

# Crossfire® Insecticide

**Alternate Names:**

**Crossfire®**

**Crossfire® Insecticide Bed Bug Concentrate**

**CROSSFIRE® Bed Bug Concentrate**

[ ] Indicates optional wording.

- *[Kills Bed Bugs and Bed Bug Eggs*
- *Scientifically formulated to kill Pyrethroid-resistant and or Field and or Wild Bed Bug Strains*
- *Kills all bed bug life stages or entire bed bug lifecycle by Contact*
- *Kills and or Controls and or Targets Adult and Nymphs Bed Bug Life Stages*
- *Kills and or Targets all Bed Bug Life Stages: Adults, Nymphs and Eggs*
- *Kills Bed Bugs on surfaces for up to 4 weeks*
- *Reduces and or Prevents pyrethroid-resistant and susceptible Bed Bug egg hatch*
- *Residual Control and or Kill for up to 4 weeks or 30 days or 1 month begins working within minutes of exposure or application*
- *Effective for up to 30 days Post or After Application*
- *Direct contact provides control in only 5 minutes as shown in or by independent testing*
- *Fast or Quick Knockdown and Kill*
- *Patented Technology*
- *Recommended for use by Pest Control Operators or Pest Management Professionals or Commercial Applicators*
- *For use in Residential, Institutional and Commercial Facilities*
- *Approved for direct application on or onto mattresses*
- *Use as part of your existing bed bug control program*
- *Non-staining*
- *No visible residue*
- *Low odor*
- *Non-Repellent*
- *Easy to measure and mix*
- *Unique water-based formula*
- *Unique blend of active ingredients to control and or kill resistant bed bugs]*

**ACTIVE INGREDIENTS:**

Clothianidin .....	4.00%
Metofluthrin .....	0.10%
Piperonyl Butoxide* .....	10.00%
<b>OTHER INGREDIENTS: .....</b>	<b>85.90%</b>
	<b>100.00%</b>

\*(butylcarbityl) (6-propylpiperonyl) ether and related compounds

Contains 0.3409 lb. of Clothianidin, 0.0085 lb. of metofluthrin and 0.8523 lb. of piperonyl butoxide per gallon of concentrate.

[Crossfire is a trademark of Sumitomo Chemical Co., Ltd.]

## KEEP OUT OF REACH OF CHILDREN

See attached booklet [inside label] [back panel] for additional precautionary statements [and directions for use].

**PRECAUCION AL CONSUMIDOR:** Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente. **(TO THE USER:** If you cannot read English, do not use this product until the label has been fully explained to you.)

<b>FIRST AID</b>	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.</li> <li>• Call a poison control center for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this product (including health concerns, medical emergencies or pesticide incidents), you may call 1-888-740-8712.	

Manufactured by:



8810 Tenth Avenue North  
Minneapolis, MN 55427

EPA Reg. No. 1021-2776

EPA Est. No. 1021-MN-2

Net Contents: 130 fl. Ounces [13 fl. Ounces]

Patent 8,889,721 [Pat. 8,889,721]

PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt
- Long pants, and
- Shoes and socks

USER SAFETY REQUIREMENTS

- Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Don't reuse them.

PHYSICAL AND CHEMICAL HAZARDS

Do not apply this product in, on or around electrical equipment due to the possibility of shock hazard.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product  
in a manner inconsistent with its labeling.

**READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

**SHAKE WELL BEFORE EACH USE**

**FOR INDOOR USE ONLY**

Crossfire is the next generation insecticide which effectively kills Bed Bugs in both residential and commercial buildings and structures. Crossfire patented technology provides residual control for up to four weeks after application and is scientifically formulated to target [pyrethroid, wild and or field] resistant as well as susceptible Bed Bug strains. Crossfire also kills Bed Bug Nymphs and Eggs by contact. This product must be diluted with water and applied according to the mixing instructions [directions] below. Apply crossfire as an indoor crack and crevice, or direct spray application [according to application instructions] in non-food areas including but not limited to: hotels, shelters, modes of transportation, restaurants, schools, nursing homes, warehouses, offices, apartments, motels, kennels, and hospitals. Crossfire is an easy to use water-dilutable concentrate for application with hand-held, backpack or with a paintbrush. This product will not stain water-safe fabrics or surfaces, however care should be taken to test an inconspicuous area for staining prior to use.

**TO KILL BED BUGS (Adults, Nymphs and Eggs):** For best results, vacuuming surfaces is recommended prior to treatment. Spray bed bugs and eggs directly wherever possible. Apply as a pinstream, coarse spray or low pressure spray for crack and crevice, carpet perimeter, and direct spray applications in and around non-food areas where bed bugs and their eggs may hide or harbor. For example, on and around baseboards, floorboards, millwork, bed frames, headboards, wall hangings, furniture, door and window frames, walls, closets, window treatments, beneath floor coverings, as well as other non-washable items that may come in contact with bed bugs such as luggage, shoes and backpacks. If treating a pet's living environment, spray on and around pet beds, bedding, floors, sleeping areas and furnishings. This product can also be applied with a paintbrush to walls, baseboards, floorboards, behind wall hangings and other similar areas.

**MATTRESS APPLICATION:** Crossfire can be directly applied to mattress and box springs surfaces. For porous surfaces such as mattresses and carpet perimeter areas, apply until thoroughly damp but not wet. Infested bed linens should not be treated. These should be removed, tightly sealed in a plastic bag, laundered and dried at high temperatures prior to re-use. Vacuuming surfaces prior to treatment is highly recommended. Using pinstream, coarse or low pressure equipment, spray directly to mattress surface paying special attention to seams, folds, tufts and edges as well as bed frames and box springs where bed bugs harbor. Re-make bed with clean linens prior to reuse.

**USE RESTRICTIONS**

- THIS PRODUCT IS NOT FOR USE ON HUMANS OR ANIMALS
- Do not spray product directly on pets.
- Not for broadcast use.
- Do not use in commercial food/feed processing, preparation, food/feed storage or serving areas.
- In the home, all food/feed processing surfaces and utensils should be covered during treatment, or thoroughly washed before use. Cover or remove exposed food/feed.
- Remove pets, birds and cover fish aquariums before spraying.
- This product will not stain water-safe fabrics and surfaces, however care should be taken to test an inconspicuous area for staining prior to use.
- DO NOT allow adults, children or pets to enter treated area until sprays are dry.
- DO NOT apply to plants or crops.
- DO NOT treat areas when occupants are present.
- DO NOT apply as a space spray.
- DO NOT wet articles to the point of runoff or drip.
- DO NOT use treated articles until spray has dried.

[NOTE TO REVIEWER: THE FOLLOWING ARE MIXING INSTRUCTIONS FOR WHEN THE PRODUCT IS PACKAGED IN A 130 FL. OZ. CONTAINER:]

**[MIXING INSTRUCTIONS]**

Crossfire is packaged in a 130 fl. oz. container to produce exactly 10 finished gallons (10 doses/treatments). Pour 13 fl. oz. of the 130 fl. oz. container into 115 ounces of water to produce exactly 1 finished gallon to treat 1,000 sq. ft.

Dilution in water Active ingredients	13 fl. oz. per Gallon Final percent concentration of active ingredients
Clothianidin	0.40%
Metofluthrin	0.01%
Piperonyl Butoxide	1%
Total percent concentration of actives	1.42%

Pests	Dilution in water	Application Rate of Mixed Solution	Application Method(s)
Bed Bugs	13 fl. oz./Finished Gallon	1 Gallon/1000 sq. ft.	Apply as a coarse wet spray • Spot Treatment ]

[NOTE TO REVIEWER: THE FOLLOWING ARE MIXING INSTRUCTIONS FOR WHEN THE PRODUCT IS PACKAGED IN A 13 FL. OZ. CONTAINER:]

**[MIXING INSTRUCTIONS]**

Crossfire is conveniently packaged in a single dose 13 fl. oz. container. Pour the entire contents of the 13 fl. oz. container into 115 oz. of water to produce exactly 1 finished gallon to treat 1000 sq. ft.

Dilution in water Active ingredients	13 fl. oz. per Gallon Final percent concentration of active ingredients
Clothianidin	0.40%
Metofluthrin	0.01%
Piperonyl Butoxide	1%
Total percent concentration of actives	1.42%

Pests	Dilution in water	Application Rate of Mixed Solution	Application Method(s)
Bed Bugs	13 fl. oz./Finished Gallon	1 Gallon/1000 sq. ft.	Apply as a coarse wet spray • Spot Treatment ]

To prepare the diluted spray, fill the sprayer tank with half the total water to be used, add the crossfire then add the remaining water to the spray tank to achieve the final application volume. Close the spray tank and shake thoroughly to insure proper suspension. For optimal results, solution should be used within 24 hours of being prepared. Spray tank solution should be shaken prior to each use or if application is interrupted. Diluted mixture may be stored overnight.

NOTICE: This product may be tank-mixed with other insecticides. Application must conform to the use directions and precautions of both products. Prior to tank mixing, a small jar compatibility test should be conducted using the proper proportions of each product and water to ensure the physical compatibility of the mixture. Tank mix applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Store product in its original container. Store in a cool, dry place and avoid excess heat. Keep container tightly closed when not in use. Keep product from freezing. Diluted mixture may be stored overnight.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. In case of spill or leak on floor or paved surfaces, absorb with sawdust or other commercially available absorbing material, sweep up and remove to chemical waste area until proper disposal can be made.

**PESTICIDE DISPOSAL AND CONTAINER HANDLING:** Non-refillable container. Do not reuse or refill this container. Clean container 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 ¼ 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 the procedure two more times, then offer for recycling, if available, or puncture and dispose of in a sanitary landfill or by other approved State or Local procedures.

**DISCLAIMER, RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND LIMITATION OF LIABILITY**

**IMPORTANT: Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT.**

**RISKS OF USING THIS PRODUCT** The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to lack of control of the target pests, resistance of the target pest to this product, injury caused by drift. Such risks of non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of MGK. The Buyer should be aware that these inherent unintended risks may impact the effectiveness of this product. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER. MGK shall not be responsible for losses or damages (including, but not limited to incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

**LIMITED WARRANTY** warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law AND AS SET FORTH ABOVE, MGK MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. No agent or representative of MGK or Seller is authorized to make or create any other express or implied warranty.

**LIMITATION OF LIABILITY** To the fullest extent allowed by law, MGK or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE FULLEST EXTENT ALLOWED BY LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF MGK OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF MGK OR SELLER, THE REPLACEMENT OF THE PRODUCT.

**PROMPT NOTICE OF CLAIM** To the extent consistent with applicable law allowing such requirements MGK must be provided Product Name/Label Number/Page # notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of application, so that an immediate inspection of the affected property can be made. To the extent consistent with applicable law if Buyer does not notify MGK of any claims, in such period, it shall be barred from obtaining any remedy.

**NO AMENDMENTS** MGK and Seller offer this product, and Buyer accepts it, subject to the foregoing Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability, which may not be modified by any oral or written agreement.

[Or alternate text]

#### **[IMPORTANT: READ BEFORE USE**

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following conditions, disclaimer of warranties and limitations of liability.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of MGK. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MGK MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of MGK is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, MGK disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT MGK'S ELECTION, THE REPLACEMENT OF PRODUCT.]

[Or alternate text]

[Note [Notice]: Seller warrants that this product complies with the specifications expressed in this label. To the extent consistent with applicable law, seller makes no other warranties, and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for the intended purpose. To the extent consistent with applicable law, seller's liability or default, breach or failure under this label shall be limited to the amount of the purchase price. To the extent consistent with applicable law, seller shall have no liability for consequential damages.]

[Or alternate text]

[Notice: To the extent consistent with applicable law, buyer assumes all responsibility for safety and use not in accordance with directions.]

[Or alternate text]

#### **[NOTICE TO USER**

To the fullest extent permitted by law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.]

[ ] Denotes alternate text in addition to any sub-set of the directions for use.



# SAFETY DATA SHEET

Issue Date: 01-Aug-2016

Revision Date: 01-Aug-2016

Version: 2

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product identifier

**Product Name:** Crossfire® Bed Bug Concentrate  
**EPA Registration Number:** 1021-2776

### Other means of identification

**Part Code:** 3071

### Recommended use of the chemical and restrictions on use:

**Recommended Use:** Insecticide.

### Details of the supplier of the safety data sheet

**Manufacturer Address:** McLaughlin Gormley King Company  
8810 10th Avenue North  
Minneapolis, MN 55427  
**Telephone Number:** (800) 645-6466, or (763) 544-0341  
**e-Mail Address:** mgk-sds@mgk.com

**FAX #:** (763) 544-6437

### Emergency telephone numbers:

**24 Hour TRANSPORTATION Emergency:** CHEMTREC®: (800) 424-9300  
**International:** (703) 527-3887

**24 Hour MEDICAL Emergency:** SafetyCall®: (888) 740-8712, or (952) 852-9509

**Comments:** MGK® Hours of operation are 8:00 a.m. to 4:30 p.m. CST, 14:00 to 22:30 GMT.  
For MEDICAL EMERGENCIES or PESTICIDE INCIDENTS, call 24 hours a day to  
(888) 740-8712, or (952) 852-9509.

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status:**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Inhalation (Dusts/Mists)

Category 4

### Label elements

#### **Emergency Overview**

### **WARNING**

#### **Hazard statements**

- H332 - Harmful if inhaled
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects

**Appearance:** White , cream**Physical state:** Liquid**Odor** Sweet**Precautionary Statements - Prevention:**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P271 - Use only outdoors or in a well-ventilated area

**Precautionary Statements - Response:**

P321 - Specific treatment (see Section 4/ First Aid).

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

**Precautionary Statements - Storage:**

P405 - Store locked up

P403 + P235 - Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal:**

P501 - Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC):**

Do not use this product in or on electrical equipment due to the possibility of shock hazard.

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Metofluthrin	240494-70-6	0.100
Clothianidin	210880-92-5	4.00
Piperonyl Butoxide (PBO)	51-03-6	10.0

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

Comments: Ingredients not identified are proprietary or non-hazardous. Values are not product specifications.

### 4. FIRST AID MEASURES

**Aspiration pneumonia hazard:** • No information available**Description of first aid measures:****Eye contact:**

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 Contact:**

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Ingestion:** If swallowed, IMMEDIATELY call a poison control center or doctor 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 a doctor. Never give anything by mouth to an unconscious person.

**Inhalation:** Remove affected 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.

**Self-protection of the First Responder:** Use personal protective equipment as required.

**Note to physicians:** For skin effects, a highly efficient therapeutic agent for Pyrethrin/ Pyrethroid exposure is topical application of tocopherol acetate (Vitamin E).

**5. FIRE-FIGHTING MEASURES**

**Suitable extinguishing media**  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media:**  
Caution: Use of water spray when fighting fire may be inefficient.

**Hazardous combustion products:** Carbon monoxide, Carbon dioxide (CO2).

**Specific hazards arising from the chemical**  
No information available.

**Explosion data**  
**Sensitivity to Mechanical Impact:** None.  
**Sensitivity to Static Discharge:** None.

**Protective equipment and precautions for firefighters:**  
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

<b>NFPA</b>	Health hazards 2	Flammability 1	Instability 0	<b>Physical and Chemical Properties</b>
<b>HMIS</b>	Health hazards 1	Flammability 1	Physical hazards 0	- <b>Personal protection</b> X

**Chronic Hazard Star Legend** \* = Chronic Health Hazard

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions:** Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment:** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up:** Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling:** Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. Use with local exhaust ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. For more information, see product label.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions:** Keep container tightly closed in a dry and well-ventilated place. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. For more information, see product label.

## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines:** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### Appropriate engineering controls

**Engineering Controls:** Safety showers  
Eyewash stations  
Ventilation systems

### Individual protection measures, such as personal protective equipment

**Eye/face protection:** Protective eyewear is recommended, but is not required.

**Skin and body protection:** Wear protective gloves and protective clothing.

**Respiratory protection:** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations:** When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties:

**Physical state:** Liquid  
**Appearance:** White , cream  
**Odor** Sweet  
**Odor threshold:** No information available  
**Color (Gardner Scale):** No information available



<u>Property:</u>	<u>Values:</u>	<u>Comment: • Method</u>
pH:	4.90	@ 5% in H <sub>2</sub> O.
Melting point / freezing point:	No information available	
Boiling point / boiling range:	No information available	
Flash point:	> 93.3 °C / > 200.0 °F	Tag Closed Cup
Evaporation rate:	No information available	
Flammability (solid, gas):	No information available	
Upper flammability limit (UEL):	No information available	
Lower flammability limit (LEL):	No information available	
Vapor pressure:	No information available	
Vapor density:	No information available	
Specific Gravity:	No information available	
Water solubility:	No information available	
Partition coefficient; n-Octanol/ Water:	No information available	
Autoignition temperature:	No information available	
Decomposition temperature:	No information available	
Kinematic viscosity:	No information available	
Dynamic viscosity:	29.5 cPs @ 20°C, 22.0 cPs @ 40°C	
Refractive Index:	No information available	
<b><u>Other Information:</u></b>		
Density:	1.0281 g/cm <sup>3</sup> @ 22.5 °C	
VOC Content (%):	0.29	
<b><u>Miscibility/ Solubility:</u></b>		
Water:	Miscible	
Alcohol	Miscible	
Aromatic solvents:	Partially miscible	
Petroleum distillates:	Immiscible	

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

**Hazardous polymerization:** Hazardous polymerization does not occur.

### Conditions to avoid

Extremes of temperature and direct sunlight.

### Incompatible materials:

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

### Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

## 11. TOXICOLOGICAL INFORMATION

### Numerical measures of toxicity - Product Information

Oral LD <sub>50</sub>	>5,000 mg/kg (rat)
Dermal LD <sub>50</sub>	>5,000 mg/kg (rabbit)
Inhalation LC <sub>50</sub>	>2.15 mg/L, (rat; 4 hours)
Eye contact:	Non-irritating to eyes. (rabbit).
Skin Contact:	Non-irritating to the skin. (rabbit).
Sensitization:	Non-sensitizer. (guinea pig).

**Piperonyl Butoxide:** Marginally higher incidences of benign liver tumors in mice were observed following lifetime high dose exposures to PBO. The significance of these observations is questionable and under review. The doses at which tumors were observed for PBO greatly exceeded potential human exposure from labeled uses. Doses at which these effects were observed greatly exceeded anticipated human dietary intake. At anticipated dietary exposure levels, it is highly unlikely that this product will result in carcinogenic effects.

**Carcinogenicity** This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity:	No information available.
Developmental Toxicity	No information available.
Teratogenicity:	No information available.
STOT - single exposure:	No information available.
STOT - repeated exposure:	No information available.
Chronic toxicity:	Avoid repeated exposure.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity:

#### Persistence and degradability

No information available.

#### Bioaccumulation

No information available.

**Other adverse effects:** No information available

#### Environmental hazards (EPA):

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.

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Disposal of wastes:** Disposal should be in accordance with applicable regional, national and local laws and regulations. For more information, see product label.

**Contaminated packaging:** For more information, see product label.

<b>14. TRANSPORT INFORMATION</b>
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**DOT (Department of Transportation)**

**Proper Shipping Name:** Insecticides, Insect or Animal Repellent, Liquid  
**Hazard Class:** This material is not hazardous.

**Other Shipping Information:** This material is **not** regulated by the DOT as a hazardous material when shipped in Non-Bulk quantities (*i.e.*, less-than 119 Gallons / 450 Liters).

When shipping in Bulk-quantities (*i.e.*, more than 119 Gallons / 450 Liters), please contact MGK® for the proper shipping description.

**Air (IATA/ ICAO)**

**Proper Shipping Name:** Insecticides, Insect or Animal Repellent, Liquid  
**Hazard Class:** This material is not hazardous.

**Vessel (IMO/ IMDG)** Not available

<b>15. REGULATORY INFORMATION</b>
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**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). 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	SARA 313 - Threshold Values %
Piperonyl Butoxide (PBO) - 51-03-6	1.0

**SARA 311/312 Hazard****Categories**

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US State Regulations:**

**California Proposition 65:**

This product does not contain any Proposition 65 chemicals

**U.S. EPA Label Information:**

**EPA Registration Number:** 1021-2776

**Difference between SDS and EPA (FIFRA) Pesticide label:**

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The pesticide label also includes other important information, including directions for use. The hazard information required on the pesticide label is reproduced below:

**International:**

<b>TSCA</b>	Does not comply
<b>DSL/NDSL</b>	Does not comply
<b>EINECS/ELINCS</b>	Does not comply
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Does not comply
<b>KECL</b>	Does not comply
<b>PICCS</b>	Does not comply
<b>AICS</b>	Does not comply

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION.**

<b>Issue Date:</b>	<b>Revision Date:</b>	<b>Revision Note:</b>
01-Aug-2016	01-Aug-2016	- SDS sections updated
		- 2
		- 8
		- 9
		- 11

**SDS Prepared By:**  
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**Disclaimer:**

The data contained herein are based on information currently available to McLaughlin Gormley King Company and, to the best of our knowledge, are accurate and based on sound expert opinion. Our statements herein, however, are not to be taken as a warranty or representation for which McLaughlin Gormley King Company assumes legal responsibility.

**End of Safety Data Sheet.**