

# MATERIAL SAFETY DATA SHEET

LLOYD, Inc.  
Phone No. (712) 246-4000  
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P.O. Box 130, Shenandoah, IA 51601-0130  
Felo-Form Chewable Tablets  
MSDS Date: 11/19/92 (Original)  
2/19/95; 3/8/99; 11/04/04; 6/28/06; 6/29/10 (Revised)

**Product Name: Felo-Form Chewable Tablets**

## 1. INGREDIENTS: (% w/w), unless otherwise noted

COMPONENT	CAS#	%	EXPOSURE LIMITS, ppm	
			OSHA PEL	ACGIH TLV (mg/m <sup>3</sup> )
Dicalcium Phosphate	7757-93-9	22.1		--None Established--
Calcium Carbonate	1317-65-3	6.0	30 mppcf	10 Total Dust 5 Respirable Dust
Potassium Chloride	7447-40-7	2.9	15 (total) 5 Respirable dust	10 (total)
Glycerin	56-81-5	1.5	None	10 (mist)
Choline Chloride, 60%	67-48-1	1.3		--None Established--

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). Only those ingredients composing  $\geq 1\%$  ( $\geq 0.1\%$  for carcinogens or suspect carcinogens) of the formula (w/w) and which have hazards identified are listed. The exposure limits associated with calcium carbonate dust and glycerin mist are not applicable to this product in the solid dosage form.

## 2. PHYSICAL DATA:

**APPEARANCE:** Brown elliptical tablet.  
Other physical data have not been determined.

## 3. FIRE AND EXPLOSION HAZARD DATA:

This has not been evaluated.  
**EXTINGUISHING MEDIA:** Water fog, alcohol foam, CO<sub>2</sub>, dry chemical.  
**SPECIAL FIRE FIGHTING PROCEDURES:** A strong fire could cause evolution of toxic and flammable trimethylamine from the choline chloride.

## 4. REACTIVITY DATA:

This has not been evaluated. The product is expected to be stable under normal storage conditions; avoid strong oxidizers. Choline chloride is corrosive to steel, copper, brass and aluminum. The addition of alkaline material to choline chloride will release choline base and trimethylamine.

Potassium chloride has the following incompatibilities. Contact with hot nitric acid may cause evolution of toxic nitrosyl chloride. Contact with other strong acids may produce irritating hydrogen chloride gases. In presence of moisture may be mildly corrosive to metals. Avoid contact with bromine trifluoride and potassium permanganate plus sulfuric acid. Oxides of the contained metal and chlorine are hazardous decomposition products.

## 5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

**ACTION TO TAKE FOR SPILLS/LEAKS:** Sweep up and dispose of in DOT-approved waste containers. Keep out of sewers, storm drains, surface waters and soil.

**DISPOSAL METHOD:** 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.

## 6. HEALTH HAZARD DATA:

**EYE:** This product is not expected to irritate the eyes.  
**SKIN CONTACT:** This product is not expected to irritate the skin.  
**INGESTION:** This has not been evaluated.  
**INHALATION:** Inhalation exposure under normal conditions of use is not likely to cause adverse effects, however irritation may occur if use conditions generate dust.

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Dicalcium Phosphate--Oral LD50 (rat): 10,000 mg/kg; Dermal LD50 (rabbit): >7940 mg/kg

Choline Chloride 60% Powder--Oral LD50 (rat): 6640 mg/kg; I.P. LD50 (rat): 400 mg/kg;

Glycerin--Oral LD50 (rat): 17-27.2 g/kg; Rabbit (dermal): 500 mg/24 hr moderate irritation.

**SIGNS AND SYMPTOMS OF EXPOSURE:** Choline Chloride 60% Powder: Possible liver effects, kidney effects, gastrointestinal complications, nausea, vomiting, headache, skin irritation or rash, eye irritation, tearing or blurring of vision.

Glycerin: Repeated excessive exposure may cause kidney and liver effects, and increased fat levels in blood. Observations in animals include gastrointestinal irritation with very large oral doses. Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effect on the fetus. Reproduction studies indicate that glycerin does not directly interfere with reproduction in animals. When animals were maintained on synthetic diets or dosed at extremely high levels, reproduction in females was affected -- perhaps due to altered nutritional states.

Potassium Chloride: May cause temporary eye irritation. May be irritating to skin of susceptible persons, particularly in cuts or open wounds. Repeated or prolonged contact may cause dermatitis. May be irritating to nose and throat upon inhalation. High concentrations of dust (up to 2000 mg/m<sup>3</sup>) may cause perforation of the nasal septum. Long term exposure to high concentrations could cause chronic cough and mild bronchitis. There is no evidence of permanent lung damage. Ingestion of a large amount may cause irritation of the gastrointestinal tract, cramps, diarrhea, tingling of hands or feet, weak pulse and circulatory disturbances. Oral LD50 (rat): 3020 mg/kg; Eye Irritation (rabbit): 500 mg/24 hr: Severe irritant. RTECS, 1982, cites a mutation reference.

## 7. FIRST AID:

**EYES:** Immediately flush eyes with copious amounts of running water for 15 minutes.

**SKIN:** Wash with soap and water.

**INGESTION:** SEEK MEDICAL ATTENTION IMMEDIATELY. Treatment is by gastric lavage or emesis.

**INHALATION:** If a person has been exposed to excessive quantities of dust due to mishaps, move the person to fresh air. Give artificial respiration if not breathing.

Seek medical attention immediately if excessive exposure occurs.

## 8. HANDLING PRECAUTIONS:

There is no OSHA PEL or ACGIH TLV for this product. Under normal conditions of use, no special handling precautions are required in areas with adequate ventilation. However, under conditions of prolonged exposure in which quantities of dust are generated, mechanical ventilation, safety glasses with side shields, gloves and a NIOSH approved dust respirator are recommended.

**SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Exercise reasonable care and caution.

## REGULATORY INFORMATION: (Not meant to be all-inclusive--selected regulations represented.)

**NOTICE:** The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSDS for health and safety information.

**U.S. REGULATIONS:** SARA HAZARD CATEGORY: This product has been reviewed according to the federal EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to be exempt from reporting requirements. Nevertheless, potential reporters should check with their state emergency response commissions to determine if this product must be reported under applicable state requirements. Dicalcium phosphate contains the following chemicals considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as causing cancer or reproductive toxicity and for which warnings are now required: Arsenic--CAS No. 7440-38-2; Cadmium--CAS No. 7440-43-9; Lead--CAS No. 7439-92-1.