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## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Product Identifier: **UFLEXX™**  
General Use: Fertilizer  
Common Name: Urea with Dicyandiamide and NBPT  
Product Identification Number: Not applicable

EMERGENCY TELEPHONE NUMBERS:  
CHEMTREC: 800-424-9300

| COMPONENT                           | CAS No.    | %           | OSHA PEL | ACGIH TLV |
|-------------------------------------|------------|-------------|----------|-----------|
| N-(n-Butyl)-thiophosphoric triamide | 94317-64-3 | Proprietary | None     | None      |
| Urea                                | 57-13-6    | >95         | None     | None      |
| Organic nitrogen (dicyandiamide)    | 461-58-5   | Proprietary | None     | None      |

### 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Blue-Green granules. At high dust concentrations, may cause eye, skin, and mucous membrane irritation. Avoid contact with skin, eyes or clothing.

**POTENTIAL HEALTH EFFECTS:** **INHALATION:** High dust concentrations may cause irritation resulting in coughing or scratchiness. Other possible effects include headache, nausea, vomiting, disorientation. **EYE CONTACT:** Dust may be irritating to the eyes at high concentrations. **SKIN CONTACT:** Dust may be irritating to the skin at high concentrations. **INGESTION:** May cause nausea, vomiting and electrolyte depletion. **CHRONIC:** None known. **CARCINOGENICITY:** None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

### 4. EMERGENCY AND FIRST AID MEASURES

**INHALATION:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**SKIN CONTACT:** If irritation occurs wash thoroughly with soap and water immediately. Get medical attention if irritation persists.

**EYE CONTACT:** In cases of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician if irritation continues.

**INGESTION:** If swallowed, drink 1 or 2 glasses of water. Immediately call a physician or a Poison Control Center and follow their advice. Do not induce vomiting or give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES AND EXPLOSION HAZARD DATA

**FLASH POINT and METHOD:** Not applicable **AUTOIGNITION TEMPERATURE:** Not available

**FLAMMABLE LIMITS** - Lower: Not applicable Upper: Not applicable

**EXTINGUISHING MEDIA:** Use carbon dioxide or dry chemical for small fires; alcohol foam for large fires.

**SPECIAL FIRE-FIGHTING PROCEDURES:** Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus and full protective equipment.

**UNUSUAL FIRE and EXPLOSION HAZARDS:** None

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition will produce oxides of carbon, nitrogen and sulfur.

### 6. ACCIDENTAL RELEASE MEASURES

**GENERAL:** Consult an expert on the disposal of recovered material. Ensure disposal is in compliance with government requirements and ensure conformity of local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

**SPECIFIC:** Spilled materials, wet or dry can cause slippery conditions. Sweep or shovel materials into containers for recovery. Scrub contaminated area with detergent and water. Prevent clean-up liquid from entering sewers, waterways or low areas. Soak up with sand or other absorbent material.

### 7. HANDLING and STORAGE

Long term storage at temperatures above 100° F (36° C) can result in significant decomposition of the N-(n-butyl) thiophosphoric triamide. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Wear protective clothing and equipment such as safety glasses; rubber gloves. See Section 8. Clean protective clothing, as needed.

#### 8. EXPOSURE CONTROLS and PERSONAL PROTECTION

Use only with adequate ventilation. Keep container tightly closed. Do not consume food, drink or tobacco in the areas where they may become contaminated with this material. Exposure limits should not exceed 10 mg/m<sup>3</sup> (nuisance dust)

**PERSONAL PROTECTION: RESPIRATORY:** Use with adequate ventilation. Respiratory protection not required under normal use.

**PROTECTIVE GLOVES:** Use rubber gloves, if skin irritation is observed. **EYE PROTECTION:** Wear safety glasses or goggles, when appropriate, to prevent contact with eyes. **OTHER:** Washing facilities should be available. Use long sleeves or other clothing to avoid excessive contact.

#### 9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE: Blue-Green granules.

ODOR: Slight Sulfurous

ODOR THRESHOLD: Not available

VAPOR PRESSURE: Not applicable

SPECIFIC GRAVITY: 1.32

SOLUBILITY in water: Soluble

EVAPORATION RATE: Not applicable

MELTING POINT: approx. 275°F

BOILING POINT: decomposes at 275°F

VAPOR DENSITY: Not applicable

Density (lbs/ft<sup>3</sup>): Packed 48.6, Unpacked 47.5

pH: 7.2 (10%)

COEFFICIENT OF WATER/OIL

DISTRIBUTION: Not available

#### 10. STABILITY and REACTIVITY

**STABILITY:** Stable at normal temperatures. **HAZARDOUS POLYMERIZATION:** Will not occur.

**INCOMPATIBILITY:** Incompatible with acids, strong oxidizing agents; reducing agents.

**HAZARDOUS THERMAL DECOMPOSITION PRODUCTS:** Thermal decomposition will produce oxides of carbon, nitrogen, and sulfur.

#### 11. TOXICOLOGICAL DATA

The toxicological effects of this product have not been tested. The following data is for urea:

**ACUTE INHALATION:** No data available **ACUTE SKIN:** No data available **ACUTE ORAL:** LD<sub>50</sub> = 14,300 mg/kg

**NOTE:** Toxicity has been observed in cattle not previously exposed to urea.

**IRRITATION: EYES:** Minimal irritation (mechanical), **SKIN:** Minimal irritation

**SUBCHRONIC EFFECTS:** No data **CHRONIC EFFECTS / CARCINOGENICITY:** No data.

**MUTAGENICITY:** No data **SENSITIZATION:** No data.

#### 12. ECOLOGICAL INFORMATION

This product has not been tested. However, both urea and NBPT have a very low toxicity to aquatic organisms. Specific values are available from the supplier.

#### 13. DISPOSAL CONSIDERATIONS

Treatment, storage, transportation and disposal must be in accordance with applicable federal, state/provincial, and local regulations. Do not flush to surface water or sanitary sewer system.

#### 14. TRANSPORT INFORMATION (not meant to be all inclusive) D.O.T.: Not regulated AIR TRANSPORT: Not regulated

#### 15. REGULATORY INFORMATION (not meant to be all inclusive)

**UNITED STATES:** **TSCA** (Toxic Substance Control Act): N-(n-butyl) thiophosphoric triamide (NBPT) is subject to a Significant New Use Rule (SNUR) codified in 40 CFR § 721.6090. In compliance with all applicable sections of TSCA NBPT is subject to a Section 5(e) consent order based on the anticipated large-scale exposure. As a consequence, it is also subject to Section 12(b) export notification obligations.

**CERCLA** (Comprehensive Emergency Response Compensation, and Liability Act): Not listed. **SARA TITLE III** (Superfund Amendments and Reauthorization Act): 311/312 Hazard Categories: None 313 Reportable Ingredients: None

**CANADA:** **WHMIS:** Class D, 2B **CEPA:** All components are on the DSL. **Fertilizer Act:** UFLEXX is registered under this Act

#### 16. OTHER INFORMATION

The information is believed to be accurate and represents the best information currently available to AGROTAIN International L.L.C. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.