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SUPERSEDES: NEW

I. PRODUCT IDENTIFICATION

PRODUCT NAME: LESCO Echelon™ Granular Herbicide Plus Fertilizer (0.16%; 0.3%, 0.5%)

Chemical Family: Aryl Triazolinones*; Dinotro aniline **
 (Information for Sulfentrazone*; Prodiamine**)

Chemical Name/Synonyms:

FMC 97285; F6285; CAS: N-[2,4-dichloro-5-[4-difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]methanesulfonamide; IUPAC:N-[2,4-dichloro-5-(4-difluoromethyl-3-methyl-5-oxo-4,5-dihydro-[1,2,4]triazol-1-yl]phenyl]methane sulfonamide*

CAS: 2,4-dinitro-N³,N³-dipropyl-6-(trifluoromethyl)-1,3-benzenediamine; IUPAC: 5-dipropylamino-a-a-a-trifluoro-4-6-dinitro-o-toluidine; 2,6-dinitro-N¹,N¹-dipropyl-4-trifluoromethyl-m-phenylenediamine**

II. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	%(by/wt.)	CAS #	PEL/TLV
Sulfentrazone	0.05 – 0.1 – 0.2	122836-35-5	NE
Prodiamine	0.11 – 0.2 – 0.3	29091-21-2	NE

Formulated with one or more of the following ingredients. Check specific product label.

Urea	0 – 98	57-13-6	10 mg/M ³ (dust) 5 mg/M ³ (resp)
Potassium Chloride	0 – 95	7447-40-7	10 mg/M ³
Potassium Sulfate	0 – 95	7778-80-5	10 mg/M ³
Mono Ammonium Phosphate	0 – 95	7722-76-1	15 mg/M ³ (dust) 5 mg/M ³ (resp)
Diammonium Phosphate	0 – 95	7783-28-0	15 mg/M ³ (dust) 5 mg/M ³ (resp)
Ammonium Sulfate	0 – 95	7783-20-2	15 mg/M ³ (dust)
Calcium Carbonate	0 – 95	1317-65-3	15 mg/M ³ (dust) 5 mg/M ³ (resp)
Sulfur	0 – 20	7704-34-9	5 ppm (SO ₂)
Iron (Ferric) Oxide	0 – 10	1309-37-1	15 mg/M ³ (dust)
Iron (Ferrous) Sulfate	0 – 10	7720-78-7	15 mg/M ³ (dust)
Manganese Oxide	0 – 10	1317-35-7	15 mg/M ³ (dust)
Magnesium Sulfate	0 – 10	7487-88-9	15 mg/M ³ (dust)
Methylene Urea	0 – 10	9011-05-6	NE
Sulfate of Potash-Magnesia	0 – 10	14977-37-8	NE
Magnesium Carbonate	0 – 10	39409-82-0	NE
Biosolids	0 – 10	NE	NE

Substances not 'Hazardous' per OSHA Hazard Communication Standard (29 CFR 1910.1200) may be listed.
 Where proprietary ingredient shows, the identify may be made available as provided in this standard

III. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Primary Route(s) of Entry: Eyes, Skin, Inhalation, Ingestion

POTENTIAL HEALTH EFFECTS: Effects from overexposure result from either inhaling or coming into contact with the skin. Symptoms of overexposure include convulsions, decreased locomotion, tearing, increased sensitivity to touch, bloody discharge from the nose and incoordination.

EYE: Contact may cause mild irritation

SKIN: Contact expected to be moderately irritating

INHALATION: Excessive exposure to dust may irritate the respiratory system.

INGESTION: The ingredient salts of the fertilizer in this product may cause diarrhea, purging and flatulence if ingested. Nausea and vomiting could be expected if ingested in large doses. Ingestion may also result in chills and diarrhea.

MEDICAL CONDITIONS AGGRAVATED: None presently known

POTENTIAL ENVIRONMENTAL HAZARDS: Slightly toxic to fish and aquatic organisms. Keep out of drains and water courses.

IV. FIRST AID MEASURES

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 eye. Call a poison control center or doctor for treatment advice.

SKIN: Take off contaminated clothing. Thoroughly wash with soap and water. If irritation occurs and persists, call a poison control center or doctor for treatment advice.

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.

INGESTION: 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.

NOTES TO MEDICAL DOCTOR: This product is expected to have low oral, dermal, and inhalation toxicity. It is mildly irritating to the eyes, and is expected to be moderately irritating and non-sensitizing to the skin. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

V. FIRE FIGHTING MEASURES

Flash Point (Method Used): NA

Lower Explosion Limits: NA

NFPA/HMIS Rating: Health: 1

EXTINGUISHING MEDIA: Foam
 Dry Chemical

Auto Ignition Temperature: NA

Upper Explosion Limits: NA

Fire: 1 **Reactivity:** 0

Alcohol Foam CO₂
 Water Spray Other

UNUSUAL FIRE AND EXPLOSION HAZARDS: Slightly combustible. May support combustion at elevated temperatures. Finely dispersed particles can form explosive mixtures in air.

FIRE FIGHTING PROCEDURES: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated. Soft stream water fog only if necessary. Contain all runoff.

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition and burning may form toxic by-products.

VI. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: If material is spilled, isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section VIII. Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Large spills should be covered to prevent dispersal. For dry material, use a wet sweeping compound or water to prevent the formation of dust. If water is used, prevent runoff or dispersion of excess liquid by diking and absorbing with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump all waste material, including absorbent, into a drum and label contents for disposal.

To clean and neutralize spill area, tools and equipment, wash with a suitable solution of caustic or soda ash and an appropriate alcohol (i.e. methanol, ethanol or isopropanol). Follow this by washing with a strong soap and water solution. Absorb, as above, any excess liquid and add to the drums of waste already collected. Repeat if necessary. Dispose of drummed waste according to the method outlined in Section XIII.

VII. HANDLING AND STORAGE

GENERAL PROCEDURES: Store in a cool, dry, well-ventilated area. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

OTHER PRECAUTIONS: Keep out of reach of children and animals.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: No open flames. Prevent deposition of dust; use closed system, consider use of dust explosion-proof electrical equipment and lighting. Use local exhaust at all process locations where dust may be emitted. Ventilate all transport vehicles prior to unloading.

PERSONAL PROTECTION EQUIPMENT:

EYES AND FACE: For dust exposure, wear chemical protective goggles or a face shield

RESPIRATORY: For dust exposures wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator, which is approved for pesticides (NIOSH/MSHA or comparable certification organization). Respirator use and selection must be based on airborne concentrations

GLOVES: Wear chemical protective gloves made of materials such as butyl rubber, nitrile or neoprene. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

PROTECTIVE CLOTHING: Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items – such as shoes, belts and watchbands – that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

WORK HYGENIC PRACTICES: Wash hands, before eating, drinking, chewing gum, using tobacco, or using the toilet. Shower at the end of the workday.

COMMENTS: Clean water should be available for washing in case of eye or skin contamination.

IX. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: NA

MELTING POINT: ND

VAPOR DENSITY (air = 1): NA

ODOR: Fertilizer-like

APPEARANCE: Light yellow to yellow granules

pH: 6.0

SPECIFIC GRAVITY: 0.8 g/mL

EVAPORATION RATE: NA

VAPOR PRESSURE: NA

SOLUBILITY IN WATER: ND

PERCENT VOLATILE: NA

MOLECULAR WEIGHT:

387.19 (Sulfentrazone); 350.3 (Prodiamine)

X. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Excessive heat and fire

STABILITY: Stable

POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Strong acids, caustic compounds

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides, hydrogen chloride, hydrogen fluoride

XI. TOXICOLOGICAL INFORMATION

EYE EFFECTS: (Rabbit): Mildly irritating

SKIN EFFECTS: No data available for the formulation. Similar product: (Rabbit): Moderately irritating.

DERMAL LD₅₀: No data available for the formulation. Similar product: (Rat): >5,000 mg/kg

ORAL LD₅₀: No data available for the formulation. Similar product: (Rat): >5,000 mg/kg

INHALATION LC₅₀: No data available for the formulation. Similar product: (Rat): >2.19 mg/l (4 h)

SENSITIZATION: No data available for the formulation. Similar product: (Guinea pig): Non-sensitizing

ACUTE EFFECTS FROM OVEREXPOSURE: This product is expected to have low oral, dermal and inhalation toxicity. It is mildly irritating to the eyes, and is expected to be moderately irritating and non-sensitizing to the skin. Dust generated from granular pulverization during shipping and handling may be harmful if inhaled. Excessive exposure to dust may irritate the respiratory system, skin and eyes.

Signs of toxicity in laboratory animals, with sulfentrazone, included clonic convulsions, ataxia, hypersensitivity to touch, chromorhinorrhea, abdominal genital staining, decreased locomotion, lacrimation, nasal discharge, and squinting eyes.

The ingredient salts, of the fertilizer, in this product may cause diarrhea, purging and flatulence if ingested. Nausea and vomiting could be expected if ingested in large doses. Ingestion may also result in chills and diarrhea.

CHRONIC EFFECTS FROM OVEREXPOSURE:

No data available for the formulation. Sulfentrazone was not carcinogenic in lifetime feeding studies with laboratory animals, nor was it found to be mutagenic in a battery of tests. In a reproduction study, sulfentrazone produced adverse effects on the growth and survival of the offspring, decreased male fertility and oligospermia at 25 mg/kg/day, and 35 mg/kg/day. Sulfentrazone was found to be fetotoxic in oral and dermal developmental toxicity studies; the fetal NOELS were 10 mg/kg/day, and 100 mg/kg/day respectively. At labeled use rates and practices of mixing and applying, expected exposure to workers is at least one hundred times lower than the doses that produced effects in laboratory animals.

Prodiamine was non-mutagenic in both bacterial and mammalian cells. In long-term feeding studies with Prodiamine, the NOEL was 200 ppm in rats, and 500 ppm in mice. Toxicity was identified in the liver and thyroid of rats at 3,200 ppm, where decreased body-weight gains, liver enlargement and alterations, and species specific benign thyroid tumors were seen. At 5,000 ppm in mice, both decreased body-weight gains and increased liver weights were reported, but no compound related tumors were observed. Prodiamine did not cause reproductive or developmental toxicity at 100 mg/kg/day. In a 2-generations study, the NOEL for adults and weanling rats was 200 ppm. Potential toxicity was evident in all adult animals in both generations at 2,000 ppm as decreased body-weight gains and increased liver weights. Pups showed similar findings. In a thyroid hormone mechanism assay, rats demonstrated liver enzyme induction and increased UDGPT activities accompanied by thyroid hormone imbalances.

CARCINOGENICITY:

IARC: Not Listed
NTP: Not Listed

OSHA: Not Listed
OTHER: Not Listed

XII. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No data available for the formulation.

Sulfentrazone is stable in soil (half-life = 18 months). In water, sulfentrazone is stable to hydrolysis over the pH range of 5 to 9, however, it will readily undergo photolysis (half-life <0.5 day).

Sulfentrazone has a low affinity for organic matter (K_{oc} = 43), but is mobile only in soils with high sand content. The potential for sulfentrazone to bioaccumulate is very low, having a Log P_{ow} of 1.48, and a Bioconcentration factor of 1.1 – 2.0.

Prodiamine is stable to hydrolysis. It will undergo photolysis, and in aqueous solution, has a reported half-life of less than 1 hour. It has a reported half-life in soil of less than 57 days, and will disperse in water.

ECOTOXICOLOGICAL INFORMATION: No data available for the formulation.

Sulfentrazone is slightly toxic to fish and aquatic arthropods, with LC₅₀ values ranging from 60.4 mg/L to >130 mg/L. Sulfentrazone has a very low order of toxicity to waterfowl (dietary LC₅₀ >5,620 ppm) and upland game birds (oral LD₅₀ >2,250 mg/kg).

Prodiamine is expected to be highly toxic to fish (LC₅₀ >552 ppb), and aquatic invertebrates (LC₅₀ >658 ppb)

XIII. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Open dumping or burning of this material or its packaging is prohibited.

Product: If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and federal environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

Container: Non-returnable containers that held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosive hazard.

XIV. TRANSPORTATION INFORMATION:

DOT Transportation:

Not regulated

Proper Shipping Name:

NA

Hazard Class:

NA

U.S. Surface Freight Class:

20 - Compounds, tree or weed killing (Herbicides),NOI,
other than poison

Marine Pollutant #1:

NA

HM 181 Shipping Name:

NA

ID NO.:

NA

Reportable Quantity (RQ):

NA

XV. REGULATORY INFORMATION – UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

SEC 311/312:

Y Immediate (Acute Health)

Y Delayed (Chronic Health)

N Fire

N Sudden Release of Pressure

N Reactivity

TPQ: The Threshold Planning Quantity for this product, if treated as a mixture, is 10,000 lbs; however, this product does not contain any ingredients with a TPQ of less than 10,000 lbs.

SEC 302 (Extremely Hazardous Substance): None listed

SEC 304 (Emergency Release Notification): None listed

SEC 313 (Toxic Chemicals): None listed

CERCLA RQ: Not listed

CAA RQ: NA

EPA Registration No.: 279-3223-10404 (0.16%); 279-3322-10404 (0.3%); 279-3321-10404 (0.5%)

NOTE: NA=Not Applicable; ND=Not Determined; NE=Not Established

Preparation and distribution of this Material Safety Data Sheet is done for LESCO, Inc., pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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