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

<table>
<thead>
<tr>
<th>Chemical Ingredients</th>
<th>Percentage by Weight</th>
<th>CAS No.</th>
<th>TLV (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Nitrogen (N)</td>
<td>22.00</td>
<td>Mixture</td>
<td>not established</td>
</tr>
<tr>
<td>Available Phosphate (P₂O₅)</td>
<td>5.00</td>
<td>Mixture</td>
<td>not established</td>
</tr>
<tr>
<td>Soluble Potash (K₂O)</td>
<td>10.00</td>
<td>Mixture</td>
<td>not established</td>
</tr>
<tr>
<td>Sulfur (S)</td>
<td>12.00</td>
<td>Mixture</td>
<td>not established</td>
</tr>
<tr>
<td>Iron (Fe)</td>
<td>1.90</td>
<td>Mixture</td>
<td>not established</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>0.32</td>
<td>Mixture</td>
<td>not established</td>
</tr>
<tr>
<td>Fertilizer salts and inert ingredients</td>
<td>48.78</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

6. ACCIDENTAL RELEASE HAZARDS:

Dusts or vapors can travel to a sources of ignition and flash back.

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/m³ (total dust) not listed

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Multi-colored granules with dusty odor
SPECIFIC GRAVITY (Water = 1): 0.9611 g/ml pH: Not applicable
BULK DENSITY: 60 lbs/ft³
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
Eye Irritation (rabbit): Not established
Inhalation LC₅₀ (rat): Not established.
Carcinogenic Potential: None listed in OSHA, NTP, IARC or ACGIH
Acute Dermal LD₅₀ (rat): >2000 mg/kg
Skin Irritation (rabbit): Not established
Skin Sensitization (guinea pig): Not established

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:

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Health</td>
<td>0 Least</td>
</tr>
<tr>
<td>0 Flammability</td>
<td>1 Slight</td>
</tr>
<tr>
<td>0 Instability</td>
<td>2 Moderate</td>
</tr>
<tr>
<td>3 High</td>
<td>B PPE</td>
</tr>
<tr>
<td>4 Severe</td>
<td></td>
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</tbody>
</table>

SARA Hazard Notification/Reporting

SARA Title III Hazard Category: Immediate __Y__ Fire __N__ Sudden Release of Pressure __N__ Delayed __N__ Reactive __N__

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

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