

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** Menace<sup>®</sup> GC 7.9% Flowable  
**Synonyms:** Bifenthrin  
**EPA Reg. No.:** 228-458

**Company Name:** Nufarm Americas Inc.  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527

**Telephone Numbers:** For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,  
Call CEHMTREC Day or Night 1-800-424-9300  
For Medical Emergencies Only, Call 1-877-325-1840

**Date of Issue:** April 11, 2012                      **Supersedes:** May 3, 2007  
**Sections Revised:** 1, 2, 4, 7, 11, 13, 14

**2. HAZARDS IDENTIFICATION****Emergency Overview:**

**Appearance and Odor:** Off-white colored liquid with a faint odor.

**Warning Statements:** Keep out of reach of children. CAUTION. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist.

**Potential Health Effects:**

**Likely Routes of Exposure:** Ingestion, inhalation, eye and skin contact.

Symptoms of overexposure may include tremors, convulsions, incoordination, decreased locomotion and nasal discharge, including bleeding. In addition, contact with bifenthrin may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours.

**Medical Conditions Aggravated by Exposure:** None presently known.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

**Potential Environmental Effects:**

This pesticide is extremely toxic to fish and aquatic invertebrates. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops and weeds.

See Section 12: ECOLOGICAL INFORMATION for more information.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

| <b>COMPONENT</b>                                 | <b>CAS NO.</b> | <b>% BY WEIGHT</b> |
|--|----------------|--------------------|
| Bifenthrin                                       | 82657-04-3     | 7.9                |
| Other Ingredients Including:<br>Propylene Glycol | 57-55-6        | 92.1               |

**4. FIRST AID MEASURES**

**If Swallowed:** 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**If Inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**If on Skin or Clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

**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.

**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.

**5. FIRE FIGHTING MEASURES**

**Flash Point:** Not applicable due to aqueous formulation

**Autoignition Temperature:** Not determined    **Flammability Limits:** Not determined

**Extinguishing Media:** Use water spray, dry chemical, foam, or carbon dioxide.

**Special Fire Fighting Procedures:** Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

**Unusual Fire and Explosion Hazards:** Slightly combustible, and may support combustion at elevated temperatures. If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

**Hazardous Decomposition Materials (Under Fire Conditions):** May produce gases such as hydrogen chloride, hydrogen fluoride, carbon oxides and unidentified organic compounds.

**National Fire Protection Association (NFPA) Hazard Rating:**

**Rating for this product: Health: 1    Flammability: 1    Reactivity: 0**

Hazards Scale: 0 = Minimal    1 = Slight    2 = Moderate    3 = Serious    4 = Severe

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

**Environmental Precautions:** Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

**Methods for Containment:** Dike spill using non-combustible absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

**Methods for Clean-Up and Disposal:** Pump any free liquid into an appropriate closed container. Use the recovered material according to label directions or discard as a hazardous waste. Wash entire spill area first with an alcoholic caustic or soda ash solution, then follow with soap and water. Absorb and place into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

**Other Information:** Large spills may be reportable to the National Response Center (1-800-424-8802) and to state and/or local agencies.

**7. HANDLING AND STORAGE**

**Handling:**

Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**Storage:**

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate water, food or feed by storage or disposal.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Controls:**

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

**Personal Protective Equipment:**

**Eye/Face Protection:** To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

**Skin Protection:** To avoid contact with skin, wear long pants, long-sleeved shirt, shoes, socks and chemical-resistant gloves. An emergency shower or water supply should be readily accessible to the work area.

**Respiratory Protection:** Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

**General Hygiene Considerations:** Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

**Exposure Guidelines:**

| Component        | OSHA      |      | ACGIH |      | Unit              |
|------------------|-----------|------|-------|------|-------------------|
|                  | TWA       | STEL | TWA   | STEL |                   |
| Bifenthrin       | NE        | NE   | NE    | NE   |                   |
| Propylene Glycol | 10 (WEEL) | NE   | NE    | NE   | mg/m <sup>3</sup> |

NE = Not Established

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance and Odor:** Off-white colored liquid with a faint odor.

**Boiling Point:** Not determined  
**Density:** 8.47 pounds/gallon  
**Evaporation Rate:** Not determined  
**Freezing Point:** Not determined  
**pH:** 7.83 (1% solution)

**Solubility in Water:** Dispersible  
**Specific Gravity:** 1.017 @ 20°C  
**Vapor Density:** Not determined  
**Vapor Pressure:** Not determined  
**Viscosity:** 573.897 cSt @ 20°C

**Note:** Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** This material is stable under normal handling and storage conditions.

**Conditions to Avoid:** Excessive heat. Do not store near heat or flame.

**Incompatible Materials:** Not known.

**Hazardous Decomposition Products:** Under fire conditions may produce gases such as hydrogen chloride, hydrogen fluoride, carbon oxides and unidentified organic compounds.

**Hazardous Reactions:** Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Toxicological Data:

Data from laboratory studies on this product are summarized below:

**Oral:** Rat LD<sub>50</sub>: 975.5 mg/kg (female)

**Dermal:** Rabbit LD<sub>50</sub>: >5,000 mg/kg

**Inhalation:** Rat 4-hr LC<sub>50</sub>: >2.04 mg/l

**Eye Irritation:** Rabbit: Mildly irritating

**Skin Irritation:** Rabbit: Slightly irritating

**Skin Sensitization:** Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Contact with bifenthrin may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours. Ingestion of large amounts of propylene glycol has resulted in symptoms of reversible central nervous system depression including stupor, rapid breathing and heartbeat, profuse sweating and seizures. In addition, excessive acute exposure of propylene glycol may result in CNS and cardiac effects.

**Carcinogenicity / Chronic Health Effects:** Bifenthrin has produced an increased incidence of urinary bladder tumors in male mice at the highest dose level tested. This response, however, was considered equivocal and not evidence of a clear compound related effect. The U.S. EPA has classified bifenthrin as a Class C carcinogen (a possible human carcinogen). Repeated overexposure to propylene glycol can produce central nervous system depression, hemolysis and minimal liver and kidney damage.

**Reproductive Toxicity:** In studies with animals, bifenthrin did not cause reproductive toxicity. In the mouse, propylene glycol was not a reproductive toxicant.

**Developmental Toxicity:** Animal tests with bifenthrin have not demonstrated developmental effects. In a series of animal studies, propylene glycol was not a developmental toxicant.

**Genotoxicity:** Tests with bifenthrin and propylene glycol have shown an absence of genotoxicity.

**Assessment Carcinogenicity:** None listed with ACGIH, IARC, NTP or OSHA.

See Section 2: HAZARDS IDENTIFICATION for more information.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity:

Bifenthrin is highly toxic to fish and aquatic arthropods and LC<sub>50</sub> values range from 0.0038 to 17.8 µg/L. In general, the aquatic arthropods are the most sensitive species. Care should be taken to avoid contamination of the aquatic environment. Bifenthrin had no effect on mollusks at its limit of water solubility. Bifenthrin is only slightly toxic to both waterfowl and upland game birds (LD<sub>50</sub> values range from 1,800 mg/kg to >2,150 mg/kg).

**Environmental Fate:**

In the soil, bifenthrin is stable over a wide pH range and degrades at a slow rate that is governed by soil characteristics. Bifenthrin will also persist in aquatic sediments. Bifenthrin has a high Log Pow (>6.0), a high affinity for organic matter, and is not mobile in soil. Therefore, there is little potential for movement into ground water. There is the potential for bifenthrin to bioconcentrate (BCF = 11,750).

|                                    |
|------------------------------------|
| <b>13. DISPOSAL CONSIDERATIONS</b> |
|------------------------------------|

**Waste Disposal Method:**

Pesticide wastes are toxic. Do not contaminate water, food or feed by storage or disposal. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. Dispose of excess or waste pesticide by use according to label directions, or contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Container Handling and Disposal:**

**Nonrefillable Containers 5 Gallons or Less: Nonrefillable container.** Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke.

**Nonrefillable containers larger than 5 Gallons: Nonrefillable container. Do not reuse or refill this container.** Offer for recycling if available. If recycling or reconditioning is not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable containers: Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**Refillable For return to Nufarm: Refillable Container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

**14. TRANSPORTATION INFORMATION**

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

**DOT**

< 119 gallons: not regulated

≥ 119 gallons : UN 3082, Environmentally hazardous substance, liquid, n.o.s., 9, PG III, (bifenthrin)

**IMDG**

UN 3082, Environmentally hazardous substance, liquid, n.o.s., 9, PG III, (bifenthrin), Marine Pollutant

**IATA**

UN 3082, Environmentally hazardous substance, liquid, n.o.s., 9, PG III, (bifenthrin), Marine Pollutant

**15. REGULATORY INFORMATION****U.S. Federal Regulations:**

**TSCA Inventory:** This product is exempted from TSCA because it is solely for FIFRA regulated use.

**SARA Hazard Notification/Reporting:****Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):**

Immediate, Delayed

**Section 313 Toxic Chemical(s):**

Bifenthrin (CAS No. 82657-04-3) - 7.9% by weight in product

**Reportable Quantity (RQ) under U.S. CERCLA:**

None

**RCRA Waste Code:**

None

**State Information:**

Other state regulations may apply. Check individual state requirements.

**California Proposition 65:** Not Listed

**16. OTHER INFORMATION**

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

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