

----- MATERIAL SAFETY DATA SHEET -----

Lebanon Turf

PROSCAPE 20-4-10 MERIT 0.2%

Proscape 20-4-10 Merit 0.2% is also known as Merit Granular Insecticide (0.15%-0.35%)

Text Section(s)

PRODUCT: 21-54468 BG50LB PL 48 Lebanon 20-4-10 .2% Merit BG

I. PRODUCT IDENTIFICATION

MSDS NO.: 5396  
 FORMULA: C9H10C1N5O2  
 MANUFACTURER/SUPPLIER: LEBANON SEABOARD CORP.  
 1600 E CUMBERLAND ST  
 LEBANON, PA 17042  
 PHONE: 800-233-0628  
 EMERGENCY: 800-424-9300  
 PHYSICAL/CHEMICAL CHARACTERISTICS:  
 BOILING POINT: NA Not Applicable  
 MELTING POINT: BT 248 F 273 F For Imidacloprid.  
 FREEZING POINT: NG  
 POUR POINT: NG  
 SOFTENING POINT: NG  
 SPECIFIC GRAVITY: NA Not Applicable  
 VAPOR PRESSURE: N\* 1.5x10(-9) mm, @ 20 deg C.  
 VAPOR DENSITY: NA Not Applicable.  
 PERCENT VOLATILES: NA Not Applicable.  
 EVAPORATION RATE: NG

PRODUCT NAME: MERIT Granular Insecticide (0.15%-0.35%)  
 PRODUCT CODE: Non-coded  
 CHEMICAL FAMILY: Chloronicotinyl  
 CHEMICAL NAME: 1-(6-chloro-3-pyridinyl)methyl-N-nitro-2-imidazolidinimine  
 SYNONYMS: Imidacloprid; BAY NTN 33893  
 FORMULA: C9 H10 C1 N5 O2  
 APPROVAL DATE: 09/11/95  
 TRANSPORTATION EMERGENCY:  
 CALL CHEMTREC: (800) 424-9300  
 DISTRICT OF COLUMBIA: (202) 483-7616  
 NON-TRANSPORTATION:  
 PHONE: 800-233-0628  
 EMERGENCY: 800-424-9300  
 MANUFACTURER: LEBANON SEABOARD CORP.  
 1600 E CUMBERLAND ST  
 LEBANON, PA 17042

pH: NG  
 MOLECULAR WEIGHT: EQ 255.7 For Imidacloprid.  
 VISCOSITY: NA Not Applicable.  
 SOLUBILITY IN WATER: Not Applicable  
 NON AQUEOUS: Not Applicable  
 ODOR/APPEARANCE/OTHER CHARACTERISTICS: Granules Solid,  
 Yellowish To Light Brown  
 ODOR: Not Estab.  
 BULK DEN.: 28-32#/cuf

II. HAZARDOUS INGREDIENTS

SEE COMPONENT SECTION(S) FOR ADDITIONAL INFORMATION.  
 INGREDIENT NAME:

FIRE AND EXPLOSION DATA:  
 CLOSED CUP FLASH PT.: NA Not Applicable.  
 OPEN CUP FLASH POINT: NA Not Applicable.  
 FIRE POINT: NG  
 AUTO IGNITION: NG  
 LOWER EXPLOSION LIMIT: NG  
 UPPER EXPLOSION LIMIT: NG  
 SHIPPING REGULATIONS:  
 UN/NA NUMBER: NG  
 DOT HAZARD CLASS: Non-Regulated  
 SHIPPING LABEL: Not Given  
 SHIPPING NAME: Not Hazardous Or Regulated

IMDACLOPRID: The amount of imidacloprid contained in this product will vary depending on the specific product formulation. Refer to product label for specific amount.  
 TOTAL INERTS: The amount of total inerts contained in this product will vary depending on the specific product formulation. Refer to product label for specific amount.  
 TOTAL CRYSTALLINE SILICA (quartz): The presence of crystalline silica in this product is determined by the specific carrier used and may not be present in all products. The concentration indicated above represents the maximum amount which could be present in this product.

PREPARED:  
 PREPARER'S NAME & TITLE: Not Given  
 PREPARATION DATE: 4/3/00

III. PHYSICAL PROPERTIES

SEE DATA SECTIONS FOR ADDITIONAL INFORMATION.  
 ODOR THRESHOLD: Not established  
 MELTING/FREEZING POINT:  
 MELTING: 120-134 C (for imidacloprid)  
 VAPOR PRESSURE: 1.5 x 10(-9) mm @ 20 C (for imidacloprid)

COMPONENT(S):  
 IMDACLOPRID:  
 OSHA PEL: NE ppm NG mg/m3  
 ACGIH TLV: NE ppm NG mg/m3  
 STEL: NG ppm NG mg/m3  
 PERCENT OF PRODUCT: BT .15% .35%  
 CAS NO.: 138261413

IV. FIRE AND EXPLOSION DATA

FLASH POINT: Not Applicable  
 EXTINGUISHING MEDIA: Water; Carbon Dioxide; Dry Chemical; Foam  
 SPECIAL FIRE FIGHTING PROCEDURES: Keep out of smoke, cool exposed containers with water spray. Fight fire from upwind position. Use self-contained breathing equipment. Contain run-off by diking to prevent entry into sewers or waterway. Equipment or materials involved in pesticide fires may become contaminated.

NOTE:  
 PEL & TLV: Not Established.  
 TOTAL INERTS:  
 OSHA PEL: NE ppm NG mg/m3  
 ACGIH TLV: NE ppm NG mg/m3  
 STEL: NG ppm NG mg/m3  
 PERCENT OF PRODUCT: BT 99.65% 99.85%  
 CAS NO.: Not Given

V. HUMAN HEALTH DATA

ROUTE(S) OF ENTRY: Inhalation; Skin Contact; Skin Absorption; Eye Contact

NOTE:  
 PEL & TLV: Not Established.  
 CRYSTALLINE SILICA:  
 OSHA PEL: NG ppm .100 mg/m3  
 ACGIH TLV: NG ppm .100 mg/m3  
 STEL: NG ppm NG mg/m3  
 PERCENT OF PRODUCT: LT 6%  
 CAS NO.: 14808607  
 NOTE:  
 QUARTZ/PEL & TLV: Respirable.

**HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:**

**ACUTE EFFECTS OF EXPOSURE:** No specific symptoms of acute overexposure are known to occur in humans. Based in IPA Toxicity Category criteria, this material is mildly toxic by the oral and dermal routes. In addition, animal studies have shown that it is not a dermal irritant or a dermal sensitizer; however, it is mildly irritating to the conjunctiva of the eye, but the irritation is reversible within 7 days.

**CHRONIC EFFECTS OF EXPOSURE:** No specific symptoms of chronic overexposure to the active ingredient in this material are known to occur in humans. However, depending on the inert carrier used in the formulation of MERIT Granular Insecticide, this product may contain crystalline silica (quartz). If present, it can amount of approximately 6% of the formulation. However, the amount of respirable crystalline silica would be significantly lower based on data provided by the raw material manufacturer. Excessive long-term exposure to respirable crystalline silica may cause silicosis, a form of progressive pulmonary fibrosis.

**CARCINOGENICITY:** MERIT Granular Insecticide is not listed as a carcinogen by NTP or IARC, or regulated as a carcinogen by OSHA. However, depending on the inert carrier used in this formulation, MERIT Granular Insecticide may contain crystalline silica (quartz), a substance which is classified by NTP as a Group 2 carcinogen and by IARC as a Group 2A carcinogen. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Considerable controversy exists regarding the carcinogenic potential of crystalline silica in humans, but based on animal data, the potential must be considered relevant if crystalline silica is inhaled under excessive exposure conditions. However the respirable portion of the silica which may be contained in this product is small, such that excessive inhalation exposure during normal conditions of use is unlikely.

**NTP:** Crystalline silica is classified as an NTP anticipated human carcinogen - "substances or groups of substances that may reasonably be anticipated to be carcinogens".

**IARC:** "IARC Monographs on the Evaluation of the Carcinogen Risk of Chemicals to Humans," Vol. 42 - for crystalline silica (quartz) - has concluded that there is "sufficient evidence for the carcinogenicity of crystalline silica to experimental animals" and "limited evidence for the carcinogenicity of crystalline silica to humans."

**OSHA:** Not regulated

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** No specific medical conditions are known which may be aggravated by exposure to the active ingredient in this product; however, if respirable crystalline silica is present in this product, pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.

**VI. EMERGENCY AND FIRST AID PROCEDURES**

**FIRST AID FOR EYES:** Hold eyelids open and flush with copious amounts of water for 15 minutes. Call a physician if irritation persists or develops after flushing.

**FIRST AID FOR SKIN:** Remove contaminated clothing. Wash skin with soap and water. Get medical attention if irritation persists. If signs of intoxication (poisoning) occur, get medical attention immediately.

**FIRST AID FOR INHALATION:** First, remove victim to fresh air or uncontaminated area. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention as soon as possible.

**FIRST AID FOR INGESTION:** If ingestion is suspected, call a physician or poison control center. Drink one or two glasses of water and induce vomiting by touching back of throat with finger, or, if available, by administering syrup of ipecac. If syrup of ipecac is available, administer 1 tablespoonful (15 mL) of syrup of ipecac followed by 1 to 2 glasses of water. If vomiting does not occur within 20 minutes, repeat the dose once. Do not induce vomiting or give anything by mouth to an unconscious person.

**NOTE TO PHYSICIAN:** Treat symptomatically. In case of poisoning, it is also requested that Bayer Corp., Agriculture Division, Kansas City, Missouri, be notified. TELEPHONE: 816/242-2582

**ANTIDOTES:** None

**VII. EMPLOYEE PROTECTION RECOMMENDATIONS**

**EYE PROTECTION REQUIREMENTS:** Goggles should be used when needed to prevent granular material or dust from getting into the eyes.

**SKIN PROTECTION REQUIREMENTS:** Wear long sleeves and trousers to prevent skin contact.

**HAND PROTECTION REQUIREMENTS:** The use of chemical-resistant gloves to prevent skin contact is recommended as good practice.

**RESPIRATOR REQUIREMENTS:** Under normal handling conditions, no respiratory protection is needed; however, if use conditions generate excessive dust concentrations, wear a respirator approved for pesticide use by the National Institute for Occupational Safety and Health (NIOSH).

**VENTILATION REQUIREMENTS:** Maintain exposure levels below the applicable exposure limit through the use of general and local exhaust ventilation where needed.

**ADDITIONAL PROTECTIVE MEASURES:** Clean water should be available for washing in case of eye or skin contamination. Educate and train employees in safe use of the product. Follow all label instructions. Launder clothing after use. Wash thoroughly after handling.

**VIII. REACTIVITY DATA**

**STABILITY:** This is a stable material.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**INCOMPATIBILITIES:** None known

**INSTABILITY CONDITIONS:** Strong exothermic reaction above 200 C (for imidacloprid)

**DECOMPOSITION PRODUCTS - PROPOSED:** HCl, HCN, CO, NO<sub>x</sub> (for imidacloprid)

**IX. SPILL AND LEAK PROCEDURES**

**SPILL OR LEAK PROCEDURES:** Isolate area and keep unauthorized people away. Do not walk through spilled material. Avoid breathing dusts and skin contact. Avoid generating dust (a fine water spray mist, plastic film cover, or floor sweeping compound may be used if necessary). Use recommended protective equipment while carefully sweeping up spilled material. Place in covered container for reuse or disposal. Scrub contaminated area with soap and water. Rinse with water. Use dry absorbent material such as clay granules to absorb and collect wash solution for proper disposal. Contaminated soil may have to be removed and disposed. Do not allow material to enter streams, sewers, or other waterways.

**WASTE DISPOSAL METHOD:** Follow container label instructions for disposal of wastes generated during use in compliance with the product label. In other situations, bury in an EPA approved landfill or burn in an incinerator approved for pesticide destruction. Do not reuse container.

## X. SPECIAL PRECAUTIONS &amp; STORAGE DATA

STORAGE TEMPERATURE (MIN/MAX): None/30 day average not to exceed 100 F  
 SHELF LIFE: Not Noted  
 SPECIAL SENSITIVITY: Not Noted  
 HANDLING/STORAGE PRECAUTIONS: Store in a cool dry area designated specifically for pesticides. Do not store near any material intended for use or consumption by humans or animals.

## XI. SHIPPING INFORMATION

TECHNICAL SHIPPING NAME: Imidacloprid  
 FREIGHT CLASS BULK: Insecticides, NOI-NMFC 102120  
 FREIGHT CLASS PACKAGE: Insecticides, NOI-NMFC 102120  
 PRODUCT LABEL: Not Noted  
 DOT (DOMESTIC SURFACE):  
 PROPER SHIPPING NAME: Not hazardous or regulated  
 HAZARD CLASS OR DIVISION: Non-Regulated  
 IMO/IMDG CODE (OCEAN):  
 PROPER SHIPPING NAME: Not hazardous or regulated  
 HAZARD CLASS DIVISION NUMBER: Non-Regulated  
 ICAO/IATA (AIR):  
 PROPER SHIPPING NAME: Not hazardous or regulated  
 HAZARD CLASS DIVISION NUMBER: Non-Regulated

## XII. ANIMAL TOXICITY DATA

The acute information below pertains to the formulated product. The non-acute information pertains to the active ingredient imidacloprid.

## ACUTE TOXICITY:

ORAL LD50 - MALE AND FEMALE RAT: >4820 mg/kg  
 DERMAL LD50 - MALE & FEMALE RABBIT: >2000 mg/kg  
 INHALATION LC50:

4 HR. EXPOSURE TO DUST - MALE AND FEMALE RAT: >5.09 mg/L (analytical)  
 1 HR. EXPOSURE TO DUST (extrapolated from 4 Hr. LC50) - MALE AND FEMALE RAT: >20 mg/L (analytical)

EYE EFFECTS - RABBIT: Mild irritation to the conjunctiva was observed with all irritation resolving within 7 days.

SKIN EFFECTS - RABBIT: Not a dermal irritant.

SENSITIZATION - GUINEA PIG: Not a dermal sensitization.

SUBCHRONIC TOXICITY: In a 3 week dermal toxicity study, rabbits were treated with the active ingredient, imidacloprid, at the limit dose level of 1000 mg/kg for 6 hours/day, 5 days/week. There were no local or systemic effects observed at any of the levels tested. The no-observed-effect-level (NOEL) was 1000 mg/kg. In a 4 week inhalation study, rats were exposed to dust concentrations of imidacloprid at 5.5, 30.5 and 191.2 mg/cubic meter for 6 hours/day, 5 days/week. Effects observed at the high concentration included decreased body weight gains, decreased heart and thymus weights, increased liver weights, and induction of the hepatic mixed-function oxidases.

Histopathological examinations did not reveal any organ damage or local injury to the respiratory tract. The NOEL was 5.5 mg/cubic meter based on induction of the hepatic mixed-function oxidases.

CHRONIC TOXICITY: Dogs were administered imidacloprid for 1 year at dietary concentrations of 200, 500 or 1250 ppm. Due to the lack of significant effects, the high dose was increased to 2500 ppm at 17 weeks for the remainder of the study. Effects observed at the high dose included decreased food consumption, increased liver weights and elevated serum chemistries. The NOEL was 500 ppm. In chronic studies using rats, imidacloprid was administered for 2 years to rats at dietary concentrations of 100, 300, 900 or 1800 ppm.

Histopathology examinations revealed an increased incidence of mineralization in the colloid of the thyroid follicles at concentrations of 300 ppm and greater. At 1800 ppm there were changes in the serum chemistries and a slight increase in the incidence of parafollicular hyperplasia seen in the thyroids. Body weight gains were reduced at 900 and 1800 ppm. The overall NOEL was 100 ppm.

CARCINOGENICITY: Imidacloprid was investigated for carcinogenicity in chronic feeding studies using mice and rats at maximum levels of 2000 and 1800 ppm, respectively. There was no evidence of a carcinogenic potential observed in either species.

MUTAGENICITY: The imidacloprid mutagenicity studies, taken collectively, demonstrate that the active ingredient is not genotoxic or mutagenic.

DEVELOPMENTAL TOXICITY: In a developmental toxicity study using rats, imidacloprid was administered by oral gavage during gestation at doses of 10, 30 or 100 mg/kg. At the maternally toxic dose of 100 mg/kg, skeletal examinations of the fetuses revealed a slight increase in the incidence of wavy ribs. The NOELs for maternal and developmental toxicity were 10 and 30 mg/kg, respectively. Teratogenic effects were not observed at any of the doses tested. Rabbits were administered imidacloprid during gestation at oral doses of 8, 24 or 72 mg/kg. At the maternally toxic dose of 72 mg/kg, reduced body weights and delayed skeletal ossification were observed in the fetuses. The NOELs for maternal and developmental toxicity were 8 and 24 mg/kg, respectively. Teratogenic effects were not observed at any of the doses tested.

REPRODUCTION: In a reproduction study, imidacloprid was administered to rats for 2 generations at dietary concentrations of 100, 250 or 700 ppm. Offspring at 700 ppm, exhibited reduced mean body weights and body weight gains. No other reproductive effects were observed. The maternal and reproductive NOELs were 100 and 250 ppm, respectively.

NEUROTOXICITY: In an acute oral neurotoxicity study using rats, imidacloprid was administered as a single dose at concentrations of 42, 151 or 307 mg/kg. Clinical observations and neurotoxicity evaluations were performed over a period of 15 days followed by a neurohistopathological examination. Deaths attributed to imidacloprid were observed at the high dose within a day of treatment. The NOEL for motor and locomotor activity was 42 mg/kg for males. Females at the low dose exhibited minimal decrease in activity in the figure-eight maze. In a subsequent study, the NOEL for motor and locomotor activity in females was 20 mg/kg. All clinical signs and neurobehavioral effects were ascribed to acute cholinergic toxicity, with complete recovery at sub-lethal doses within 7 days following treatment. The NOEL for neurotoxicity was 307 mg/kg based on the absence of treatment-related microscopic lesions in skeletal muscle or neural tissue. In a 13 week neurotoxicity study, imidacloprid was administered to rats at dietary concentrations of 140, 963 or 3027 ppm. At the mid- and high dose, effects observed included reductions in body weight and feed consumption, and clinical chemistry findings. Neurobehavioral changes were observed only in males at the high dose. There were no correlative micropathologic findings in muscle or neural tissues in any animals at any treatment level. The NOEL for neurotoxicity was 3027 ppm. The overall NOEL was 140 ppm.

XII. FEDERAL REGULATORY INFORMATION

OSHA STATUS: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS: This product is exempt from TSCA Regulation under FIFRA Section 3(2)(G)(ii) when used as a pesticide.

CERCLA REPORTABLE QUANTITY: No components listed

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None

SECTION 311/312 HAZARD CATEGORIES: Immediate Health Hazard

SECTION 313 TOXIC CHEMICALS: None

RCRA STATUS: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24)

XIV. OTHER REGULATORY INFORMATION

NFPA 704M RATINGS:

HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 1

OTHER:

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SPECIAL NOTES

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Lebanon Seaboard Corporation. The data on this sheet relates only to the specific material designated herein. Lebanon Seaboard Corporation assumes no legal responsibility for use or reliance upon these data.

PRODUCT: MERIT Granular Insecticide (0.15%-0.35%)

APPROVAL DATE: 4/3/00

ADDITIONAL/IMPORTANT INFORMATION

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES: although preparer and owner have taken reasonable care in the preparation of this document, we extend no warranties and make no representation as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each user should make a determination as to the suitability of the information for their particular purpose(s). A request has been made to the manufacturer to approve the contents of this material safety data sheet. Upon receipt of any changes a new MSDS will be made available.

COMPAS Code: 43390720