SAFETY DATA SHEET IMID + LAMBDA MUP

SECTION 1: IDENTIFICATION

Product Name: BCF TURF FERTILIZER WITH IMID-LAMBDA MUP
EPA Registration No.: 53883-383-49991
Recommended Use: Insecticide; See product label for a complete list of uses and use sites.
Restrictions on Use: See product label for any restrictions on the use of this product.
Chemical Family: N/A – Multiple active ingredients
Chemical Name of Active Ingredient(s): Imidacloprid
Lambda-cyhalothrin

Manufactured by: Bonus Crop Fertilizer, Inc
P.O. Box 1062
Greenville, TX 75403

FOR FIRE, SPILL, AND/OR LEAK EMERGENCIES CONTACT: CHEMTREC 1-800-424-9300
FOR MEDICAL EMERGENCIES AND HEALTH AND SAFETY INQUIRIES CONTACT: Safety Call 1-866-897-8050

SECTION 2: HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW: Clear to straw colored liquid with little to no odor. Causes eye and skin irritation. Harmful if inhaled.

OSHA HCS CLASSIFICATION (29 CFR 1910.1200)

Flammable Liquids	Category 4
Eye Damage/Irritation	Category 2A
Skin Corrosion/Irritation	Category 2
Acute inhalation toxicity	Category 4
Specific Target Organ Toxicity – Single Exposure	Category 3
Specific Target Organ Toxicity – Repeated Exposure	Category 2
Reproductive Toxicity	Category 2

Signal Word: WARNING

Hazard Statement(s):
Combustible liquid.
Causes serious eye irritation.
Causes skin irritation.
Harmful if inhaled.
May cause respiratory irritation.
May cause damage to organs (heart, thyroid, blood chemistry, and liver) through prolonged or repeated exposure.
Suspected of damaging fertility or the unborn child.

Precautionary Statement(s):

Prevention:
Keep away from flames and hot surfaces. – No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and exposed skin thoroughly after handling.
Do not breathe mist/vapors/spray.
Use only outdoors or in a well-ventilated area.

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

Response: **IN CASE OF FIRE:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water. Specific treatment (see FIRST AID on label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
IF EXPOSED OR CONCERNED: Get medical advice/attention.
Get medical advice/attention if you feel unwell.

Storage: Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal: Dispose of contents/container in accordance with Federal, state and local regulations.

SECTION 3: COMPOSTION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight %
Imidacloprid	138261-41-3	19.19%
Lambda-cyhalothrin	91465-08-6	3.84%
N-methyl-2-pyrrolidinone	872-50-4	73.0 – 79.0%

*Ingredients not listed or listed with a weight % range are considered a trade secret and are withheld under 29 CFR 1910.1200(i).

SECTION 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:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 1 5 to 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 INGESTED:	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.

Most important symptoms/effects, acute and delayed: Eye, skin and respiratory tract irritation. Reproductive damage and damage to organs.
Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Unsuitable Extinguishing Media:	Water jet as it may spread fire.
Hazardous Combustion Products:	Thermal decomposition may produce toxic carbon and nitrogen oxides as well as hydrogen chloride and hydrogen cyanide.
Special Protective Equipment & Precautions:	Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Foam and/or dry chemical are preferred to minimize environmental contamination. If water is used, dike and collect water to prevent run-off. Wear self-contained breathing apparatus and full fire-fighting turn-out gear (Bunker gear).
Unusual Fire & Explosion Hazards:	Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Containers will burst from internal pressure under extreme fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:	See Section 8 for personal protection equipment.
Environmental Precautions:	Keep spilled material and any rinsate from contaminating soil or from entering sewage and drainage systems and bodies of water.
Methods for Containment:	Isolate the spill area. Keep unnecessary and unprotected personnel from entering. Absorb small spills with sand, vermiculite or other inert absorbent. Dike large spills using absorbent or impervious material such as clay or sand. Avoid combustible materials such as sawdust or cloth rags. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify and scrape up for disposal.
Methods for Clean-up:	Place contaminated material in appropriate container for disposal. After removal, flush contaminated area thoroughly with soap and water. Pick up wash liquid with additional absorbent and place in a disposable container. Do not put spilled material back in the original container.
Other Information:	None known

SECTION 7: HANDLING AND STORAGE

Handling:	RECOMMENDATIONS ARE INTENDED FOR MANUFACTURING, PACKAGING AND COMMERCIAL BLENDING WORKERS. PESTICIDE APPLICATORS AND WORKERS must refer to the product label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Handle and open container in a manner as to prevent spillage. Do not eat, drink or smoke while handling this product. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes.
Storage:	**See pesticide label for full information on product storage.** Do not contaminate water, food or feed by storage of this product. Store away from sources of heat, out of direct sunlight and away from incompatible materials. Pesticides should be stored in secured areas away from children and animals.
Storage Temperature (Min/Max):	Not determined but avoid extreme temperatures.
Product Incompatibilities:	Avoid contact with strong oxidizers and strong acids.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Users of a pesticide product must refer to the product label for personal protective equipment requirements.

Exposure Guidelines:

COMPONENT	OSHA PEL	ACGIH TLV	NIOSH REL
No components listed			

Engineering Controls: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.

Respiratory Protection: In areas of poor ventilation, use a NIOSH approved respirator with cartridges/canisters approved for pesticides.

Eye Protection: Chemical goggles or safety glasses and full-face shield.

Protective Gloves: Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile, neoprene rubber, polyvinyl chloride (PVC) or Viton.

Other Protective Clothing: Long-sleeved shirt, long pants and shoes plus socks.

General Safety Measures: Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately after handling this product. Wash outside of gloves before removing. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, straw colored liquid	**Upper/Lower Flammability Limits:**	Not determined
Odor:	Little to none	**Vapor Pressure:**	Not determined
Odor Threshold:	Not determined	**Vapor Density:**	Not determined
pH:	5.0 – 6.0	**Relative Density (@24°C):**	1.100 (typical)
Melting /Freezing Point:	Not determined	**Solubility:**	Not determined
Boiling Point/Range:	Not determined	**Partition Coefficient:**	Not determined
Flash Point:	189.5°F	**Auto-ignition Temperature:**	Not determined
Evaporation Rate:	Not determined	**Decomposition Temperature:**	Not determined
Flammability:	Not applicable	**Viscosity:**	Not determined

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	No hazardous chemical reactions known.
Chemical Stability:	Stable under normal storage and handling conditions.
Possibility of Hazardous Reactions:	No potential for hazardous reactions known.
Conditions to Avoid:	Avoid temperatures near or above the flash point (189.5°F), open flame, spark and static electricity.
Incompatible Materials:	Strong oxidizers and strong acids
Hazardous Decomposition Products:	Thermal decomposition may produce toxic carbon and nitrogen oxides as well as hydrogen chloride and hydrogen cyanide.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:	Eye contact, Skin contact, Inhalation, Ingestion
Symptoms of Exposure:	Eye, skin, and/or respiratory tract irritation.
Oral LD_{50}:	>3,000 mg/kg (Estimated based upon component data)
Dermal LD_{50}:	>5,000 mg/kg (Estimated based upon component data)
Inhalation LC_{50}:	>2.0 mg/L (Estimated based upon component data)
Eye Irritation/Damage:	Moderately irritating (Estimated based upon component data)
Skin Corrosion/Irritation:	Moderately irritating (Estimated based upon component data)
Skin Sensitization:	Non-sensitizer (Estimated based upon component data)

Chronic/Subchronic Toxicity:	Repeated overexposure to imidacloprid, may affect heart, thyroid, blood chemistry, and liver. Repeated overexposure to N-methyl-2-pyrrolidinone (NMP) may cause effects to eyes, skin, respiratory system, central nervous system, liver and kidneys.
Mutagenicity:	The imidacloprid mutagenicity studies, taken collectively, demonstrate that imidacloprid is not genotoxic or mutagenic. Neither in vitro nor in vivo tests on N-methyl-2-pyrrolidinone demonstrated mutagenic effects.
Reproductive Toxicity:	In a two-generation reproduction study in rats, imidacloprid produced reduced mean body weight gains. No other reproductive effects were observed. N-methyl-2-pyrrolidinone may adversely affect reproduction in rats after ingestion, although fertility is unaltered.
Neurotoxicity:	No data available
Target Organs:	Repeated overexposure to imidacloprid, may affect heart, thyroid, blood chemistry, and liver. Repeated overexposure to N-methyl-2-pyrrolidinone (NMP) may cause effects to eyes, skin, respiratory system, central nervous system, liver and kidneys.
Aspiration Hazard:	Not anticipated to be an aspiration hazard.
Carcinogenicity:	Imidacloprid did not cause cancer in laboratory animal studies. The U.S. EPA has given imidacloprid a Group E (evidence of non-carcinogenicity in humans). No increase in tumors was seen in rats via dietary or inhalation exposure to N-methyl-2-pyrrolidinone for two years; however, an increase in tumors was seen in rats receiving high dietary doses over a similar period. Liver tumors are not uncommon when non-genotoxic chemicals such as N-methyl-2-pyrrolidinone are tested in the mouse biosassy.

Chemical Name	ACGIH	IARC	NTP	OSHA
No components listed				

SECTION 12: ECOLOGICAL INFORMATION

Environmental Hazards Statement from FIFRA Regulated Pesticide Label:
This product is toxic to aquatic invertebrates. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

ECOTOXICITY DATA: The data presented below is on technical imidacloprid.

Fish Toxicity: Bluegill (*Lepomis macrochirus*): 96 hr LC_{50} = 105 mg/L
Rainbow trout: 96 hr LC_{50} = 211 mg/L

Aquatic Invertebrate Toxicity: *Daphnia magna*: 48 hr EC_{50} = 85 mg/L

Aquatic Plant Toxicity: No data available

Avian Toxicity: Bobwhite Quail: 8-day dietary LC_{50} = 1535 ppm
Bobwhite Quail: Oral LD_{50} = 152 mg/kg
Mallard Duck: 8-day dietary LC_{50} >4,797 ppm

Honeybee Toxicity: Contact LD_{50} = 0.078 µg/bee

ENVIRONMENTAL EFFECTS:

Persistence and Degradability: Hydrolysis half-life of imidacloprid is greater than 30 days at pH 7 and 25°C. The aqueous photolysis half-life is less than 3 hours. The soil surface photolysis of imidacloprid has a half-life of 39 days, and in soil, the half-life ranged from 26 to 229 days.

Bioaccumulation: No data available

Mobility: No data available

Other Adverse Effects: No data available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: **Refer to the pesticide label for full information on disposal.** Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

Container Disposal: **Refer to the pesticide label for full information on disposal.** When possible, triple rinse the container and offer for recycling if available.

RCRA Characteristics: It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORTATION INFORMATION

DOT (Ground): Not regulated in packages less than 119 gallons. For packages of 119 gallons or greater: NA1993, Combustible liquid, n.o.s., (N-Methyl Pyrrolidone), COMB, PGIII

IMDG (Sea): Not determined

IATA (Air): Not determined

SECTION 15: REGULATORY INFORMATION

Labeling Requirements Under FIFRA: This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER
Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin. Do not get in eyes or on skin or clothing. Wear protective eyewear (goggles, face shield, or safety glasses), long-sleeved shirt and long pants, socks, shoes and chemical resistant gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

TSCA Inventory: This product is exempt from TSCA inventory listing requirements as it is solely for FIFRA regulated use.

SARA Title III Information:

Section 302 – Extremely hazardous substances: None

Section 311/312 – Hazard Categories: Immediate (Acute), Delayed (Chronic), Fire

Section 313 – This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS Number	Weight %
N-Methyl-2-pyrrolidinone	872-50-4	73.0 – 79.0%

CERCLA – This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Chemical Name	CAS Number	RQ	Quantity of Finished Product
None listed			

CALIFORNIA PROPOSITION 65:

Chemical Name	CAS Number	Prop 65 Category(ies)
N-Methyl-2-pyrrolidinone	872-50-4	Developmental

U.S. STATE RIGHT-TO-KNOW REGULATIONS:

Chemical Name	New Jersey	Massachusetts	Pennsylvania
N-Methyl-2-pyrrolidinone	X	X	X
Lambda-cyhalothrin	X		X

SECTION 16: OTHER INFORMATION

NFPA	**Health Hazards** 2	**Flammability** 2	**Instability** 0	**Special Hazards** – None

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