

MATERIAL SAFETY DATA SHEET

NORTRACE® CITRAPLEX® 20% IRON

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: 1-800-301-7976
U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: NORTRACE® CITRAPLEX® 20% IRON

CHEMICAL NAME: Iron citrate salt

CHEMICAL FAMILY: Micronutrient

EPA REG. NO.: not applicable

MSDS Number: 6407042-10-LPI

MSDS Revisions: Section 1

Date of Issue: 07/06/10

Supersedes: 09/08/08

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION – May cause eye, skin, and respiratory 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 Ferrous (Iron) Sulfate Monohydrate, Citric Acid Monohydrate, and Sodium Citrate Anhydrous. 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 brown-colored granular powder with metallic odor. Primary routes of exposure are Inhalation, ingestion, and eye contact and/or skin contact.

3. COMPOSITION, INFORMATION ON INGREDIENTS

| <u>Chemical Ingredients:</u> | <u>Percentage by Weight:</u> | <u>CAS No.</u> | <u>TWA* - REL (Units)</u> |
|------------------------------------------------------|------------------------------|----------------|---------------------------|
| Ferrous (Iron) Sulfate (Fe) | 20.00 | 7720-78-7 | 1 mg/m ³ |
| Other ingredients, including Citric Acid Monohydrate | 80.00 | 5949-29-1 | not listed |
| Sodium Citrate Anhydrous | | 68-04-2 | not listed |

4. FIRST AID MEASURES

If in eyes: Hold eye open and rinse slowly and gently with water 15-20 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 15-20 minutes. Call a poison control center or doctor for treatment advice.

If inhaled: 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.

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

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: **1-800-301-7976**. Have the product label or container with you when calling a poison control center or doctor, or going for treatment.

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 sulfur.

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: Mix product in HDPE, fiberglass or stainless steel containers only. Wash thoroughly after handling. Avoid breathing dust.

STORAGE: Carefully fold and secure open bags and store in a cool dry place away from children, feed and food products, pesticides, 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 with dust/mist prefilter.
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 | NIOSH REL-TWA |
|-----------------------------|-----------------------------------|---------------|---------------------|
| Nuisance Particulates | 15 mg/m ³ (Total Dust) | not listed | not listed |
| Iron salts (soluble, as Fe) | not listed | not listed | 1 mg/m ³ |

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Brown-colored granular powder with metallic odor
SPECIFIC GRAVITY (Water = 1): 0.9290 g/ml
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.

| | |
|---------------------------------------------|-------------------------------|
| BULK DENSITY: 58 lbs/ft ³ | SOLUBILITY: Soluble |
| BOILING POINT: Not applicable | pH: 3.04 (1% solution) |
| EVAPORATION RATE: Not applicable | |

10. STABILITY AND REACTIVITY

STABILITY: Stable
INCOMPATIBILITY: Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of sulfur may be released in a fire situation.
HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Excessive heat and moisture.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (rat): >5000 mg/kg
Eye Irritation (rabbit): May cause irritation
Inhalation LC₅₀ (rat): May cause respiratory tract irritation.
Target Organs: Eyes, skin, respiratory system, liver, and GI (gastro-intestinal) tract.
Carcinogenic Potential: None listed in OSHA, NTP, IARC or ACGIH

Acute Dermal LD₅₀ (rabbit): >5000 mg/kg
Skin Irritation (rabbit): May cause irritation
Skin Sensitization (guinea pig): Not established

12. ECOLOGICAL INFORMATION

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

13. DISPOSAL CONSIDERATIONS

Completely empty bag into application equipment. Do not reuse bag. Dispose of bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed on site or at an approved waste disposal facility. 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 | | HMIS |
|-----------------------------|----------------|------------|----------------|
| | 1 Health | 0 Least | 1 Health |
| | 0 Flammability | 1 Slight | 0 Flammability |
| | 0 Instability | 2 Moderate | 0 Reactivity |
| | | 3 High | H PPE |
| | | 4 Severe | |

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: Ferrous (Iron) Sulfate (CAS: 7720-78-7) 1000 pounds

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 1 revised

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental/ Regulatory Services

®Nortrace and ®Citraplex are registered trademarks of Loveland Products, Inc.

Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.regulatory-info-lpi.com>

**TWA: Time-weighted average, recommended exposure level per NIOSH.*

Disclaimer and Limitation of Liability: This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and LOVELAND PRODUCTS, Inc. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.