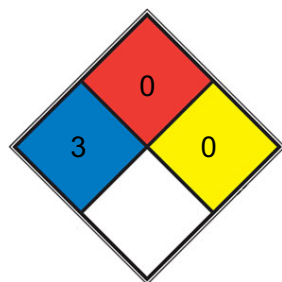
No information available.

## Protective equipment and precautions for firefighters

### 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 704



**HEALTH 3** Short exposure could cause serious temporary or moderate residual injury (e.g. [liquid hydrogen](#), [sulfuric acid](#), [calcium hypochlorite](#), hexafluorosilicic acid)

**FIRE 0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

**REACT 0** Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

☐ SPEC.

☐ HAZ.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### Personal precautions

Ensure adequate ventilation, especially in confined areas.

#### Environmental precautions

#### Environmental precautions

See Section 12 for additional Ecological Information.

### Methods and material for containment and cleaning up

#### Methods for containment

Prevent further leakage or spillage if safe to do so.

### Methods for cleaning up

Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

---

## SECTION 7: Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Store at -20 °C.

#### Incompatible materials

None known based on information supplied.

---

## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### Appropriate engineering controls

#### Engineering Controls

Showers

Eyewash stations

Ventilation systems

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear safety glasses with side shields (or goggles).

#### Skin and Body Protection

Wear protective gloves and protective clothing.

#### Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

#### General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

---

## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

|                              |                                            |
|------------------------------|--------------------------------------------|
| Physical State               | Solid                                      |
| Appearance                   | No information available                   |
| Odor                         | No information available                   |
| pH                           | No information available                   |
| Melting point/freezing point | 51 °C                                      |
| Boiling point                | 121 °C                                     |
| Flash point                  | No information available                   |
| Density                      | 1.635±0.06 g/cm3(Predicted)                |
| Evaporation rate             | No information available                   |
| Upper flammability limits    | No information available                   |
| Lower flammability limit     | No information available                   |
| Vapor pressure               | No information available                   |
| Vapor density                | No information available                   |
| Specific gravity             | No information available                   |
| Water solubility             | Soluble in water                           |
| Solubility in other solvents | No information available                   |
| Partition coefficient        | No information available                   |
| Autoignition temperature     | No information available                   |
| Decomposition temperature    | No information available                   |
| Kinematic viscosity          | No information available                   |
| Explosive properties         | No information available                   |
| Oxidizing properties         | No information available                   |
| Solubility                   | Chloroform (Slightly), Methanol (Slightly) |
| Colour                       | White to Almost white                      |

## SECTION 10: Stability and reactivity

### Reactivity

Not applicable

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous polymerization

No information available.

### Conditions to avoid

Extremes of temperature and direct sunlight.

### **Incompatible materials**

Strong oxidizing agents.

### **Hazardous Decomposition Products**

Carbon oxides. Phosgene.

---

## **SECTION 11: Toxicological information**

### **Information on likely routes of exposure**

#### **Inhalation**

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

#### **Eye contact**

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

#### **Skin Contact**

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

#### **Ingestion**

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

### **Information on toxicological effects**

#### **Symptoms**

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

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

#### **Chronic Toxicity**

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

### **Numerical measures of toxicity - Product Information**

#### **Unknown acute toxicity**

100% of the mixture consists of ingredient(s) of unknown toxicity

---

## **SECTION 12: Ecological information**

### **Ecotoxicity**

May cause long lasting harmful effects to aquatic life

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

### **Persistence and degradability**

No information available.

### **Bioaccumulation**

No information available.

## Mobility

No information available.

---

## SECTION 13: Disposal considerations

### Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

### Contaminated packaging

Do not reuse container.

### US EPA Waste Number

D002

---

## SECTION 14: Transport information

### DOT

#### UN/ID no

UN1759

#### Hazard Class

8

#### Packing Group

III

#### Proper shipping name

Corrosive solids, n.o.s.

#### Description

UN1759, Corrosive solids, n.o.s., 8, III

#### Emergency Response Guide Number

154

### IMDG

#### UN/ID no

UN1759

#### Hazard Class

8

#### Packing Group

III

#### Proper shipping name

Corrosive solid, n.o.s.

#### Description

UN1759, Corrosive solid, n.o.s., 8, III

#### Special Provisions

223, 274

**EmS-No**

F-A, S-B

**IATA**

**UN/ID no**

UN1759

**Hazard Class**

8

**Packing Group**

III

**Proper shipping name**

Corrosive solid, n.o.s.

**Description**

UN1759, Corrosive solid, n.o.s., 8, III

---

## SECTION 15: Regulatory information

### International Inventories

All of the components in the product are on the following Inventory lists

Europe (EINECS/ELINCS/NLP) Australia (AICS)

X - Listed

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

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

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

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

| Chemical name        | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|----------------------|------|-----|------|--------|--------|------|-------|------|-------|------|
| Dichloroacetaldehyde | -    | -   | -    | X      | -      | -    | -     | -    | -     | X    |

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### SARA 311/312 Hazard Categories

##### Acute health hazard

No

##### Chronic Health Hazard

No

**Fire hazard**

No

**Sudden release of pressure hazard**

No

**Reactive hazard**

No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations

---

## SECTION 16: Other information

**Abbreviations and acronyms**

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

**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.