

## Chemical Safety Data Sheet MSDS / SDS

## Dichloro-5-ethyl-5-methylhydantoin

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

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

## Product identifier

Product name	: Dichloro-5-ethyl-5-methylhydantoin
CBnumber	: CB7845356
CAS	: 89415-87-2
EINECS Number	: 401-570-7
Synonyms	: 1,3-dichloro-5-ethyl-5-methylhydantoin, 1,3-Dichloro-5-ethyl-5-methylimidazolidine-2,4-dione

## 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.
- P321 Specific treatment (see ... on this label).
- P311 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.
- P271 Use only outdoors or in a well-ventilated area.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P501 Dispose of contents/container to.....

P363 Wash contaminated clothing before reuse.

P321 Specific treatment (see ... on this label).

P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P302+P352 IF ON SKIN: wash with plenty of soap and water.

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

P272 Contaminated work clothing should not be allowed out of the workplace.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P501 Dispose of contents/container to.....

P405 Store locked up.

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

P321 Specific treatment (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.

P363 Wash contaminated clothing before reuse.

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

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

P264 Wash skin thoroughly after handling.

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

P501 Dispose of contents/container to.....

P330 Rinse mouth.

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

P270 Do not eat, drink or smoke when using this product.

P264 Wash skin thoroughly after handling.

P501 Dispose of contents/container to.....

P370+P378 In case of fire: Use ... for extinction.

P371+P380+P375 in case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

P306+P360 IF ON CLOTHING: Rinse Immediately contaminated CLOTHING and SKIN with plenty of water before removing clothes.

P283 Wear fire/flame resistant/retardant clothing.

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

P221 Take any precaution to avoid mixing with combustibles/...

P220 Keep/Store away from clothing/.../combustible materials.

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

#### **Hazard statements**

H314 Causes severe skin burns and eye damage

H317 May cause an allergic skin reaction

H331 Toxic if inhaled

H400 Very toxic to aquatic life

H302 Harmful if swallowed

H271 May cause fire or explosion; strong oxidiser

## SECTION 3: Composition/information on ingredients

### Substance

Product name	: Dichloro-5-ethyl-5-methylhydantoin
Synonyms	: 1,3-dichloro-5-ethyl-5-methylhydantoin, 1,3-Dichloro-5-ethyl-5-methylimidazolidine-2,4-dione
CAS	: 89415-87-2
EC number	: 401-570-7
MF	: C6H8Cl2N2O2
MW	: 211.05

---

## SECTION 4: First aid measures

### First Aid Measures

#### General advice

Immediate medical attention is required.

#### Eye contact

Keep eye wide open while rinsing. Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area.

#### Skin Contact

Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash off immediately with soap and plenty of water.

#### Inhalation

Remove to fresh air. Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

#### Ingestion

Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately.

#### Self-protection of the first aider

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

### 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

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur.

Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. 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**

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes. Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

#### **Hazardous combustion products**

Carbon oxides. Nitrogen oxides (NOx). 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.

---

## SECTION 6: Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

#### **Personal precautions**

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

#### **Environmental precautions**

##### **Environmental precautions**

Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

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. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid

spill for later disposal.

### **Methods for cleaning up**

Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Avoid creating dust. Soak up with inert absorbent material. Dam up. After cleaning, flush away traces with water.

---

## **SECTION 7: Handling and storage**

### **Precautions for safe handling**

#### **Advice on safe handling**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

### **Conditions for safe storage, including any incompatibilities**

#### **Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Store at room temperature.

#### **Incompatible materials**

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

---

## **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**

Tight sealing safety goggles. Face protection shield.

#### **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

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

---

## 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	61 °C
Boiling point	234.0 °C
Flash point	95.3 °C
Density	1.5 g/cm <sup>3</sup>
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	0.1
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	-0.45
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	Acetone (Slightly), Chloroform (Slightly), DMSO (Slightly), Methanol (Slightly)
Colour	White to Off-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**

Exposure to air or moisture over prolonged periods.

### **Incompatible materials**

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

### **Hazardous Decomposition Products**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides. Nitrogen oxides (NOx). 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**

Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects.

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

#### **Unknown acute toxicity**

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

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)**

500 mg/kg

**ATEmix (dermal)**

300 mg/kg

**ATEmix (inhalation-dust/mist)**

0.5 mg/l

---

## SECTION 12: Ecological information

**Ecotoxicity**

May cause long lasting harmful effects to aquatic life

0% of the mixture consists of component(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.

**Other Information**

Waste codes should be assigned by the user based on the application for which the product was used.

**US EPA Waste Number**

D001

---

## SECTION 14: Transport information

**DOT****UN/ID no**

UN1479

**Hazard Class**

5.1

**Packing Group**

II

**Proper shipping name**

Oxidizing solid, n.o.s.

**Description**

UN1479, Oxidizing solid, n.o.s. (1,3-Dichloro-5-ethyl-5-methylimidazolidine-2,4-dione), 5.1, II

**Emergency Response Guide Number**

140

**IMDG**

**UN/ID no**

UN1479

**Hazard Class**

5.1

**Packing Group**

II

**Proper shipping name**

Oxidizing solid, n.o.s.

**Description**

UN1479, Oxidizing solid, n.o.s. (1,3-Dichloro-5-ethyl-5-methylimidazolidine-2,4-dione), 5.1, II

**Special Provisions**

274, 900

**EmS-No**

F-A, S-Q

**IATA**

**UN/ID no**

UN1479

**Hazard Class**

5.1

**Packing Group**

II

**Proper shipping name**

Oxidizing solid, n.o.s.

**Description**

UN1479, Oxidizing solid, n.o.s. (1,3-Dichloro-5-ethyl-5-methylimidazolidine-2,4-dione), 5.1, II

---

## SECTION 15: Regulatory information

### International Inventories

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

TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): China (IECSC)

ENCS (Japan): Philippines (PICCS)

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
1,3-Dichloro-5-ethyl-5-methylimidazolidine-2,4-dione	X	X	-	-	X	X	X	X	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

Yes

#### Chronic Health Hazard

Yes

#### 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.