Section 1: Identification

Common Name/Trade Name	CHOLINE CHLORIDE	
Supplier Information	Letco Medical, LLC 1316 Commerce Drive NW Decatur, AL 35601 1 (800) 239-5288 +1 (734) 843-4693	**IN CASE OF EMERGENCY:** Chemtrec 1 (800) 424-9300 **(24 hours)**
Product Synonym(s)	Choline Chloride FCC, USP	
Relevant Use(s) of Product	Manufacture or Compounding of Substances	

Section 2: Hazards Identification

Classification of Substance or Mixture	None. Material is not hazardous.
Signal Word	None
Hazard Statement(s)	N/A
Pictogram(s)	N/A
Precautionary Statement(s)	N/A
Hazards Not Otherwise Classified	Possible dust explosion. The particle size as produced and the deliquescent nature of the product are expected to limit the potential for dust explosion.
Ingredient(s) with Unknown Toxicity	No data available

Section 3: Composition/Information on Ingredients

Chemical Name	N/A	
Common Name	Choline Chloride	
CAS Number	67-48-1	
Material	**Percent**	**CAS**
Water	<0.5%	7732-18-5
Impurities and/or Stabilizing Additives	No data available	

Section 4: First Aid Measures

General Advice	No data available
If Inhaled	For significant exposure to any nuisance particles (dust or mist), remove to fresh air and,if there is difficulty breathing, get medical attention. Breathing dust from any source may cause respiratory irritation and/or injury.
In Case of Skin Contact	No first aid is required. As a precaution, wash with soap and water, and wash contaminated clothing before reuse.
In Case of Eye Contact	To prevent mechanical irritation, flush with clean, low-pressure water. Prolonged exposure may cause discoloration.
If Swallowed	No first aid required for ingesting small amounts.
Most Important Symptoms and Effects	Acute: None. Delayed: None. Indication of immediate medical attention and special treatment needed, if necessary: There are no adverse effects from exposure to this product.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Suitable (and unsuitable) extinguishing media. Water, Foam, CO2, Dry Chemical.
Special Hazards Arising From the Substance/Mixture	No specific hazards. Combustion will produce compounds of carbon, hydrogen, nitrogen, chlorine and oxygen.
Special PPE and/or Precautions for Firefighters	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard. This material may present an explosion and deflagration hazard risk when dispersed and ignited in air. Secondary explosions may also pose a risk once an initial explosion occurs with the presence of a combustible dust or powder in the area.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	For non-emergency personnel: Dust should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (e.g., avoid clearing dust surfaces with compressed air). For emergency responders: No specific protective equipment is required.
Methods and Materials Used for Containment	Water run-off can cause environmental damage due to high BOD.
Cleanup Procedures	Vacuum or sweep material and place in a disposal container.

Section 7: Handling and Storage

Precautions for Safe Handling	Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing dust.
Conditions for Safe Storage	Ensure containers are properly secured before moving. Minimize dust generation and accumulation. Routine housekeeping should be instituted 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.

Section 8: Exposure Controls/Personal Protection

Components with Workplace Control Parameters	Choline Chloride: OSHA Nuisance Dust PELs (29 CFR 1910.1000): Respirable fraction = 5 mg/m3; Total = 15 mg/m3
Appropriate Engineering Controls	Provide ventilation and particulate control to maintain airborne levels below the exposure guidelines. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. 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.
PPE - Eye/Face Protection	If there is a potential for exposure to particles (mist or dust) which would cause mechanical injury to the eye, wear chemical goggles.
PPE - Skin Protection	No additional precautions.
PPE - Body Protection	No additional precautions.
PPE - Respiratory Protection	In dusty atmospheres, use an approved dust respirator. In confined or poorly ventilated areas or emergency and other conditions where the exposure guidelines may be greatly exceeded, use an approved positive pressure self-contained breathing apparatus.

Section 9: Physical and Chemical Properties

Appearance	White Crystals
Upper/Lower Flammability or Explosive Limits	Not flammable.
Odor	Slight amine odor.
Vapor Pressure	Not available. Assumed equal to water.
Odor Threshold	Not determined.
Vapor Density	Not available. Assumed equal to water.
pH	Choline Chloride: 4.5 â?? 7.5 for a 25% w/v solution
Relative Density	Not available.
Melting Point/Freezing Point	Melting point/freezing point. Choline Chloride: Decomposes at 247Â°C (477Â°F)
Solubility	Choline Chloride: 370 g/100 mL water at 10Â°C (50Â°F)
Initial Boiling Point and Boiling Range	Not available
Flash Point	Not available
Evaporation Rate	Not available. Assumed equal to water.
Flammability (Solid, Gas)	Not flammable
Partition Coefficient	Not available
Auto-Ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available

Section 10: Stability and Reactivity

Reactivity	Not considered reactive.
Chemical Stability	Stable.
Possibility of Hazardous Reactions	No hazardous reactions expected.
Conditions to Avoid	Do not heat to boiling or decomposition in sealed container.
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, chlorine and oxygen.

Section 11: Toxicological Information

Acute Toxicity - LD50 Oral	100% Choline Chloride: LD50 â?? 3400 mg/kg (oral) rat
Acute Toxicity - Inhalation	No data available
Acute Toxicity - Dermal	No data available
Acute Toxicity - Eye	No data available
Skin Corrosion/Irritation	No data available
Serious Eye Damage/Irritation	No data available
Respiratory or Skin Sensitazation	No data available
Germ Cell Mutagenicity	No data available
Carcinogenicity IARC	No data available
Carcinogenicity ACGIH	No data available
Carcinogenicity NTP	No data available
Carcinogenicity OSHA	No data available
Reproductive Toxicity	No data available
Specific Target Organ Toxicity - Single Exposure	No data available
Specific Target Organ Toxicity - Repeated Exposure	No data available
Aspiration Hazard	No data available

Section 12: Ecological Information

Toxicity	100% Choline Chloride: 10000 mg/L 24 weeks (mortality) coho salmon, silver salmon
Persistence and Degradability	Readily biodegradable.
Bio-accumulative Potential	Not bioaccumulative.
Mobility in Soil	Not determined
Other Adverse Effects	Not determined

Section 13: Disposal Considerations

Waste Treatment Methods Product	Not considered a hazardous waste under US Federal Hazardous Waste Regulations (40 CFR 261). Consult local regulations regarding proper disposal as they may be more restrictive or otherwise different from Federal/International regulations.
Waste Treatment Methods Packaging	Dispose of packaging contaminated by product in accordance with regulations.
Special Precautions Landfill or Incinerations	No data available
Other Information	No data available

Section 14: Transport Information

UN Number	Not dangerous goods.
UN Proper Shipping Name	N/A
Transport Hazard Class(es)	N/A
Packaging Group	N/A
Environmental Hazards	N/A

Section 15: Regulatory Information

US Federal: CERCLA: Reportable Quantity â?? None (40 CFR 302.4) CWA: Release into a waterway may require reporting to the National Response Center @ 800-424-8802 (40 CFR 116.4). FIFRA: Not applicable. OSHA: This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. PSM: This product is not subject to Process Safety Management (29 CFR 1910.119). RCRA: If discarded in purchased form, this product is not a listed or characteristic hazardous waste. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24). RMP: Not listed under the Risk Management Plan (40 CFR 68). SARA TITLE III: Section 302 Extremely Hazardous Substances â?? None (40 CFR 355) Section 311/312 Hazard Categories â?? None (40 CFR 370.2) Section 313 Toxic Chemicals â?? None (40 CFR 372.65) TSCA: On TSCA inventory. US State: This product is not subject to California Proposition 65. There are no known additional requirements necessary for compliance with state right-to-know regulations. Canadian: DSL: Listed (published 5 April 1994) EU: CLP: Regulation (EC) No. 1272/2008 Classification, Labeling and Packaging does not apply to non-hazardous materials. EINECS: No. 200-655-4 REACH: Regulation (EC) No. 1907/2006 Registration, Evaluation, Authorization and Restriction of Chemicals does not apply to feed. Safety Data Sheets: Regulation (EU) No. 453/2010 does not apply to non-hazardous materials. 15.2. It shall be indicated if a chemical safety assessment has been carried out for the substance or the mixture by the supplier. Not applicable

Section 16: Other Information

Additional Information	Hazard Ratings: The following NFPA hazard ratings are recommended for this product: Fire Ã¢?? 1; Health Ã¢?? 0; Reactivity Ã¢?? 0; Specific Hazard Ã¢?? None. For safe handling, refer to NFPA 654, Standard for the prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids.
Prepared By	Lisa Russell
Revision Date	01/14/2019 15:50