



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Plantacote Cal-Knight Blend 10-2-10, Cal-Knight Blend 13-4-11 (4-5 month) 12-4-11 (8-9 month)

PRODUCT DESCRIPTION: Controlled Release Fertilizer

MANUFACTURER

X-calibur Plant Health Company LLC
P O Box 1474
Kulpsville, PA 19443

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC (U.S.): (800) 424-9300
International: N/A
Emergency Phone: (843) 871-4304

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	OSHA PEL	ACGIH TLV
Calcium Nitrate	10124-37-5	None	None
Ammonium Nitrate	6484-52-2	None	None
Ammonium Phosphate	7722-76-1	None	None
Sulfur	7704-34-9	None	None
Potassium Sulfate	7778-80-5	None	None
Magnesium Sulfate	7487-88-9	None	None
Copper Sulfate	7758-98-7	None	1 mg (Cu)/m ³
Copper Oxide	1317-38-0	1 mg/m ³	1 mg/m ³
Iron Sulfate	7782-63-0	1 mg (Fe)/m ³	1 mg (Fe)/m ³
Ferrous Oxide (Iron Oxide)	1309-37-1	10 mg (Fe)/m ³	5 mg (Fe)/m ³
Manganese Sulfate	7785-87-7	5 mg (Mn)/m ³	5 mg (Mn)/m ³
Zinc Sulfate	7733-02-0	None	None
Calcium Nitrate	13477-34-4	None	None

COMMENTS:

This product consists of fertilizer granule coated with a polymer resin.

The ACGIH Threshold Limit Values (TLV) for nuisance (inert) dusts containing < 1% crystalline silica and no asbestos are: 10 mg/m³ inhalable particulates and 3 mg/m³ respirable particulate. The OSHA TLV is 15 mg/m³ total dust, 5 mg/m³ respirable fraction. Material exposure limits are for airborne 8-hour time-weighted averages and

apply only to occupational exposures. Product coating is expected to minimize airborne exposures.

Ingredients with occupational exposure limits comprise a small percentage of the total product. For this reason, it is not expected that these limits will be exceeded unless the nuisance dust standards are exceeded.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW IMMEDIATE CONCERNS: Irritation of eyes, nose, or mouth.

POTENTIAL HEALTH EFFECTS

EYES: May cause eye irritation.

SKIN: May cause skin irritation.

INGESTION: Product can cause severe gastrointestinal irritation, muscular weakness, and blue-tinged skin

(cyanosis). Infants and children are especially at risk for cyanosis.

INHALATION: Inhalation of heavy concentrations of manganese-containing dusts over very prolonged periods of exposure (usually 1 to 3 years) has been reported to cause damage to the central nervous system.

MEDICAL CONDITIONS AGGRAVATED: Inhalation of dust may aggravate asthma in susceptible individuals. Prolonged skin contact may cause mild skin irritation.

ROUTES OF ENTRY: Ingestion, inhalation.

4. FIRST AID MEASURES

EYES: If in eyes, hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice. **SKIN:** If on skin or clothing, take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: If swallowed, call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by the poison control center or doctor. Do not give anything by mouth to an unconscious person. **INHALATION:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: Decomposes on heating

EXTINGUISHING MEDIA: Water

EXPLOSION HAZARDS: Decomposes on heating to emit toxic oxides of nitrogen, phosphorus, carbon, potassium, and sulfur, as well as ammonia. High airborne dust concentrations have the potential for explosion.

FIRE FIGHTING PROCEDURES: Evacuate area. Flood with water to cool containers.

FIRE FIGHTING EQUIPMENT: Wear self-contained breathing apparatus to fight large fires.

HAZARDOUS DECOMPOSITION PRODUCTS: In a fire, may produce oxides of nitrogen, phosphorus, carbon, potassium, magnesium, and sulfur, as well as ammonia.

6. ACCIDENTAL RELEASE MEASURES

GENERAL PROCEDURES: Sweep up spills. Use good housekeeping practices. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Avoid dusting or misting conditions during cleanup. If material is uncontaminated, collect and reuse as recommended for product. If contaminated, put in appropriate container and dispose. Keep spills away from drinking water supplies. After cleaning up spill, flush area with water.

7. HANDLING AND STORAGE

HANDLING:

See label. Wash hands with soap and water after handling product. Avoid container breakage. Avoid inhalation or contact with skin, eyes, or clothing. Keep out of lakes, streams or ponds. **KEEP OUT OF REACH OF CHILDREN.**

STORAGE: Store in a cool, dry area away from incompatible materials and heat sources. Store away from feed and foodstuffs, as well as household cleaning products. **KEEP OUT OF REACH OF CHILDREN.**

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Ventilation and personal protection are recommended whenever dust levels are high or product does not remain intact. Running water should be available in case material gets in eyes. Ingredients with occupational exposure limits

comprise a small percentage of the total product. For this reason, it is not expected that these limits will be exceeded unless the nuisance dust standards are exceeded.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: None required for routine use as fertilizer. High airborne dust levels or mists of product

dissolved in liquid may be irritating; use chemical goggles.

SKIN: None required for normal use. If prolonged or repeated use irritates skin, use neoprene or PVC gloves.

RESPIRATORY: If airborne dust levels are high or product does not remain intact, use a combination of engineering

controls (e.g. ventilation) and personal protection (e.g. NIOSH/MSHA approved respirator for dusts, mists, and fumes) to reduce exposures to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

COLOR: white/brown/dark brown granule

BOILING POINT: Decomposes on heating

MELTING POINT: Decomposes on heating

SOLUBILITY IN WATER: soluble

SPECIFIC GRAVITY: (H₂O=1) 1.1

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID: Extreme heat. Contact with strong alkali's, oxidizers, and reducing agents Contact with fuels and other organic or combustible materials.

Active metals such as aluminum and magnesium.

STABILITY: Stable

POLYMERIZATION: Will not occur

HAZARDOUS DECOMPOSITION PRODUCTS: In a fire, may produce oxides of nitrogen,.

INCOMPATIBLE MATERIALS: Strong oxidizing (permanganate, dichromate, nitrate, chlorine) and reducing agents, sodium nitrite and many chlorine compounds (including household bleach and other cleaning products). Active metals such as aluminum and magnesium.

11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY:

CARCINOGENICITY COMMENTS: IARC: No; NTP: No; OSHA: No

GENERAL COMMENTS: Little toxicology information is available for this

product. Nitrate-containing substances are potential allergens. Prolonged or repeated contact with fertilizer may irritate eyes and skin. Inhalation of dust may irritate nose, throat, and lungs. Prolonged exposure may cause weakness, depression, headache, mental Impairment, anemia, methemoglobinemia, and kidney injury. Ingestion of nitrates can cause gastrointestinal irritation, muscular weakness, and blue-tinged skin (cyanosis).

Eye contact with urea powder may cause reversible corneal opacity along with irritation, tearing, and blinking as a foreign body in the eye. Skin contact with powdered urea may cause only mild irritation while ingestion may cause nausea, vomiting, and possible excitement and convulsions.

Inhalation of high concentrations of metals (such as dusts containing manganese, molybdenum, copper, zinc, iron, etc.) over very long periods of time (several years, for example) may cause damage to the central nervous system or affect the lung, liver, or kidney.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: Keep spills away from drinking water.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Apply as fertilizer to field. If product is contaminated, dispose of in an approved landfill disposal facility, in accordance with applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not DOT regulated.

SPECIAL SHIPPING NOTES: The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

15. REGULATORY INFORMATION

GENERAL COMMENTS: Contact local authorities for proper disposal of large quantities of unused fertilizer.

16. OTHER INFORMATION

NFPA CODES

HEALTH: 2 FIRE: 0 REACTIVITY: 1 MANUFACTURER DISCLAIMER: The information contained herein is, to the best of the Manufacturer's (see Section 1) knowledge and belief, accurate and reliable as of the date of preparation of this document. However, no warranty or guarantee, express or implied, is made as to the accuracy or reliability, and the Manufacturer shall not be liable for any loss or damage arising out of the use thereof. No authorization is given or implied to use any patented invention without a license. In addition, the Manufacturer shall not be liable for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.