

Safety Data Sheet


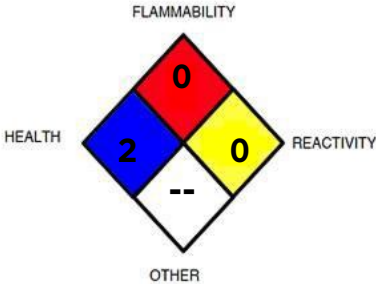
Section 1: Product & Company Identification

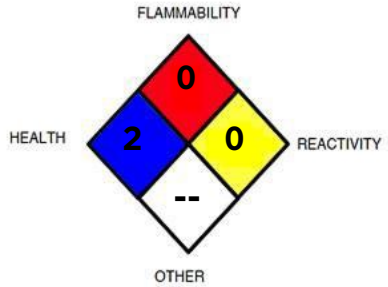
Product Name:	Choline Chloride
Product #:	C-2761
Synonyms:	Hepacholine; Biocoline
Supplier:	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego, CA 92131 Tele# + 858-452-9925
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	% Composition
Choline Chloride	67-48-1	200-655-4	≥ 99

Section 3: Hazards Identification

Symbols	
HMIS Classification	<p style="text-align: center;">FLAMMABILITY</p>  <p style="text-align: center;">HEALTH REACTIVITY</p> <p style="text-align: center;">OTHER</p>

NFPA Classification	
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Section 4: First Aid Measures

General Overview:	Consult a doctor and show this safety data sheet.
Inhalation:	Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.
Skin:	Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor
Eyes:	Flush with copious amounts of water for at least 15 minutes. Consult a doctor.
Ingestion:	Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.
	See section 11 for more detailed information on health effects & symptoms.

SECTION 5: Fire Fighting Measures

Flammability of the product:	No data available
Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
Hazardous thermal (de)composition products:	Carbon oxides, nitrogen oxides (NO _x), Hydrogen chloride gas.
Special Fire Fighting Procedures:	Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.
Flash Point:	No data available

Section 6: Accidental Release Measures




Personal Precautions:	Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.
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Environmental Precautions:	Do not let product enter drains.
Methods for Clean-up:	Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS.

SECTION 7: Handling & Storage

Storage:	Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Hygroscopic: Store under inert gas. Store at room temperature.
Handling:	Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin, and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:	 <p>Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.</p>
Skin and Body:	  <p>Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.</p>

	Wear appropriate protective clothing. Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Eyes:	 <p>Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).</p>
Ventilation/Engineering Measures:	Do not let product enter drains.
Hygiene:	Handle in accordance with good industrial hygiene and safety practice.
Other:	Contains no substances with occupational exposure limit values.

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	White crystals
Formula	C ₅ H ₁₄ NOCl
Molecular Wt.	139.6
Melting Pt.	302 - 305°C
Boiling Pt.	No data available
pH at 25°C	5 - 6.5 (140 g/L)
Density:	No data available
Vapor Pressure:	No data available
Evaporation Rate:	No data available
Vapor Density:	No data available
Solubility:	Water
Flash Point:	No data available
Autoignition Temp:	No data available

SECTION 10: Stability and Reactivity

Stability:	Stable under recommended storage conditions.
Hazardous decomposition products:	No data available

Materials to Avoid:	Strong oxidizing agents
Conditions to avoid:	No data available

SECTION 11: Toxicological Information

RTECS#:	N/A
ACUTE Toxicity:	LD50 Oral = 3,400 mg/kg (Rat)
CHRONIC Toxicity:	N/A
Chronic Exposure: Carcinogen: Mutagen: Teratogen: Reproductive:	<p>IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.</p> <p>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA.</p> <p>EPA: No classification on carcinogenic data is available from EPA</p>

SECTION 12: Ecological Information

Ecotoxicity:	<p>Freshwater Algae: 500 mg/L EC50 > 72h</p> <p>Freshwater Fish: 10,000 mg/L LC50 96h</p> <p>Water Flea: 320 mg/L EC50 > 48h</p>
Mobility:	Log Pow: -3.77
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Other adverse effects:	No data available
Corrosivity Characteristic:	No data available
General Notes:	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management
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	options. State and local disposal regulations may differ from federal disposal regulations.
Contaminated Packaging:	Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14: Transportation Information

UN ID#:	N/A
ADR / RID (LAND):	Not regulated
DOT regulations:	Not regulated
IMDG/IMO (SEA):	Not regulated
IATA/DGR (AIR):	Not regulated
Special Provisions:	N/A

SECTION 15: Regulatory Information

Health Phrases:	H315 Causes skin irritation H319 Cause Serious Eye irritation H335 May cause respiratory irritation
Risk Phrases:	P261 Avoid breathing dust/fume/gas/mist/vapors/spray. P264 Wash skin thoroughly after handling P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Safety Phrases:	P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P321 Specific treatment (see. on this label). P332 + P313 If skin irritation occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention P362 + P364 Take off contaminated clothing and wash before reuse. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P501 Dispose of contents/ container to an approved waste disposal plant
EU Regulations:	N/A
US Regulations:	TSCA: Listed California Proposition 65: No products were found New Jersey State Right to Know: Listed Pennsylvania State Right to Know: Listed
U.S. Federal Regulations:	SARA 302/304 emergency planning and notification: No products were found.

	<p>SARA 311/312 MSDS distribution-chemical inventory-hazard identification: Acute Health Hazard</p> <p>SARA 313 toxic chemicals notification and release reporting: No products were found.</p> <p>Clean Water Act (CWA) 307: No products were found.</p> <p>Clean Water Act (CWA) 311: No products were found.</p> <p>Clean Air Act (CAA) 112 accidental release prevention: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated flammable substances: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated toxic substances: No products were found.</p> <p>OSHA: Skin corrosion/irritation (Cat. 2); Serious eye damage/eye irritation (Cat. 2); Specific organ toxicity, single exposure, respiratory tract irritation (Cat. 3)</p>
WHMIS (Canada):	DSL: Listed

SECTION 16: Other Information

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