

# Safety Data Sheet

## Choline Chloride Solution 75%

Revision date : 2023/02/06

Version: 5.0

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(30041094/SDS\_GEN\_US/EN)

### 1. Identification

**Product identifier used on the label**

**Choline Chloride Solution 75%**

**Recommended use of the chemical and restriction on use**

Recommended use\*: feed additive(s)

Unsuitable for use: Not intended for sale to or use by the general public.

\* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

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

Company:

BASF CORPORATION  
100 Park Avenue  
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

**Emergency telephone number**

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

**Other means of identification**

Synonyms: Aqueous solution based on: Choline chloride

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### 2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

**Classification of the product**

No need for classification according to GHS criteria for this product.

**Label elements**

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The product does not require a hazard warning label in accordance with GHS criteria.

### Hazards not otherwise classified

No data available.

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## 3. Composition / Information on Ingredients

### According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Under the referenced regulation, this product does not contain any components classified for health hazards above the relevant cut off value.

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## 4. First-Aid Measures

### Description of first aid measures

#### General advice:

Remove contaminated clothing.

#### If inhaled:

Keep patient calm, remove to fresh air.

#### If on skin:

Wash thoroughly with soap and water

#### If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

#### If swallowed:

Rinse mouth and then drink 200-300 ml of water.

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

Symptoms: No data available.

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

#### Note to physician

Treatment: Symptomatic treatment (decontamination, vital functions).

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## 5. Fire-Fighting Measures

### Extinguishing media

Suitable extinguishing media:  
water spray, foam, dry powder, carbon dioxide

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Unsuitable extinguishing media for safety reasons:  
water jet

### Special hazards arising from the substance or mixture

Hazards during fire-fighting:

harmful vapours, carbon oxides, nitrogen oxides, chlorine compounds

The substances/groups of substances mentioned can be released in case of fire. Evolution of fumes/fog.

### Advice for fire-fighters

Protective equipment for fire-fighting:

Wear self-contained breathing apparatus and chemical-protective clothing.

### Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Cool endangered containers with water-spray.

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## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8. Ensure adequate ventilation. Do not breathe vapour/spray. Avoid contact with the skin, eyes and clothing.

### Environmental precautions

Do not discharge into drains/surface waters/groundwater.

### Methods and material for containment and cleaning up

For small amounts: Contain with absorbent material (e.g. sand, silica gel, acid binder, general purpose binder, sawdust).

For large amounts: Dike spillage. Pump off product.

Dispose of absorbed material in accordance with regulations.

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## 7. Handling and Storage

### Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

The product is neither self-ignitable, nor an explosion hazard, nor does it promote fires. No special precautions necessary.

### Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

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## 8. Exposure Controls/Personal Protection

No substance specific occupational exposure limits known.

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### **Personal protective equipment**

#### **Respiratory protection:**

Respiratory protection in case of vapour/aerosol release. Wear a NIOSH-certified (or equivalent) respirator as necessary.

#### **Hand protection:**

Wear impermeable chemical resistant protective gloves.

#### **Eye protection:**

Wear face shield or tightly fitting safety goggles (chemical goggles) if splashing hazard exists.

#### **Body protection:**

Body protection must be chosen based on level of activity and exposure.

#### **General safety and hygiene measures:**

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift. Store work clothing separately.

## 9. Physical and Chemical Properties

Form:	aqueous solution	
Odour:	amine-like	
Odour threshold:	not determined	
Colour:	colourless	
pH value:	approx. 5.5 - 6.5 ( 20 °C)	(ASTM E70)
Melting point:	-18 °C	
Freezing point:	No data available.	
Boiling point:	100 °C	
Flash point:	A flash point determination is unnecessary due to the high water content.	
Flammability:	not flammable	
Lower explosion limit:	For liquids not relevant for classification and labelling.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Autoignition:	355 °C	(DIN 51794)
Vapour pressure:	123 mbar ( 50 °C) 23 mbar ( 20 °C)	
Density:	1.1 g/cm <sup>3</sup> ( 50 °C)	
Relative density:	1.1 ( 20 °C)	
Vapour density:	> 1 ( 20 °C) Heavier than air.	(calculated)
Partitioning coefficient n- octanol/water (log Pow):	not applicable for mixtures	

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Thermal decomposition:	$\geq 290$ °C (DSC (DIN 51007))
Viscosity, dynamic:	15.5 mPa.s ( 23 °C)
Viscosity, kinematic:	14.2 mm <sup>2</sup> /s ( 23 °C)
Solubility in water:	completely miscible
Solubility (qualitative):	slightly soluble
	solvent(s): alcohols,
Molar mass:	No data available.

## 10. Stability and Reactivity

### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:  
Corrosive effect on metals.

Oxidizing properties:  
Based on its structural properties the product is not classified as oxidizing.

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

### Conditions to avoid

Avoid electro-static discharge. Avoid all sources of ignition: heat, sparks, open flame.

### Incompatible materials

None known during use and storage if used according to instructions.

### Hazardous decomposition products

Decomposition products:  
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:  
 $\geq 290$  °C (DSC (DIN 51007))

## 11. Toxicological information

### Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

### Acute Toxicity/Effects

Acute toxicity

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Assessment of acute toxicity: Of low toxicity after single ingestion. Of low toxicity after short-term skin contact.

### Oral

*Information on: cholin chloride*  
*Type of value: LD50*  
*Species: rat (male/female)*  
*Value: 3,150 mg/kg (BASF-Test)*  
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### Inhalation

*Information on: cholin chloride*  
*Type of value: LC50*  
*Species: rat*  
*Value: > 5.2 mg/l (BASF-Test)*  
*Exposure time: 4 h*  
*An aerosol was tested.*  
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### Dermal

*Information on: cholin chloride*  
*Type of value: LD50*  
*Species: rat*  
*Value: > 4,000 mg/kg (similar to OECD guideline 402)*  
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### Assessment other acute effects

No data available.

### Irritation / corrosion

Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes.

### Skin

*Information on: cholin chloride*  
*Species: rabbit*  
*Result: non-irritant*  
*Method: BASF-Test*  
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### Eye

*Information on: cholin chloride*  
*Species: rabbit*  
*Result: non-irritant*  
*Method: BASF-Test*  
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### Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

*Information on: cholin chloride*  
*Species: guinea pig*

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*Result: Non-sensitizing.*

*Method: OECD Guideline 406*

### Aspiration Hazard

May also damage the lung at swallowing (aspiration hazard).

## Chronic Toxicity/Effects

### Repeated dose toxicity

Assessment of repeated dose toxicity: No adverse effects were observed after repeated exposure in animal studies.

### Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture.

### Carcinogenicity

Assessment of carcinogenicity: Not carcinogenic.

### Reproductive toxicity

Assessment of reproduction toxicity: Repeated oral uptake of the substance did not cause damage to the reproductive organs.

### Teratogenicity

Assessment of teratogenicity: The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses which impaired body weight gain in parental animals. After the uptake of small doses toxicity to development will not be expected in humans.

### Other Information

The data on toxicology refer to the active ingredient. The product has not been tested. The statement has been derived from the properties of the individual components.

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## 12. Ecological Information

### Toxicity

#### Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

#### Toxicity to fish

*Information on: cholin chloride*

*LC50 (96 h) > 100 mg/l, Oryzias latipes (OECD Guideline 203, Flow through.)*

*The details of the toxic effect relate to the nominal concentration.*

#### Aquatic invertebrates

*Information on: cholin chloride*

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*EC50 (48 h) 349 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)  
The details of the toxic effect relate to the nominal concentration.*

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### Aquatic plants

*Information on: cholin chloride  
EC50 (72 h) > 1,000 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)  
The details of the toxic effect relate to the nominal concentration.  
No observed effect concentration (72 h) 32 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)  
The details of the toxic effect relate to the nominal concentration.*

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### Chronic toxicity to aquatic invertebrates

*Information on: cholin chloride  
No observed effect concentration (21 d) 30.2 mg/l, Daphnia magna (OECD Guideline 211, semistatic)  
The details of the toxic effect relate to the nominal concentration.*

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### Assessment of terrestrial toxicity

*Information on: cholin chloride*

*Toxic effects have been observed in studies with soil living organisms. No toxic effects have been observed in studies with terrestrial plants.  
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

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### Soil living organisms

*Information on: cholin chloride  
Toxicity to soil dwelling organisms:  
LC50 (56 d) 681 mg/kg, Eisenia foetida (OECD Guideline 222)  
Analogous: Assessment derived from products with similar chemical character.*

*No observed effect concentration (56 d) 320 mg/kg, Eisenia foetida (OECD Guideline 207)  
Analogous: Assessment derived from products with similar chemical character.*

*No observed effect concentration (28 d) 18.6 mg/kg, other soil dwelling microorganisms (OECD 216)  
Analogous: Assessment derived from products with similar chemical character.*

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### Toxicity to terrestrial plants

*Information on: cholin chloride  
ER50 > 2100 g/ha  
Analogous: Assessment derived from products with similar chemical character.*

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### **Microorganisms/Effect on activated sludge**



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### Toxicity to microorganisms

*Information on: cholin chloride*

*DIN 38412 Part 8 aerobic*

*bacterium/EC10 (17 h): 112.9 mg/l*

*The details of the toxic effect relate to the nominal concentration.*

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### **Persistence and degradability**

#### Assessment biodegradation and elimination (H<sub>2</sub>O)

Readily biodegradable (according to OECD criteria).

#### Elimination information

*Information on: cholin chloride*

*93 % BOD of the ThOD (14 d) (OECD 301C; ISO 9408; 92/69/EEC, C.4-F) (aerobic, activated sludge, domestic)*

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#### Assessment of stability in water

*Information on: cholin chloride*

*According to structural properties, hydrolysis is not expected/probable.*

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### **Bioaccumulative potential**

#### Assessment bioaccumulation potential

Accumulation in organisms is not to be expected.

The data refer to the charged form of the substance.

#### Assessment bioaccumulation potential

*Information on: cholin chloride*

*Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.*

*The data refer to the charged form of the substance.*

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### **Mobility in soil**

#### Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.

Adsorption to solid soil phase is expected.

The data refer to the charged form of the substance.

*Information on: cholin chloride*

*The substance will not evaporate into the atmosphere from the water surface.*

*Adsorption to solid soil phase is expected.*

*The data refer to the charged form of the substance.*

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### Additional information

Add. remarks environm. fate & pathway:

The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### 13. Disposal considerations

#### Waste disposal of substance:

Observe national and local legal requirements.

#### Container disposal:

Dispose of in accordance with national, state and local regulations.

### 14. Transport Information

#### Land transport

USDOT

Not classified as a dangerous good under transport regulations

#### Sea transport

IMDG

Not classified as a dangerous good under transport regulations

#### Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

### 15. Regulatory Information

#### Federal Regulations

##### Registration status:

Feed TSCA, US released / exempt

Chemical TSCA, US released / listed

**EPCRA 311/312 (Hazard categories):** Refer to SDS section 2 for GHS hazard classes applicable for this product.

#### CERCLA RQ

10 LBS

#### CAS Number

75-21-8

#### Chemical name

Ethylene Oxide

**Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:**

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**WARNING:** This product can expose you to chemicals including ETHYLENE OXIDE, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**NFPA Hazard codes:**

Health: 0      Fire: 1      Reactivity: 0      Special:

**HMIS III rating**

Health: 0      Flammability: 1      Physical hazard: 0

**Assessment of the hazard classes according to UN GHS criteria (most recent version):**

Acute Tox.	5 (dermal)	Acute toxicity
Acute Tox.	5 (oral)	Acute toxicity

## 16. Other Information

**SDS Prepared by:**

BASF NA Product Regulations

SDS Prepared on: 2023/02/06

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END OF DATA SHEET