MATERIAL SAFETY DATA SHEET

MGK®

Date Issued: 11/15/2007
MSDS No: SHOCKWAVE™
Date-Revised: 08/10/2009
Revision No: 1

SHOCKWAVE™ Fogging Concentrate

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: SHOCKWAVE™ Fogging Concentrate
PRODUCT DESCRIPTION: An Insecticide for use as a ULV, Contact Spray, or Thermal Fog.
PRODUCT CODE: 007452, EPA REG. NO. : 1021-1810
ACTIVE INGREDIENT(S): Pyrethrins; Piperonyl Butoxide; MGK®-264 (N-Octyl Bicycloheptene Dicarboximide); NYLAR® (Pyriproxyfen); Esfenvalerate

MANUFACTURER

McLaughlin Gormley King Company
8810 10th Avenue North
Minneapolis MN 55427
Product Stewardship: (888) 740-8712
Alternate Emergency Phone: (952) 852-9509
Service Number: (763) 544-0341
Alternate Customer Service: (800) 645-6466

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC U.S. and CANADA:(800) 424-9300
CHEMTREC All Other Areas:(703) 527-3887
Emergency Phone:(888) 740-8712

COMMENTS: MGK® Hours of operation are 8:00 am to 4:30 pm CST, 14:00 to 22:30 GMT.

For information regarding MEDICAL EMERGENCIES or PESTICIDE INCIDENTS, call 24 hours a day at 1-888-740-8712.

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: CAUTION. OSHA-COMBUSTIBLE LIQUID. Do not use or store near heat, sparks, open flame, or any other ignition sources. Causes moderate eye irritation. Harmful if swallowed or absorbed through the skin. Avoid contact with skin, eyes, and clothing. Contains petroleum distillates - Vomiting may cause aspiration pneumonia.

Wear a pesticide respirator jointly approved by the Mining Enforcement and Safety Administration and by the National Institute for Occupational Safety and Health, under the provisions of 30 CFR Part II.

POTENTIAL HEALTH EFFECTS

EYES: Causes moderate eye irritation.

SKIN: Can cause skin irritation. Can cause a burning or prickling sensation on more sensitive areas (face, eyes, mouth). Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

SKIN ABSORPTION: Harmful if absorbed through the skin.

INGESTION: Harmful if swallowed. Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe lung injury.

INHALATION: Excessive inhalation may be irritating to the respiratory tract.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

CHRONIC EFFECTS: None known.

COMMENTS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Pyrethrins	1	008003-34-7	232-319-8
Piperonyl Butoxide	2	000051-03-6	200-076-7
MGK®-264 (N-Octyl Bicycloheptene Dicarboximide)	3	000113-48-4	204-029-1
NYLAR® (Pyriproxyfen)	0.1	095737-68-1	Not Avail.
Esfenvalerate	0.2	066230-04-4	Not Avail.
Petroleum Distillates	80 - 90	64742-47-8	265-149-8

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

4. FIRST AID MEASURES

EYES: 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: 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. DO NOT give **any** liquid to the person. Do not induce vomiting unless told to do so by a poison contol 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.

NOTES TO PHYSICIAN: Contains Pyrethrins, Pyrethroids, and Petroleum Distillates - vomiting may pose an aspiration pneumonia hazard.
Diazepam has been recommended to reduce the CNS effects of Esfenvalerate.
For skin effects, a highly efficient therapeutic agent for Pyrethrin/ Pyrethroid exposure is topical application of Tocopherol Acetate (Vitamin E).

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: 84.4°C (184°F) TAG Closed Cup

FLAMMABLE CLASS: OSHA-COMBUSTIBLE LIQUID

EXTINGUISHING MEDIA: Foam, carbon dioxide or dry chemical.

HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions this product will support combustion and may decompose to give off toxic gases such as HYDROGEN CYANIDE, carbon monoxide, carbon dioxide, and nitrogen oxides.

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FIRE FIGHTING PROCEDURES: Treat as an oil fire. Use a full-faced self-contained breathing apparatus along with full protective gear. Keep nearby containers and equipment cool with a water stream.

SENSITIVE TO STATIC DISCHARGE: Yes, use proper bonding and/or grounding procedures.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Shut off ignition sources. Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take actions to reduce vapors. Absorb with appropriate absorbent. Clean spill area of residues and absorbent.

LARGE SPILL: Shut off ignition sources. Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take actions to reduce vapors. Collect product into drums, etc. via drains, pumps, etc. Absorb with appropriate absorbent. Clean spill area of residues and absorbent.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Contains Pyrethrins and Pyrethroids, which are toxic to fish and other aquatic invertebrates. Contaminated absorbent and wash water should be disposed of according to local, state, and federal regulations.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Do not use or store near heat, sparks, open flame, or any other ignition sources.

HANDLING: Wear a pesticide respirator jointly approved by the Mining Enforcement and Safety Administration and by the National Institute for Occupational Safety and Health, under the provisions of 30 CFR Part II.
Take prudent precautions to avoid contact with skin, eyes, and clothing. Do not contaminate water, food or feedstuffs, by storage, handling, or by disposal. Read and observe all precautions and instructions on the label.

STORAGE: Store in a cool, dry, well-ventilated place. Keep container closed. Do not use or store near heat, sparks, open flame, any ignition sources, or near strong acids, bases, and oxidizers. Always store pesticides in the original container. Store away from food and pet-food.

KEEP OUT OF REACH OF CHILDREN.

ELECTROSTATIC ACCUMULATION HAZARD: This product contains petroleum distillates for which there is potential for the accumulation of static electricity. Consideration should be given to bonding and grounding of equipment during loading, unloading, and transfer of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		SupplierOEL	
Chemical Name		**ppm**	**mg/m³**	**ppm**	**mg/m³**	**ppm**	**mg/m³**
Pyrethrins	**TWA**		5		5		
Piperonyl Butoxide	**TWA**	None		None		None	
MGK®-264 (N-Octyl Bicycloheptene Dicarboximide)	**TWA**	None		None		None	
NYLAR® (Pyriproxyfen)	**TWA**	None		None		None	
Esfenvalerate	**TWA**	None		None		[1]	2 [1]
Petroleum Distillates	**TWA**					152 [2]	1200 [2]

OSHA TABLE COMMENTS:
1. Skin
2. Based on total hydrocarbon composition.

ENGINEERING CONTROLS: Ventilate treatment area thoroughly before re-entry.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Take prudent precautions to avoid contact with eyes.

SKIN: Take prudent precautions to avoid contact with skin and clothing.

RESPIRATORY: Wear a pesticide respirator jointly approved by the Mining Enforcement and Safety Administration (formerly U.S. Bureau of Mines) and by the National Institute for Occupational Safety and Health, under the provisions of 30 CFR Part II.

WORK HYGIENIC PRACTICES: DO NOT SMOKE, EAT, OR DRINK, OR APPLY COSMETICS IN WORK AREA! Wash promptly if skin becomes contaminated. Wash at the end of each work shift and before eating, smoking, or using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Sweet Vegetable odor, hint of petroleum distillate.

APPEARANCE: Clear, yellow-colored liquid.

COLOR: Gardner Scale 2

pH: Not Applicable

VAPOR DENSITY: Heavier than air.

FREEZING POINT: Not Determined

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FLASHPOINT AND METHOD: 84.4°C (184°F) TAG Closed Cup

SOLUBILITY IN WATER: Immiscible in water.

SPECIFIC GRAVITY: 0.799 (Water = 1) at 20°C (68°F)

VISCOSITY #1: 9 CPS at 23°C (73.4°F) Brookfield

(VOC): < 3.000 %

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

CONDITIONS TO AVOID: Not compatible with strong acids or bases. Not compatible with strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: See Section 5 for combustion products.

11. TOXICOLOGICAL INFORMATION

ACUTE

DERMAL LD_{50}: > 2000 mg/kg
Notes: Albino rabbit.

ORAL LD_{50}: > 2000 mg/kg
Notes: Albino rat.

INHALATION LC_{50}: The Acute Inhalation LC_{50} of this material places it in EPA Toxic Category IV.

EYE EFFECTS: Irritation clearing in 72 hours.

SKIN EFFECTS: Moderate irritation at 72 hours. Produced a primary skin Irritation Index of 2.25

SENSITIZATION: Positive

COMMENTS: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as being carcinogens.

Carcinogenicity/ Oncogenicity - Slightly elevated incidences of benign tumors of the thyroid and liver were seen in rats following lifetime administration of high doses of Pyrethrins. Further detailed scientific studies into the mode of action responsible for these effects show that:
1) Because of biological species differences, the rat thyroid tumors are not relevant to humans.
2) The rat liver tumors occur in animals *only* at doses greatly exceeding human exposure levels and that cause cell proliferation (mitogenesis).
Based on these data, the USEPA has classified Pyrethrins as "Not Likely to be Carcinogenic to Humans," at doses that do not cause a mitogenic response in the liver/ cell proliferation. Thus, Pyrethrins can be considered to be non-carcinogenic at exposure levels relevant to human use of Pyrethrins-containing products.

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

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observed greatly exceeded anticipated human dietary intake. At anticipated dietary exposure levels, it is highly unlikely that this product will result in carcinogenic effects.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This product is toxic to fish and other wildlife. Do not apply directly to any body of water. Do not contaminate water when disposing of equipment washwaters. 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 into 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

DISPOSAL METHOD: To avoid wastes, use all material in the container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (NOTE: such programs are often run by state or local governments, or by industry).

EMPTY CONTAINER: Non-refillable container. DO NOT reuse or refill this container.

Triple-rinse container (or equivalent) promptly after emptying. Then, offer for recycling or reconditioning, or puncture and dispose of container in a sanitary landfill.

Triple-rinse as follows for containers less than < 5 gallons (< 18.9 L) or less: 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 re-cap. 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.

Triple-rinse as follows for containers greater than > 5 gallons (> 18.9 L): 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 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.

RCRA/EPA WASTE INFORMATION: This product contains the following RCRA/CERCLA Hazardous wastes/substances:

Component, RCRA ID#, Cercla RQ

Pyrethrins, N/A, 1 Lb.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Environmentally Hazardous Substance, Liquid, N.O.S. RQ (Pyrethrins)

PRIMARY HAZARD CLASS/DIVISION: 9

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UN/NA NUMBER: UN3082

PACKING GROUP: III

OTHER SHIPPING INFORMATION: This product is not regulated as a hazardous material by the DOT in quantities less than < 100 Lbs.

Shipping name for quantities less than < 100 Lbs. : Insecticides, Insect or Animal Repellents, Liquid, N.O.S.

AIR (ICAO/IATA)

SHIPPING NAME: Environmentally Hazardous Substance, Liquid, N.O.S. RQ (Pyrethrins)

UN/NA NUMBER: UN3082

PRIMARY HAZARD CLASS/DIVISION: 9

PACKING GROUP: III

VESSEL (IMO/IMDG)

SHIPPING NAME: Not Available

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

FIRE: Yes **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes

313 REPORTABLE INGREDIENTS:
COMPONENT, CAS#, Max %

Piperonyl Butoxide, 000051-03-6, 2.00

302/304 EMERGENCY PLANNING

EMERGENCY PLAN: There are no SARA Title III Section 302 extremely hazardous substances present in this formulation (40 CFR 355).

See Section 13 of this MSDS for the components that are subject to emergency requirements under CERCLA Section 103(a)(40 CFR 302.4).

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: All chemical substances found in this product comply with the Toxic Substances Control Act's inventory reporting requirements.

REGULATIONS

STATE REGULATIONS
VOLATILE ORGANIC COMPOUNDS (VOC):

This product contains less than 3% VOC's.

16. OTHER INFORMATION

REVISION SUMMARY: Revision #: 1 This MSDS replaces the November 16, 2007 MSDS. Any changes in information

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are as follows: In Section 7 Storage In Section 9 (Group Field) for Vapor Pressure (Group Field) for Freezing Point (Group Field) for Water Solubility In Section 11 Comments In Section 12 Environmental Data In Section 13 Empty Container Disposal

HMIS RATING

HEALTH:	2
FLAMMABILITY:	2
PHYSICAL HAZARD:	1
PERSONAL PROTECTION:	

HMIS RATINGS NOTES: We assign HMIS ratings to this product based on the hazards of its ingredients(s). Since the customer is most aware of the applications and conditions of use, he or she must ensure that the proper Personal Protective Equipment is provided, consistent with the information contained in Section's 7 and 8 of this MSDS.

COMMENTS: 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.

MSDS Prepared by T. Azzivitto