

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date: 14.11.2022

Version No: 3.03 (replaces version 3.02)

Revision: 14.11.2022

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

- **1.1 Product identifier**
- **Trade name:** Choline chloride, 75 % Aqueous solution
- **CAS Number:**
67-48-1
- **EC number:**
200-655-4
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation:**
Industrial use
Fertiliser
Detergents
Intermediate
Plant protection product
Additive
- **Uses advised against:** No further relevant information available.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Balchem Italia Srl
Via del Porto, snc 28040
Marano Ticino (NO), Italy
Tel.: 0039-03219791

e-mail: sds@balchem.com
- **1.4 Emergency telephone number:**
CHEMTREC:
800-4249300 (USA)
+1 7035273887 (International)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
The substance is not classified, according to the GB CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** No
- **vPvB:** No

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
67-48-1 choline chloride

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GB

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- **Identification number(s)**
- **EC number:** 200-655-4

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
No special measures required.
If symptoms persist consult doctor.
- **After inhalation:** Supply fresh air.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water.
Remove contact lenses, if present and easy to do. Continue rinsing.
- **After swallowing:** Rinse mouth.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Carbon monoxide
Carbon dioxide
Nitrogen oxides (NO_x)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.
Wear protective clothing.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the material collected according to regulations.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Prevent formation of aerosols.
- **Information about fire and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from frost.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **8.2 Exposure controls**
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**
Do not eat, drink or smoke when using this product.
Keep away from foodstuffs, beverages and feed.
The usual precautionary measures are to be adhered to when handling chemicals.
- **Respiratory protection:** Not necessary if room is well-ventilated.
- **Hand protection**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
- **Material of gloves**
Rubber gloves
PVC gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye/face protection** Safety glasses
- **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Physical state** Liquid
- **Form:** Liquid
- **Colour:** Light yellow
- **Odour:** Amine-like

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· Odour threshold:	Not determined.
· Melting point/freezing point:	-18 °C
· Boiling point or initial boiling point and boiling range	> 125 °C
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	Not applicable.
· Upper:	Not applicable.
· Flash point:	Not applicable.
· Ignition temperature:	330 °C (VDI 2263)
· Decomposition temperature:	~ 305 °C (OECD Guideline 103)
· pH (10 g/l) at 20 °C	5 - 8
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic at 26 °C:	26.20 mPas (OECD Guideline 114)
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	logPow: -3.37 @ 25 °C (OECD Guideline 123)
· Vapour pressure at 25 °C:	22.872 hPa (QSAR)
· Density and/or relative density	
· Density:	Not determined.
· Relative density at 20 °C	1.10
· Vapour density	Not determined.
· Relative gas density	Not determined.

· 9.2 Other information	
· Explosive properties:	Product does not present an explosion hazard.
· Oxidising properties	No
· Evaporation rate	Not determined.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** No decomposition if used and stored according to specifications.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Strong exothermic reaction with acids.
- **10.4 Conditions to avoid** Keep away from heat and direct sunlight.
- **10.5 Incompatible materials:** Reacts with strong acids.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

Oral	LD50	3500.00 mg/kg (Rat)
	NOAEL (repeated dose)	1200.00 mg/kg bw/day (Rat) (OECD Guideline 452, chronic)
	NOAEL (reproduction)	78.00 mg/kg bw/day (Rat) (subchronic)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.

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- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

LC50 (96h) (static)	> 10000.00 mg/L (Fish) (DIN 38412, <i>Leuciscus idus</i>)
ErC50 (72h) (static)	> 500.00 mg/L (Algae) (DIN 38412 L9, <i>Scenedesmus subspicatus</i>)
EC50 (48h) (static)	≥ 500.00 mg/L (Daphnia) (EU Method C.2, <i>Daphnia magna</i>)
EC50 (static)	132.80 mg/L (Bacteria) (17 h, DIN 38412 Part 8, <i>Pseudomonas putida</i>)
NOEC (21d)	30.2 mg/L (Daphnia) (OECD Guideline 211, <i>Daphnia magna</i>) static renewal

· 12.2 Persistence and degradability

Readily biodegradable
> 75 % @ 5 d (DIN 38 409 part 43/H5)

· 12.3 Bioaccumulative potential

Does not accumulate in organisms.
BCF: 3.16 L/kg ww (QSAR)

· 12.4 Mobility in soil logKoc: 0.1576 @ 20 °C (QSAR)

· 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

· 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

· 12.7 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation:

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging

· Recommendation: Disposal must be made according to official regulations.

· Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR/RID/ADN, IMDG, IATA Void

· 14.2 UN proper shipping name

· ADR/RID/ADN, IMDG, IATA Void

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· 14.3 Transport hazard class(es)	
· ADR/RID/ADN, IMDG, IATA	
· Class	Void
· 14.4 Packing group	
· ADR/RID/ADN, IMDG, IATA	Void
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Chemical Inventories:**
 - USA - TSCA
 - Canada - DSL
 - EU - EINECS
 - EU - UK REACH
 - Reregistration of Feed Additives (Regulation (EC) 183/2003)

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Abbreviations and acronyms:**
 - UK REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
 - MARPOL: (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships
 - IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 - UN: United Nations (also UNO: United Nations Organization)
 - NOEC: No Observed Effect Concentration
 - OECD: Organisation for Economic Co-operation and Development
 - ASTM: American Society for Testing and Materials
 - WAF: Water Accommodated Fraction
 - ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative

- *** Data compared to the previous version altered.**