

Safety data sheet

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BASF Safety data sheet according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended from

time to time.

Date / Revised: 08.01.2023 Version: 8.0

Date previous version: 15.08.2019 Previous version: 7.0

Date / First version: 09.12.2003

Product: Choline Chloride Solution 75%

(ID no. 30041094/SDS_GEN_GB/EN)

Date of print 15.10.2025

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

1.1. Product identifier

Choline Chloride Solution 75%

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

Relevant identified uses: feed additive(s)

1.3. Details of the supplier of the safety data sheet

Company: BASF SE 67056 Ludwigshafen GERMANY Contact address: BASF plc

4th and 5th Floors, 2 Stockport Exchange Railway Road, Stockport, SK1 3GG

UNITED KINGDOM

Telephone: +44 161 475 3000

E-mail address: product-safety-uk-and-ireland@basf.com

1.4. Emergency telephone number

International emergency number: Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts. The methodologies used are mentioned at the respective test results.

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

time to time.

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

2.2. Label elements

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

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

2.3. Other hazards

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Aqueous solution based on: Choline chloride

Hazardous ingredients (GHS)

No particular hazards known.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

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.

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On ingestion:

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

4.2. Most important symptoms and effects, both acute and delayed

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

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Symptomatic treatment (decontamination, vital functions).

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:

water spray, foam, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:

water jet

5.2. Special hazards arising from the substance or mixture

Endangering substances: harmful vapours, carbon oxides, nitrogen oxides, chlorine compounds Advice: The substances/groups of substances mentioned can be released in case of fire. Evolution of fumes/fog.

5.3. 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.

SECTION 6: Accidental Release Measures

6.1. 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.

6.2. Environmental precautions

Do not discharge into drains/surface waters/groundwater.

6.3. 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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6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. 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.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No substance specific occupational exposure limits known.

8.2. 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.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form: aqueous solution

Colour: colourless Odour: amine-like

Odour threshold:

not determined

(ASTM E70) pH value: approx. 5.5 - 6.5

(20 °C)

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.

355 °C Ignition temperature: (DIN 51794)

Vapour pressure: 123 mbar

(50 °C) 23 mbar (20 °C)

Density: 1.1 g/cm3

(20 °C)

Relative density: 1.1

(20 °C)

Relative vapour density (air):> 1 (calculated)

(20 °C)

Heavier than air.

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

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Viscosity, dynamic: 15.5 mPa.s

(23 °C)

Viscosity, kinematic: 14.2 mm2/s

(23 °C)

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.

9.2. 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.

SECTION 10: Stability and Reactivity

10.1. Reactivity

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

Corrosion to metals: Corrosive effect on metals.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

See SDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:

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

10.6. Hazardous decomposition products

Hazardous decomposition products:

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

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

time to time.

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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:

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)

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

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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

time to time.

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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.

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.

SECTION 12: Ecological Information

12.1. 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.

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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.

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 terrestric 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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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.

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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.

12.2. 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:

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

12.3. 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.

12.4. 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.

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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.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria. Self classification

12.6. Other adverse effects

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

12.7. 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.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Observe national and local legal requirements.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).

SECTION 14: Transport Information

Land transport

ADR

Not classified as a dangerous good under transport regulations

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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 None known

user

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 None known

Special precautions for

user

Inland waterway transport

ADN

Not classified as a dangerous good under transport regulations

Not applicable UN number or ID number: Not applicable UN proper shipping name: Transport hazard class(es): Not applicable Not applicable Packing group: Environmental hazards: Special precautions for

user:

Not applicable 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 Not applicable UN proper shipping name: Not applicable Transport hazard class(es): Not applicable Packing group: Environmental hazards: Not applicable

Special precautions for

user

None known

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Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

UN number or ID number:
UN proper shipping name:
Transport hazard class(es):
Packing group:
Environmental hazards:
Special precautions for

Not applicable
Not applicable
Not applicable
Not applicable
Not applicable
Not applicable

user

14.1. UN number or ID number

See corresponding entries for "UN number or ID number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Regulation: IBC-Code

Product name: Cholinchloride solutions

Pollution category: Z Ship Type: 3

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SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU): Listed in above regulation: no

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).

15.2. Chemical Safety Assessment

Product is not classified as hazardous.

SECTION 16: Other Information

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

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

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

Abbreviations

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

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

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corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.