

MATERIAL SAFETY DATA SHEET**SIGNATURE® 22-5-10 67% XCU™, 1.9% FE FERTILIZER****FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****FORMULATED FOR:**LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286**24-Hour Emergency Phone:** 1-800-424-9300**Medical Emergencies:** 1-866-944-8565**U.S. Coast Guard National Response Center:** 1-800-424-8802**PRODUCT NAME:** SIGNATURE® 22-5-10 WITH 67% XCU™, 1.9 % IRON FERTILIZER**CHEMICAL NAME:** Inorganic/Organic Chemical Fertilizer Mixture**CHEMICAL FAMILY:** N-P-K Mixed dry blended fertilizer**EPA REG. NO.:** not applicable**MSDS Number:** 1000086454-13-LPI**MSDS Revisions:** Section 4**Date of Issue:** 01/15/13**Supersedes:** 06/02/10**2. HAZARDS IDENTIFICATION SUMMARY**

KEEP OUT OF REACH OF CHILDREN - CAUTION - May cause mild eye and skin irritation. Avoid contact with skin, eyes, open cuts, or sores. In case of contact, flush with water. Get medical attention for eyes. This blended dry fertilizer is a mixture of Polymer Coated Sulfur Coated Urea, Monoammonium Phosphate, Sulfate of Potash, Iron Oxysulfate, and Manganese Sulfate. Nausea and vomiting could be expected upon large dose ingestion. The acute ingestive effects are described as nausea, chills, and diarrhea. Eye or skin contact with these products could cause irritation (particularly in sensitive persons), and respiratory irritation could be expected from the unprotected inhalation of fertilizer dusts. Product users should avoid prolonged or repeated skin contact by wearing impervious gloves, long sleeve shirt, long pants, socks and rubber boots. Goggles for eye protection are recommended. Wash thoroughly after handling and using this product.

This product is a multi-colored granule with dusty odor. Primary routes of entry are Inhalation, eye contact and skin contact.

3. COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Ingredients:	Percentage by Weight:	CAS No.	TLV (Units)
Total Nitrogen (N)	22.00	Mixture	not established
Available Phosphate (P ₂ O ₅)	5.00	Mixture	not established
Soluble Potash (K ₂ O)	10.00	Mixture	not established
Sulfur (S)	12.00	Mixture	not established
Iron (Fe)	1.90	Mixture	not established
Manganese (Mn)	0.32	Mixture	not established
Fertilizer salts and inert ingredients	48.78		

4. FIRST AID MEASURES

If in eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

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 do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: **1-866-944-8565**.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F/Test Method): Not applicable

FLAMMABLE LIMITS (LFL & UFL): Not applicable

EXTINGUISHING MEDIA: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide, foam, water spray or fog.

HAZARDOUS COMBUSTION PRODUCTS: May include but are not limited to oxides of carbon, hydrogen chloride, hydrogen fluoride, oxides of nitrogen, ammonia, oxides of phosphorus, oxides of sulfur, hydrogen sulfide.

SPECIAL FIRE FIGHTING PROCEDURES: Use water spray to cool containers exposed to fire. Remain upwind. Avoid breathing smoke. Wear self-contained breathing apparatus and full protective gear.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Dusts or vapors can travel to a sources of ignition and flash back.

6. ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**

Avoid breathing dusts. Sweep up dry spills immediately and transfer to suitable containers for possible land application according to label use or for disposal. Check local, state and federal regulations for proper disposal.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

HANDLING: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if fertilizer gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store in a cool dry place away from children, feed and food products, and seed. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Not normally required.
RESPIRATORY PROTECTION: Not normally required, if vapors or dusts exceed acceptable levels, wear a MSHA/NIOSH approved pesticide respirator.
EYE PROTECTION: Chemical goggles or shielded safety glasses.
SKIN PROTECTION: Wear protective clothing: long-sleeved shirts and pants, hat, rubber boots with socks. Wear rubber or chemical-resistant gloves.

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
Particulates (PNOC**) 15 mg/m ³ (total dust)		not listed

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Multi-colored granules with dusty odor	SOLUBILITY: Appreciable
SPECIFIC GRAVITY (Water = 1): 0.9611 g/ml	pH: Not applicable
VAPOR PRESSURE: Not applicable	
PERCENT VOLATILE (by volume): Not applicable	
Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.	

10. STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: None known.
INCOMPATIBILITY: None known.
HAZARDOUS DECOMPOSITION PRODUCTS: Urea may decompose to release cyanuric acid, ammonia, HCN, NO.
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (rat): >5000 mg/kg	Acute Dermal LD₅₀ (rat): >2000 mg/kg
Eye Irritation (rabbit): Not established	Skin Irritation (rabbit): Not established
Inhalation LC₅₀ (rat): Not established.	Skin Sensitization (guinea pig): Not established
Carcinogenic Potential: None listed in OSHA, NTP, IARC or ACGIH	

12. ECOLOGICAL INFORMATION

Drift or runoff may adversely affect non-target plants. Do not apply directly to water. Do not contaminate water when disposing of equipment wash water. Do not apply when weather conditions favor drift from target area.

13. DISPOSAL CONSIDERATIONS

Do not reuse empty bag. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Do not contaminate water, food, or feed by storage or disposal.

14. TRANSPORT INFORMATION

DOT Shipping Description: NOT REGULATED BY USDOT.
U.S. Surface Freight Classification: FERTILIZING COMPOUNDS (MANUFACTURED FERTILIZERS), NOI; DRY (NMFC 68140, SUB 5; CLASS 50)

15. REGULATORY INFORMATION

NFPA & HMIS Hazard Ratings:**NFPA**

1	Health	0	Least
0	Flammability	1	Slight
0	Instability	2	Moderate
		3	High
		4	Severe

HMIS

1	Health
0	Flammability
0	Reactivity
B	PPE

SARA Hazard Notification/Reporting**SARA Title III Hazard Category:**

Immediate	<u>Y</u>
Delayed	<u>N</u>

Fire	<u>N</u>
Reactive	<u>N</u>

Sudden Release of Pressure	<u>N</u>
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Reportable Quantity (RQ) under U.S. CERCLA: Not listed**SARA, Title III, Section 313:** Not listed**RCRA Waste Code:** Not listed**CA Proposition 65: WARNING:** This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

16. OTHER INFORMATION

MSDS STATUS: Section 4 revised**PREPARED BY:** Registrations and Regulatory Affairs**REVIEWED BY:** Environmental Health and Safety*®Signature is a registered trademark of Loveland Products, Inc.**XCU is a trademark of Agrium Advanced Technologies*

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