

Safety data sheet

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BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 07.12.2022

Version: 2.0

Product: **Choline Chloride Solution 75%**

(ID no. 30041094/SDS_GEN_00/EN)

Date of print 21.10.2025

1. Identification

Product identifier

Choline Chloride Solution 75%

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: feed additive(s)

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Nutrition and Health

Telephone: +49 621 60-48434

E-mail address: EN-global-safety-data@basf.com

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Acute Tox. 5 (oral)

Acute Tox. 5 (dermal)

For the classifications not written out in full in this section the full text can be found in section 16.

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Label elements

Globally Harmonized System (GHS)

Signal Word:

Warning

Hazard Statement:

H303 + H313 May be harmful if swallowed or in contact with skin

Precautionary Statements (Response):

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

P302 + P312 IF ON SKIN: Call a POISON CENTER or a doctor/physician if you feel unwell.

Other hazards

According to UN GHS criteria

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

Aqueous solution based on: Choline chloride

Hazardous ingredients (GHS)

According to UN GHS criteria

Choline chloride

Content (W/W): $\geq 50\%$ - $\leq 100\%$	Acute Tox. 5 (oral)
	Acute Tox. 5 (dermal)
CAS Number: 67-48-1	H303 + H313
EC-Number: 200-655-4	

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4. First-Aid Measures

Description of first aid measures

If inhaled:

Keep patient calm, remove to fresh air.

On skin contact:

| Wash thoroughly with soap and water

On contact with eyes:

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

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

| water spray, foam, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:

water jet

Special hazards arising from the substance or mixture

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

Special protective equipment:

| 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.

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

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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.

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.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

67-48-1: Choline chloride

Exposure controls

Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

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

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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

Information on basic physical and chemical properties

Form:	aqueous solution	
Colour:	colourless	
Odour:	amine-like	
Odour threshold:	not determined	
pH value:	approx. 5,5 - 6,5 (20 °C)	(ASTM E70)
Melting point:	-18 °C	
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.	
Ignition temperature:	355 °C	(DIN 51794)
Vapour pressure:	123 mbar (50 °C) 23 mbar (20 °C)	
Density:	1,1 g/cm ³ (20 °C)	
Relative density:	1,1 (20 °C)	
Relative vapour density (air):	> 1 (20 °C) Heavier than air.	(calculated)
Solubility in water:	completely miscible	
Solubility (qualitative) solvent(s):	alcohols slightly soluble	
Partitioning coefficient n-octanol/water (log Kow):	not applicable for mixtures	
Thermal decomposition:	>= 290 °C (DSC (DIN 51007))	
Viscosity, dynamic:	15,5 mPa.s (23 °C)	
Viscosity, kinematic:	14,2 mm ² /s (23 °C)	

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Explosion hazard: Based on the chemical structure there is no indication of explosive properties.

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

Other information

Self heating ability: not applicable, the product is a liquid

Grain size distribution: The substance / product is marketed or used in a non solid or granular form.

10. Stability and Reactivity**Reactivity**

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

Corrosion to metals: Corrosive effect on metals.

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

See SDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:

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

Hazardous decomposition products

Hazardous decomposition products:

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

11. Toxicological Information**Information on toxicological effects**Acute toxicity

Assessment of acute toxicity:

Of low toxicity after single ingestion. Of low toxicity after short-term skin contact.

Information on: Choline chloride

Experimental/calculated data:

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LD50 rat (oral): 3.150 mg/kg (BASF-Test)
-----*Information on: Choline chloride**Experimental/calculated data:**LC50 rat (by inhalation): > 5,2 mg/l 4 h (BASF-Test)**An aerosol was tested.*
-----*Information on: Choline chloride**Experimental/calculated data:**LD50 rat (dermal): > 4.000 mg/kg (similar to OECD guideline 402)*

Irritation

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes.

*Information on: Choline chloride**Experimental/calculated data:**Skin corrosion/irritation rabbit: non-irritant (BASF-Test)*
-----*Information on: Choline chloride**Experimental/calculated data:**Serious eye damage/irritation rabbit: non-irritant (BASF-Test)*

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

*Information on: Choline chloride**Experimental/calculated data:**guinea pig: Non-sensitizing. (OECD Guideline 406)*

Germ cell mutagenicity

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.

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Developmental toxicity

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.

Specific target organ toxicity (single exposure)

Remarks: No data available.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

No adverse effects were observed after repeated exposure in animal studies.

Aspiration hazard

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

Other relevant toxicity 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.

12. Ecological Information

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.

Information on: Choline chloride

Toxicity to fish:

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

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

Information on: Choline chloride

Aquatic invertebrates:

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.

Information on: Choline chloride

Aquatic plants:

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.

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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.

Information on: Choline chloride

Microorganisms/Effect on activated sludge:

EC10 (17 h) 112,9 mg/l, Pseudomonas putida (DIN 38412 Part 8, aerobic)

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

Information on: Choline chloride

Chronic toxicity to aquatic invertebrates:

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.

Information on: Choline chloride

Assessment of terrestrial toxicity:

Toxic effects have been observed in studies with soil living organisms. No toxic effects have been observed in studies with terrestrial plants.

Information on: Choline chloride

Soil living 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.

Information on: Choline chloride

Terrestrial plants:

ER50 > 2100 g/ha

Analogous: Assessment derived from products with similar chemical character.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Information on: Choline chloride

Elimination information:

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

Information on: Choline chloride

Assessment of stability in water:

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

Bioaccumulative potential

Assessment bioaccumulation potential:

Accumulation in organisms is not to be expected.

The data refer to the charged form of the substance.

Information on: Choline chloride

Assessment bioaccumulation potential:

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.

Mobility in soil

Assessment transport between environmental compartments:

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

Adsorption in soil: Adsorption to solid soil phase is expected. The data refer to the charged form of the substance.

Information on: Choline chloride

Assessment transport between environmental compartments:

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

Adsorption in soil: Adsorption to solid soil phase is expected. The data refer to the charged form of the substance.

Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

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.

Do not release untreated into natural waters.

13. Disposal Considerations

Waste treatment methods

Observe national and local legal requirements.

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14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable

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Special precautions for user None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Regulation:	IBC-Code
Product name:	Cholinchloride solutions
Pollution category:	Z
Ship Type:	3

15. Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
H303 + H313	May be harmful if swallowed or in contact with skin

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the

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responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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