BIOADVANCED SCIENCE-BASED SOLUTIONS COMPLETE BRAND INSECT KILLER CONCENTRATE FOR LAWNS

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name	BIOADVANCED SCIENCE-BASED SOLUTIONS COMPLETE BRAND INSECT KILLER CONCENTRATE FOR LAWNS
Product code	
SDS Number	53883-228
EPA Registration No.	53883-228-92564

Relevant identified uses of the substance or mixture and uses advised against

Use	Insecticide
Restrictions on use	See product label for restrictions.

Information on manufacturer

SBM Life Science Corp.
11000 Weston Parkway Suite 150
Cary, NC 27513
United States

Emergency Telephone Number (24hr/ 7 days)	1-877-229-3763 (24 hours/day)
Product Information Telephone Number	1-877-229-3724
SDS Information or Request	SDS@sbm-Company.com

SECTION 2: HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW: White liquid with a mild chemical odor.

OSHA HCS CLASSIFICATION (29 CFR 1910.1200)

Acute Inhalation Toxicity	Category 4
Specific Target Organ Toxicity – Repeated Exposure	Category 2

Signal Word: WARNING



Hazard Statement(s):

Harmful if inhaled
May cause damage to liver and thyroid through prolonged or repeated exposure.

Precautionary Statement(s):

Prevention: Do not breathe mist/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: **IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
Get medical advice/attention if you feel unwell.

Storage: No statements required. See Section 13 for additional information.

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

SECTION 3: COMPOSTION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight %
Bifenthrin	82657-04-3	0.31%
Diisopropyl-1, 1'-biphenyl	69009-90-1	1.0 – 1.5%
N-methyl-2-pyrrolidinone	872-50-4	0.34-0.42%

*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: Effects on the liver or thyroid.
NOTE TO PHYSICIAN: This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Foam, dry chemical, carbon dioxide or water spray
Unsuitable Extinguishing Media:	Water jet
Hazardous Combustion Products:	Thermal decomposition may produce toxic carbon and nitrogen oxides.
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:	None known

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. 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 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.

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.

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 chemical resistant footwear 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:	White liquid	**Upper/Lower Flammability Limits:**	Not determined
Odor:	Mild chemical odor	**Vapor Pressure:**	Not determined
Odor Threshold:	Not determined	**Vapor Density:**	Not determined
pH (1% dispersion):	5.0 – 9.0	**Relative Density (@24°C):**	0.986 (typical)
Melting /Freezing Point:	Not determined	**Solubility in Water:**	Not determined
Boiling Point/Range:	Not determined	**Partition Coefficient:**	Not determined
Flash Point:	Not applicable	**Auto-ignition Temperature:**	Not determined
Evaporation Rate:	Not determined	**Decomposition Temperature:**	Not determined
Flammability:	Not applicable	**Viscosity:**	14 Cps @ 26°C

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:	Extreme temperatures
Incompatible Materials:	Strong oxidizers
Hazardous Decomposition Products:	Thermal decomposition may produce toxic carbon and nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:	Eye contact, Skin contact, Inhalation, Ingestion
Symptoms of Exposure:	No acute symptoms known
Oral LD_{50}:	>3,600 mg/kg (Estimated based upon component data)
Dermal LD_{50}:	>3,900 mg/kg (Estimated based upon component data)
Inhalation LC_{50}:	4.0 mg/L (4-hr)(Estimated based upon component data)
Eye Irritation/Damage:	Not anticipated to cause eye irritation based upon component data.
Skin Corrosion/Irritation:	Not anticipated to cause skin irritation based upon component data.
Skin Sensitization:	Not a potential skin sensitizer based upon component data.
Chronic/Subchronic Toxicity:	Repeated overexposure to Diisopropyl-1,1'-biphenyl may cause effects to liver and thyroid. NOAEL >35 mg/kg (rat)(28 day oral)
Mutagenicity:	No data available
Reproductive Toxicity:	No data available
Neurotoxicity:	No data available

Target Organs: Liver and thyroid
Aspiration Hazard: Not anticipated to be an aspiration hazard.
Carcinogenicity: The EPA considers bifenthrin to be a possible human carcinogen based upon animal studies.

Chemical Name	ACGIH	IARC	NTP	OSHA
No components listed				

SECTION 12: ECOLOGICAL INFORMATION

Environmental Hazards Statement from FIFRA Regulated Pesticide Label:
This pesticide is extremely toxic to fish and aquatic invertebrates. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters, and surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds.
This product is highly toxic to bees exposed to direct treatment or residues on blooming plants. Do not apply this product or allow it to drift to blooming plants if bees are visiting the treatment areas.

ECOTOXICITY DATA: The data presented below is for bifenthrin technical.
Fish Toxicity: Rainbow trout: 96 hr LC_{50} = 0.00015 ppm
Bluegill sunfish: 96 hr LC_{50} = 0.00035 ppm
Aquatic Invertebrate Toxicity: No data available
Aquatic Plant Toxicity: No data available
Avian Toxicity: Bobwhite quail: Oral LD_{50} = 1,800 mg/kg
Mallard duck: Oral LD_{50} = 2,150 mg/kg
Honeybee Toxicity: Highly toxic

ENVIRONMENTAL EFFECTS:
Persistence and Degradability: No data available
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

IMDG (Sea): UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, PGIII, Marine Pollutant

IATA (Air): UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, PGIII

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:

CAUTION
Harmful if swallowed, inhaled or absorbed though skin. Avoid contact with skin eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash 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: Acute (Immediate); Chronic (Delayed)

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 %
Bifenthrin	82657-04-3	0.3%
N-methyl-2-pyrrolidinone	872-50-4	<0.085%

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
Bifenthrin	X		
N-methyl-2-pyrrolidinone	X	X	X

SECTION 16: OTHER INFORMATION

HAZARD RATINGS	NFPA	HMIS		
HEALTH:	1	1	0	MINIMAL
FLAMMABILITY:	0	0	1	SLIGHT
REACTIVITY:	0	0	2	MODERATE
			3	HIGH
			4	SEVERE

Reason for Revision: New Issue

Date of Previous Revision: New Issue

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are trademarks of SBM Life Science Corp.