

Safety Data Sheet

Choline Chloride Dry

1. Identification of the Substance and of the Company

Product Name: Choline Chloride 60% Dry
Choline Chloride 70% Dry

Other Names: (2-Hydroxyethyl) Trimethylammonium Chloride
2-Hydroxy-N,N,N-trimethylethanaminium, Chloride

CAS Number: 67-48-1

Chemical Formula: C₅H₁₄ClNO

Manufacturer Information: GHW Vietnam CO.,Ltd. VIETNAM

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832-850-7611

Typical Uses: Nutrition Additives for Feed

2. Hazardous Identification

OSHA Regulatory Status: This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122).

Label: Health: 2 (blue), Fire: 1 (red), Reactivity: 0 (yellow), Personal Protection: E (white)

Hazardous Facts: Dust may be irritating to eyes, respiratory tract or skin. Combustion/decomposition may release toxic gases such as carbon dioxide, hydrogen chloride gas, nitrogen oxide and carbon monoxide. Deliquescent (absorbs moisture from air and becomes liquid) and may be slippery when spilled. Under appropriate conditions, dust explosion could occur.

3. Composition/Information on Ingredients

% by weight: Choline Chloride:60% - 70%; Carrier: 30 - 40%;
Water < 0.5%

4. First-Aid Measures

Eye Contact: Check for and remove any contact lenses;
Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open;
Do not use an eye ointment;
Seek medical attention if symptoms persist.

Skin Contact: Take off all contaminated clothes and shoes;
Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap;
Cover the irritated skin with an emollient. If irritation persists, seek medical attention.

Inhalation:	Not hazard expected.
Ingestion:	Not hazard expected.
Protection of First-Aiders:	Use personal protection equipment.
Important Symptoms and Effects	No information available.

5. Fire-Fighting Measures	
Flammability:	Maybe combustible at high temperature.
Dust Cloud:	250 mg/l for particle size 70 micron or less (based on sample of Choline chloride 70% on vegetable carrier).
Possible dust explosion:	The particle size as produced and the deliquescent nature of the product are expected to limit potential for dust explosion.
Protective Equipment for fire-fighters:	As in any fire, wear self-contained breathing apparatus, NIOSH (approved or equivalent) and full protective gear.

6. Accident Release Measures	
Personal protective equipment:	Wear suitable protective equipment.
Environmental Precautions:	Prevent material from entering waterways; Collect as much as possible for reuse or disposal.

7. Handling and Storage	
Handling:	Avoid contact with eyes, skin and clothing; Wash thoroughly after handling; Avoid breathing dust; Ensure containers are properly secured before moving; Minimize dust generation and accumulation; Routine housekeeping to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precaution, such as electrical grounding and bonding, or inert atmospheres.
Storage:	Keep in dry sealed bags in a well ventilated place.
Shelf Life:	Use within one year recommended.

8. Exposure Controls/Personal Protection

Exposure Control:	Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work are (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.
Personal protection in case of large spill:	Splash goggles; Full suit; Dust respirator; Boots; Gloves.
General hygiene considerations:	Regular cleaning of equipment, work area and clothing.

9. Physical and Chemical Properties	
Physical state and appearance:	Light brown to white, free-flowing granules, solid.
Odor:	Little to slight grain odor.
Taste:	Not available.
Molecular Weight:	139.62 g/mole
pH:	Choline chloride: 4.5- 7.5 for a 25% wt/vol solution.
Specific Gravity:	0.46
Bulk Density:	450 - 650 kg/m ³
Solubility:	370 g/100 mL water @ 50°F (10°C); 506 g/100 mL water @ 100°F (38°C); 67.9 g/100 mL methanol @ 50°F (10°C); 72.3 g/100 mL methanol @ 100°F (38°C)
Melting Point:	Decomposes @ 477°F (247°C)
Boiling Point:	Not available.
Vapor Pressure:	Assumed to be very low.

10. Stability and Reactivity	
Reactivity:	Stable under normal condition.
Chemical stability:	Hazardous polymerization does not occur.
Possibility of Hazardous Reactions:	None under normal processing.
Hazardous polymerization:	No.
Conditions to avoid:	Avoid moisture.
incompatible materials:	Avoid contact with strong acids and bases as well as iron, mild steel and galvanized steel.
Hazardous decomposition products:	Compounds of carbon, hydrogen, nitrogen, oxygen, and chlorine.
Corrosivity:	Non-corrosive.

11. Toxicological/Ecological Information	
Eye irritation:	No eye irritation (rabbits).
Skin irritation:	Not irritating to skin (rabbits).
Reproductive Toxicity:	Did not show teratogenic effects in animal experiments.
Carcinogenic effects:	Not expected.

Biodegradable:	Yes.
LD50 Oral:	3400 mg/Kg (Rat)
LD50 Dermal:	Not listed.
LD50 Inhalation:	Not listed.
Freshwater Algae: (Choline Chloride)	500 mg/L EC50 > 72 h
Freshwater Fish: (Choline Chloride)	10000 mg/L LC50 96 h
Microtox:	133 mg/L EC50 Pseudomonas putida 17 h
Water Flea:	320 mg/L EC50 > 48 h 500 mg/L EC50 > 48 h

12. Disposal Considerations

Waste Disposal:	Be in accordance with regional and national regulations.
Contaminated packaging:	Empty containers should be recycled or waste disposed in accordance with regulations.

13. Transportation Information

Transportation:	Not a US DOT hazardous material (49 CFR 172.101).
Labeling:	Containers of this product need no special warning labels. Only a product identity label is needed.

14. Regulatory Information

US OSHA:	Not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
PSM:	Not subject to Process Safety Management (29 CFR 1910.119).
RMP:	Not listed under the Risk Management Plan (40 CFR 68).
FDA/USDA:	This product does not contain protein derived from mammalian tissues and is certified to be free of the agent that causes transmissible spongiform encephalopathy (TSE) [21 CFR 589.2000].
TSCA:	Complies.
DSL/NDSL:	Complies.
IECSC:	Complies.
WHMIS (Canada):	CLASS D-2B: Material causing other toxic effects (VERY TOXIC).
DSCL (EEC):	R36/38- Irritating to eyes and skin.
EINECS:	200-655-4
PICCS:	Complies.
ENCS:	Complies.
AICS:	Complies.
KECL:	Complies.

15. Other Information

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Appendix: Abbreviation

US OSHA: Occupational Safety and Health Administration

PSM: Process Safety Management

RMP: Risk Management Plan

FDA/USDA: Food and Drug Authorization/United States Department of Agriculture

TSCA: Toxic Substance Control Act

DSL/NDSL: Canadian Dangerous Substance List

IECSC: Chinese Chemical Inventory of Existing Chemical Substances

WHMIS (Canada): Workplace Hazardous Materials Information System

DSCL (EEC): European Dangerous Substances Derivatives List

EINECS: European Inventory of Existing Commercial Chemical Substances

ENCS: Japanese Existing and New Chemical Substances Inventory

AICS: Australian Inventory of Chemical Substances