

## Chemical Safety Data Sheet MSDS / SDS

## Chloroform-d

Revision Date:2024-04-27 Revision Number:1

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

## Product identifier

Product name : Chloroform-d  
CBnumber : CB2103569  
CAS : 865-49-6  
EINECS Number : 212-742-4  
Synonyms : chloroform-d,deuterated chloroform

## 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 : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P501 Dispose of contents/container to....  
P405 Store locked up.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P391 Collect spillage. Hazardous to the aquatic environment  
P307+P311 IF exposed: call a POISON CENTER or doctor/physician.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continuerinsing.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P273 Avoid release to the environment.  
P271 Use only outdoors or in a well-ventilated area.

P270 Do not eat, drink or smoke when using this product.  
P264 Wash skin thoroughly after handling.  
P264 Wash hands thoroughly after handling.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P202 Do not handle until all safety precautions have been read and understood.  
P201 Obtain special instructions before use.

#### **Hazard statements**

H411 Toxic to aquatic life with long lasting effects  
H373 May cause damage to organs through prolonged or repeated exposure  
H372 Causes damage to organs through prolonged or repeated exposure  
H370 Causes damage to organs  
H361 Suspected of damaging fertility or the unborn child  
H351 Suspected of causing cancer  
H341 Suspected of causing genetic defects  
H336 May cause drowsiness or dizziness  
H331 Toxic if inhaled  
H319 Causes serious eye irritation  
H315 Causes skin irritation  
H314 Causes severe skin burns and eye damage  
H302 Harmful if swallowed

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## SECTION 3: Composition/information on ingredients

### **Substance**

Product name : Chloroform-d  
Synonyms : chloroform-d,deuterated chloroform  
CAS : 865-49-6  
EC number : 212-742-4  
MF : CCl3D  
MW : 120.38

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## SECTION 4: First aid measures

### **Description of first aid measures**

#### **General advice**

First aiders need to protect themselves. Show this material 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. Consult a physician.

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

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

### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

### Notes to physician

No data available

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

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

#### Unsuitable extinguishing media

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

### Special hazards arising from the substance or mixture

Carbon oxides Hydrogen chloride gas Not combustible.

Fire may cause evolution of:

Hydrogen chloride gas, Phosgene

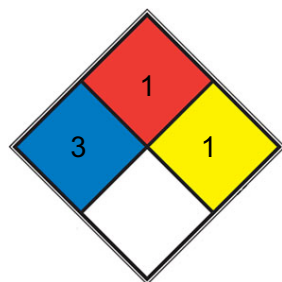
Ambient fire may liberate hazardous vapours.

### Advice for firefighters

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

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### 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 1 Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point

at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

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REACT 1 Normally stable, but can become unstable at elevated temperatures and pressures (e.g. [propene](#))

SPEC.

HAZ.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

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 (e.g.

Chemisorb?). Dispose of properly. Clean up affected area.

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### Precautions for safe handling

#### Advice on safe handling

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

#### Hygiene measures

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

For precautions see section 2.2.

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

#### Storage conditions

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

Recommended storage temperature see product label.

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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.

### Exposure controls

#### Appropriate engineering controls

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

#### Personal protective equipment

##### 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 protection

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact Material: Viton?

Minimum layer thickness: 0.7 mm Break through time: 480 min

Material tested: Vitoject? (KCL 890 / Aldrich Z677698, Size M)

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact Material: butyl-rubber

Minimum layer thickness: 0.7 mm Break through time: 10 min

Material tested: Butoject? (KCL 898)

##### Body Protection

protective clothing

##### 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.

### Control of environmental exposure

Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	colorless liquid
Odour	characteristic
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	Melting point/range: -64.69 - 64.15 °C at 4 hPa

Initial boiling point and boiling range	ca.61.5 °C at ca.1,013.25 hPa
Flash point	>60 °C at ca.1,019.2 hPa - closed cup - Regulation (EC) No. 440/2008, Annex, A.9
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	ca.265.31 hPa at ca.25 °C
Vapour density	4.12 - (Air = 1.0)
Relative density	ca.1.445 at 20 °C - OECD Test Guideline 109
Water solubility	4.6 g/l at 20 °C - Regulation (EC) No. 440/2008, Annex, A.6
Partition coefficient: n-octanol/water	log Pow: 1.5 at 20 °C - Bioaccumulation is not expected.
Autoignition temperature	No data available
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available

### Other safety information

Surface tension 72.3 mN/m at 0.99g/l at 20 °C

- Surface tension

Relative vapor density

4.12 - (Air = 1.0)

## SECTION 10: Stability and reactivity

### Chemical stability

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

### Possibility of hazardous reactions

Risk of explosion with: Ammonia

Amines nitrogen oxides bases

Oxygen alkali amides

organic nitro compounds Alcohols

alkali hydroxides strong alkalis Fluorine

peroxi compounds Alkaline earth metals Alkali metals

Powdered metals Methanol

with alcoholates Methanol with

strong alkalis Iron

in powder form various alloys sensitive to shock Methanol

with

Sodium hydroxide magnesium

in powder form Oxygen

with

alkali compounds Aluminum

in powder form Acetone

with

alkali compounds Potassium sensitive to shock sodium

sensitive to shock

Violent reactions possible with: phosphines bis(dimethylamino)dimethyl tin nonmetallic hydrogen compounds Powdered metals

Light metals Ketones mineral acids

Strong oxidizing agents semimetallic hydrogen compounds

### **Conditions to avoid**

no information available

### **Incompatible materials**

rubber, various plastics

### **Hazardous decomposition products**

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### **Information on toxicological effects**

#### **Acute toxicity**

LD50 Oral - Rat - male - 908 mg/kg (OECD Test Guideline 401)

Acute toxicity estimate Inhalation - 3.1 mg/l (Expert judgment)

Dermal

#### **Skin corrosion/irritation**

Skin - Rabbit

Result: Irritating to skin. - 24 h Remarks: (ECHA)

Drying-out effect resulting in rough and chapped skin.

#### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Irritating to eyes. Remarks: (ECHA)

#### **Respiratory or skin sensitization**

(Regulation (EC) No. 440/2008, Annex, B.6)

#### **Germ cell mutagenicity**

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation Result: negative

Remarks: (ECHA)

Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation Result: positive

Remarks: (ECHA)

Test Type: Chromosome aberration test Species: Rat

Cell type: Bone marrow Application Route: Oral

Result: positive Remarks: (ECHA)

#### **Carcinogenicity**

No data available

#### **Reproductive toxicity**

Suspected of damaging the unborn child.

#### **Specific target organ toxicity - single exposure**

May cause drowsiness or dizziness. Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Chloroform

#### **Specific target organ toxicity - repeated exposure**

Oral - Causes damage to organs through prolonged or repeated exposure. - Liver, Kidney

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### **Aspiration hazard**

No data available

#### **Toxicity**

LD50 orally in Rabbit: 695 mg/kg LD50 dermal Rabbit > 3980 mg/kg

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## SECTION 12: Ecological information

### **Toxicity**

#### **Toxicity to daphnia and other aquatic invertebrates**

static test EC50 - Daphnia magna (Water flea) - 79 mg/l - 48 h Remarks: (ECHA)

#### **Toxicity to algae**

static test ErC50 - Chlamydomonas reinhardtii (green algae) - 13.3 mg/l - 72 h

Remarks: (ECHA)

#### **Toxicity to bacteria**

static test EC50 - activated sludge - 0.48 mg/l - 24 h

Remarks: (ECHA)

### **Persistence and degradability**

Biodegradability aerobic - Exposure time 14 d

Result: 0 % - Not readily biodegradable. (OECD Test Guideline 301C)

Theoretical oxygen demand

1,346 mg/g

### **Bioaccumulative potential**

No data available

### **Mobility in soil**



No data available

### **Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **Other adverse effects**

No data available

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## SECTION 13: Disposal considerations

### **Waste treatment methods**

#### **Product**

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

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## SECTION 14: Transport information

### **UN number**

ADR/RID: 1888 IMDG: 1888 IATA-DGR: 1888

### **UN proper shipping name**

ADR/RID: CHLOROFORM IMDG: CHLOROFORM IATA-DGR: Chloroform

### **Transport hazard class(es)**

ADR/RID: 6.1 IMDG: 6.1 IATA-DGR: 6.1

### **Packaging group**

ADR/RID: III IMDG: III IATA-DGR: III

### **Environmental hazards**

ADR/RID: no IMDG Marine pollutant: no IATA-DGR: no

### **Special precautions for user**

Based on chemical properties, choose appropriate tools and conditions of transport. Transporting tools shall be equipped with appropriate and sufficient firefighting equipment and emergency leaking installations. If transporting by road, please go along the specified route.

### **Incompatible materials**

rubber, various plastics

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## SECTION 15: Regulatory information

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

## Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

## Measures for Environmental Management of New Chemical Substances

Vietnam National Chemical Inventory:Not Listed. website: <https://chemicaldata.gov.vn/>

United States Toxic Substances Control Act (TSCA) Inventory:Not Listed. website: <https://www.epa.gov/>

Korea Existing Chemicals List (KECL):Not Listed. website: <http://ncis.nier.go.kr>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

EC Inventory:Listed.

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

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## SECTION 16: Other information

### Abbreviations and acronyms

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

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

### 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.

