FRANCIS DRILLING FLUIDS, LTD.

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Trade Name(s): Ammonium Chloride

Generic Name(s): Ammonium Chloride All Grades, Ammonium Chloride White

Chemical Name(s): Ammonium Chloride

Francis Drilling Fluids, LTD.
P.O. Box 1694
Crowley, LA 70527-1694

Emergency/Telephone No.: 800-960-6610
318-783-8685
Hazardous Materials No.: 800-255-3924
Poison Control Center No.: 800-256-9822

II. HAZARDOUS INGREDIENTS

Ingredient	CAS No.	%	Hazard
Ammonium Chloride	12125-02-9	98%	Irritant

III. NFPA/HMIS HAZARD IDENTIFICATION SYSTEM

0=LEAST 1=SLIGHT 2=MODERATE 3=HIGH 4 =EXTREME

Health: 2

Fire: 0

Reactivity: 0

IV. PHYSICAL DATA

Boiling Point (°F): 520°C	Specific Gravity (H_20=1): 1.56
Vapor Pressure (mm. Hg): 1mm @ 160.4C	Melting Point: NA
Vapor Density (Air = 1): NA	Evaporation Rate: NA
Solubility in Water: Soluble	pH: ND
Density (at 20° C): ND	Odor: No odor
Appearance: White crystals	

V. FIRE AND EXPLOSION DATA

Flash Point: Non-combustible

Flammable Limits: LEL: NA UEL: NA

Special Fire Fighting Procedures: Use water spray to cool nearby containers and structures exposed to fire.

Unusual Fire and Explosion Hazards: May evolve hazardous fumes under condition of high heat.

Extinguishing Media: This material is not combustible. Use extinguishing media appropriate for surrounding fire.

VI. REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur.

Incompatibility: Alkalis, Oxidizing materials, water and moist air.

Hazardous Decomposition: May liberate ammonia, hydrogen chloride, or nitrogen oxides.

VII. HEALTH HAZARD INFORMATION

Routes of Exposure and Effects:

Skin: Brief contact may dry the skin. Prolonged or repeated contact may irritate the skin, causing dermatitis.

Eyes: Dusts will irritate the eyes and prolonged contact may damage the eyes.

Inhalation: Breathing the dust may irritate the nose and throat and cause coughing and chest discomfort. Large quantities of fumes may be toxic.

Ingestion: Swallowing the dusts or solids may cause nausea and vomiting. Large quantities may have toxic effects.

Permissible Exposure Limits: (for air contaminants)

OSHA PEL (8hr. TWA): 10 ppm

ACGIH TLV: 10 ppm

Carcinogenicity:

Listed By NTP: Not listed	Listed By: IARC: Not listed	Listed By OSHA: Not listed
Acute Oral LD50:	Acute Dermal LD50:	Aquatic Toxicology LC50:

Emergency and First Aid Procedures:

Skin: Immediately flush skin with lots of running water for 15 minutes. Remove contaminated clothing and shoes; wash before reuse. Get immediate medical attention.

Eyes: Immediately flush eyes with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally. Get immediate medical attention.

Ingestion: Do not induce vomiting. If conscious, give lots of water. Get immediate medical attention. Do not give anything by mouth to an unconscious or convulsing person.

Inhalation: Remove to fresh air. Give artificial respiration if not breathing. Get immediate medical attention.

Additional Health Hazard Information::

Toxicity Data
Oral: Rat LD50= 1.65 g/kg
Dermal: ND
Inhalation: ND

VIII. HANDLING AND USE PRECAUTIONS

Steps to be Taken if Material is Released or Spilled: Wear protective equipment including rubber boots, rubber gloves, rubber apron, and a self-contained breathing apparatus in the pressure demand mode or a supplied-air respirator. If the spill or leak is small, a full facepiece air-purifying cartridge respirator equipped with particulate filters may be satisfactory. In any event, always wear eye protection. For small spills, sweep up and dispose of in DOT-approved waste containers. For large spills, shovel into DOT-approved waste containers. Keep out of sewers, storm drains, surface waters, and soil. Comply with all applicable governmental regulations on spill reporting, handling and disposal of waste.

Waste Disposal Methods: Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate Federal, State and Local Regulatory Agencies to ascertain proper disposal procedures.
Note: Empty containers can have residues, gases and mists and are subject to proper waste disposal, as above.

Handling and Storage Precautions: Store in a cool, dry, well-ventilated place away from incompatible materials. Keep bags or fiber drums dry at all times. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing.

Other precautions: Containers, even those that have been emptied, will retain product residue and vapors. Always obey hazard warnings and handle empty containers as if they were full.

IX. INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements: Local mechanical exhaust ventilation capable of maintaining dust emissions at the point of use below the PEL.

Respirator: If use conditions generate dusts, wear a NIOSH approved respirator appropriate for those emission levels. Appropriate respirators may be a full facepiece or a half mask air-purifying cartridge respirator with particulate filters, a self-contained breathing apparatus in the pressure demand mode, or a supplied-air respirator.

Eye Protection: Chemical goggles unless a full facepiece respirator is also worn. It is generally recognized that contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury.

Gloves: Impervious gloves.

Other Protective Clothing or Equipment: An eyewash and safety shower should be nearby and ready for use.

X. SPECIAL PRECAUTIONS

XI. ENVIRONMENTAL/SAFETY REGULATION

TSCA: The ingredients of this product are on the TSCA inventory.

DEPARTMENT OF TRANSPORTATION

Shipping Name: Ammonium Chloride (Not regulated)	Hazard Class: Non hazardous
Hazardous Substance: NA	
Cautionary Labeling: None	
NA=Not Applicable; ND=Not Determined or No Data	Date Prepared: July 25, 1995

File Name: AmmoniCL