

MATERIAL SAFETY DATA SHEET

LLOYD, Inc.,
Phone No. (712) 246-4000
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P.O. Box 130, Shenandoah, IA 51601-0130
Lipo-Form Chewable Tablets
MSDS Date: 11/19/92 (Original)
12/19/95, 10/15/04, 6/27/06, 6/29/10 (Revised)

Product Name: Lipo-Form Chewable Tablets

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

| COMPONENT | CAS# | % | EXPOSURE LIMITS, ppm | |
|-----------------------|-----------|------|---------------------------------|--------------------------------|
| | | | OSHA PEL | ACGIH TLV (mg/m ³) |
| Choline Chloride, 60% | 67-48-1 | 10.0 | --None Established-- | |
| Calcium Carbonate | 1317-65-3 | 4.8 | 30 mppcf | 10 total dust 5 Resp. dust |
| Starch | 9005-84-9 | 2.9 | --None Established-- | |
| Glycerin | 56-81-5 | 2.3 | None | 10 (mist) |
| Polyvinylpyrrolidone | 9003-39-8 | 1.7 | TWA: 15(total) 5(respirable) | TWA:10(total) 5(respirable) |

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. Starch dust has a minimum explosive limit of 0.04 oz/ft³; no maximum limit. The hazard and exposure limits associated with calcium carbonate dust, polyvinylpyrrolidone dust and glycerin mist are not applicable to this product in the solid dosage form.

2. PHYSICAL DATA:

APPEARANCE: Brown elliptical shaped 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, CO₂, dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Traces of oxides of nitrogen can be produced with combustion of choline chloride.

4. REACTIVITY DATA:

This has not been evaluated. The product is expected to be stable under normal storage conditions; avoid strong oxidizers.

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 with prolonged excessive exposure to dust.

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Polyvinylpyrrolidone Oral LD50 (rat): >100g/kg
Choline Chloride 60% Solution--Oral LD50 (rat): 3400 mg/kg
Glycerin--Oral LD50 (rat): 17-27.2 g/kg; Dermal (rabbit): 500 mg/24 hr moderate irritation.

SIGNS AND SYMPTOMS OF EXPOSURE: 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 glycerine 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.
Polyvinylpyrrolidone: May possibly cause skin irritation or dermatitis in some individuals upon prolonged contact.

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.