



a xylem brand

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product identifier Choline Standard - All Concentrations
Version # 01
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Revision date -
Supersedes date -
CAS # Mixture
Product code 2772; 2773
Product use Analysis Standard/Reagent
Manufacturer information YSI, Inc
 1700/1725 Brannum Lane
 Yellow Springs, Ohio 45387
 MSDSinfo@ysi.com
 (937) 767-7241
 CHEMTREC (US/Canada) (800) 424-9300
 CHEMTREC (International) 011 703-527-3887
 (Collect calls accepted)

2. Hazards Identification

Potential health effects

Eyes Health injuries are not known or expected under normal use.
Skin Health injuries are not known or expected under normal use.
Inhalation Health injuries are not known or expected under normal use.
Ingestion Health injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Choline Bitartrate	87-67-2	< 1
Potassium EDTA	25102-12-9	< 1
Sodium Benzoate	532-32-1	< 1
Water	7732-18-5	> 97

4. First Aid Measures

First aid procedures

Eye contact Rinse with water. Get medical attention if irritation develops and persists.
Skin contact Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

General advice If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters	
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Explosion data	
Sensitivity to static discharge	Not available.
Sensitivity to mechanical impact	Not available.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see Section 8 of the MSDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for containment	Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.
Methods for cleaning up	Should not be released into the environment. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling	Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling.
Storage	Store in accordance with local/regional/national/international regulation. Store away from incompatible materials (See Section 10).

8. Exposure Controls / Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal protective equipment	
Eye / face protection	If contact is likely, safety glasses with side shields are recommended.
Skin protection	Wear suitable protective clothing. For prolonged or repeated skin contact use suitable protective gloves.
Respiratory protection	No personal respiratory protective equipment normally required.

9. Physical & Chemical Properties

Appearance	Not available.
Physical state	Liquid.
Form	Liquid.
Color	Clear and colorless.
Odor	None.
Odor threshold	Not available.
pH	6.5 - 7.5

Vapor pressure	(Equivalent to water)
Vapor density	(= water vapor)
Boiling point	212 °F (100 °C)
Melting point/Freezing point	Not available.
Solubility (water)	Infinitely soluble
Specific gravity	1
Flash point	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Other data	
Explosive properties	Not explosive.
Flammability (solid, gas)	Not applicable.

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	None known.
Incompatible materials	None known.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological Information

Acute effects	Not classified.
Sensitization	Not classified.
Local effects	May cause temporary irritation on skin or eye contact.
Chronic effects	Not expected to be hazardous by WHMIS criteria.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. Based on available data, the classification criteria are not met.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive effects	Based on available data, the classification criteria are not met.
Symptoms and target organs	None known.

12. Ecological Information

Ecotoxicological data

Components	Species	Test Results
Sodium Benzoate (CAS 532-32-1)		
Aquatic		
Fish	LC50 Fathead minnow (<i>Pimephales promelas</i>)	> 100 mg/l, 96 hours
Ecotoxicity	Not expected to be harmful to aquatic organisms.	
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.	
Persistence and degradability	Not available.	

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory Information

Canadian regulations This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status Non-controlled

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings Health: 0
Flammability: 0
Instability: 0

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available.