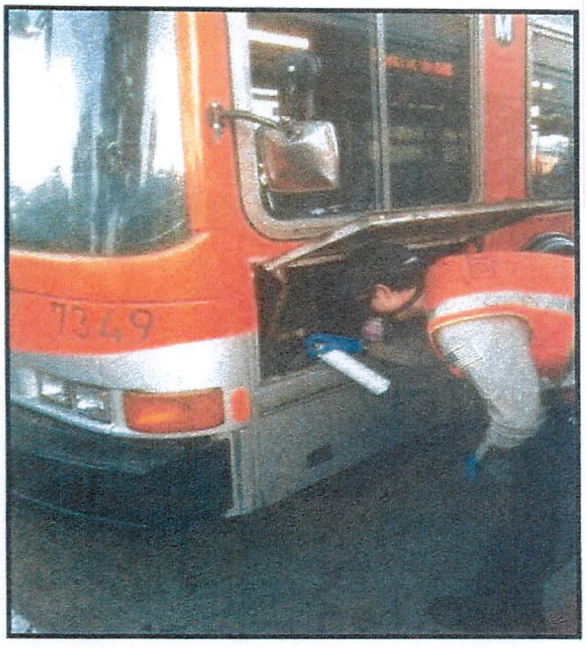
ATTACHMENT A

AERO
ENVIRONMENTAL SERVICES



Industrial Hygiene Assessment for Pesticide Exposure

LA Metro - Division 9
3449 Santa Anita Avenue
El Monte, CA

Prepared by

Aero Environmental Services
131 South Glassell Street, Suite A
Orange, CA 92866
Tel: (714) 516-1812
Fax: (714) 516-1912
info@aero-es.com
www.aero-es.com

Project No. 13133
August 15, 2013

Brian Stratouly, P.E., CSP, CIH

Prepared for

Mr. Collins Kalu, MS, REA, CPEA
Manager, Industrial Hygiene & Safety
Corporate Safety Department
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY
One Gateway Plaza, Mail Stop: 99-18-6
Los Angeles, CA 90012-2952

THE AMERICAN BOARD OF INDUSTRIAL HYGIENE
INCORPORATED
CERTIFICATION NUMBER
8835 CP
EXPIRES
6-1-2015
PENNSYLVANIA - 1960
BRIAN S. STRATOULY, CIH

BCSP
CSP
BRIAN S. STRATOULY
16065
CERTIFIED SAFETY PROFESSIONAL

CONTENTS

Section		Page
1.0	**INTRODUCTION**	1
2.0	**DESCRIPTION OF OPERATIONS**	1
3.0	**STANDARDS AND GUIDELINES**	3
3.1	PETROLEUM DISTILLATES (NAPHTHA)	3
3.2	PYRETHRUM	3
3.3	PIPERONYL BUTOXIDE & MGK-264	3
4.0	**RESULTS AND DISCUSSION**	4
4.1	PETROLEUM DISTILLATES (NAPHTHA)	4
4.2	PYRETHRUM	5
4.3	PIPERONYL BUTOXIDE & MGK-264	5
5.0	**CONCLUSIONS**	6

Appendices

A - Material Safety Data Sheets
B - Analytical Results
C - Photographs

1.0 INTRODUCTION

Aero Environmental Services was retained by Los Angeles County Metropolitan Transportation Authority (Metro) to conduct an industrial hygiene assessment for potential exposure to pesticides. It is our understanding that there is a concern of potential exposure to the bus operators after pesticides are applied to the buses. The assessment was conducted on two buses at Division 9, 3449 Santa Anita Avenue, El Monte, California.

The purpose of this assessment was to document the conditions on the buses after the application of the pesticides, and then again after the buses are ventilated prior to being turned back over to Metro. The buses are fumigated by an independent contractor, IsoTech, Pest Management, Inc. (IsoTech). The objectives of this evaluation were to:

- Monitor exposure to Naphtha (CAS No. 64742-47-8) by collecting both air samples and surface wipe samples.

- Monitor exposure to Pyrethrum (CAS No. 8003-34-7) by collecting both air samples and surface wipe samples.

- Monitor exposure to Piperonyl Butoxide (CAS No. 51-03-6) and MGK®-264 (CAS No. 113-68-4) by collecting both air samples and surface wipe samples.

Mr. Brian Stratouly, P.E., CSP, CIH with Aero Environmental Services, conducted the assessment on July 18, 2013. This report describes the work performed and discusses Aero Environmental Service's findings and recommendations. The following is a list of appendices included in this report:

- Appendix A - Material Safety Data Sheets
- Appendix B - Analytical Results
- Appendix C - Photographs

2.0 DESCRIPTION OF OPERATIONS

IsoTech uses four different pesticide products for treating the buses. The material safety data sheets (MSDS) for the four products are provided in Appendix A and a description follows.

- **Cy-Kick® Crack & Crevice® Pressurized Residual** - This product is effective against crawling insects and is labeled for indoors, outdoors, and food handling areas. It is applied as a Crack & Crevice treatment. The product is supplied in an aerosol can with an actuator and injection tube. The product is applied by placing the injector tip into cracks, crevices, holes and other small openings and spraying the product at a rate of 1.5 seconds/foot. The active ingredients are:

- 0.1% Cyfluthrin (CAS No. 68359-37-5)
- 99.9% Petroleum Distillates (CAS No. 64742-47-8)

Cyfluthrin is a synthetic pyrethroid pesticide. IsoTech applies the Cy-Kick first in the exterior side panels on Model 7000 and 5000 buses, the interior panels behind the driver's seat and below the "Jefferson" seat at the back of the bus.

- **NyGuard™ IGR Concentrate -** NyGuard IGR is a class of pesticide known as Insect Growth Regulator. NyGuard acts on the immature life stages of insects and prevents those insects from becoming full functioning and reproducing adults. By breaking the reproductive cycle of these insects, NyGuard helps reduce overall insect populations. When used in conjunction with an adulticide pesticide, NyGuard can help control infestations and re-infestations. IsoTech mixes the NyGuard with water at a concentration of 11 milliliter per gallon (mL/gal) of water. The concentration is mixed in a stainless steel hand sprayer capable of delivering a wetting surface spray. The active ingredient are:

  - 10% 2-[1-Methyl-2-(4-phenoxyphenoxy) ethoxy] pyridine (CAS No. 95737-68-1)
  - 90% proprietary or non-hazardous compounds

  There is no analytical method to identify 2-[1-Methyl-2-(4-phenoxyphenoxy) ethoxy] pyridine in an air or wipe sample.

- **Onslaught™ Microencapsulated Insecticide -** Onslaught® Microencapsulated Insecticide is a controlled release adulticide that provides long-lasting residual control for a broad spectrum of insects. Onslaught is mixed with NyGuard IGR concentrate to break the insect growth cycle and control future emerging insect populations. IsoTech mixes 1.0 fluid ounce of Onslaught per 1 gallon of water in the same stainless steel hand sprayer with NyGuard. The active ingredients are:

  - 6.4% Esfenvalerate (CAS No. 66230-04-4)
  - 10% Petroleum Distillates
  - 83.6% proprietary or non-hazardous compounds

  There is no analytical method to identify Esfenvalerate in an air or wipe sample.

- **Shockwave™ Fogging Concentrate -** Shockwave® is a fogging concentrate that delivers the highest-level immediate control combined with the benefit of IGR activity. Shockwave provides flushing action and quick knockdown, plus residual activity. Shockwave contains insect growth regulator similar to the naturally occurring insect growth hormones that interfere with insect growth and development. The active ingredients are:

- 1% Pyrethrins (CAS No. 8003-34-7)
- 2% Piperonyl Butoxide (CAS No. 51-03-6)
- 3% MGK-264 (N-Octyl Bicycloheptene Dicarboximide) (CAS No. 113-48-4)
- 0.1% Pyriproxyfen (CAS No. 95737-68-1)
- 0.2% Esfenvalerate (CAS No. 66230-04-4)
- 93.7% Petroleum Distillates (CAS No. 64742-47-8)

IsoTech sprays the Shockwave using a power operated sprayer. The interior is sprayed at a rate of 1.5 seconds/foot. The bus is sealed during the application and for a minimum of 30 minutes after application.

Typically, IsoTech will treat 5 buses and then return to the first bus to ventilate the bus and wipe up any residual spray. The buses are ventilated by opening the doors and windows. The buses are allowed to ventilate for a minimum of 4 hours prior to being turned back over to Metro personnel.

3.0 STANDARDS AND GUIDELINES

3.1 PETROLEUM DISTILLATES (NAPHTHA)

The Federal Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) for petroleum distillates (Naphtha) is set forth in Title 29, Code of Federal Regulations, Section 1910.1000, Toxic and Hazardous Substances, Table Z-1-A (29 CFR 1910.1000). The regulation sets forth a PEL of 500 parts per million parts of air (ppm) determined as an 8-hour time-weighted average (TWA).

The California Occupational Safety and Health Administration (Cal/OSHA) does not set a PEL for Naphtha with the CAS No. of 64742-47-8.

3.2 PYRETHRUM

The Federal OSHA PEL for pyrethrum is set forth in 29 CFR 1910.1000. The regulation sets forth a PEL of 5 milligrams per cubic meter of air (mg/m^3) determined as an 8-hour TWA. The Cal/OSHA PEL for pyrethrum is set forth in 8 CCR 5155. The regulation sets forth a PEL of 5 mg/m^3 based on an 8-hour TWA. This is in agreement with the federal OSHA regulations.

3.3 PIPERONYL BUTOXIDE & MGK-264

No PEL has been established by OSHA or Cal/OSHA for either Piperonyl Butoxide or MGK-264. Since an analytical method for analysis of these chemicals exist, samples were collected to determine if the compounds were present at a detectable concentration within the bus after application of the pesticides.

4.0 RESULTS AND DISCUSSION

Based on the review of the MSDS for the products being used by IsoTech and available laboratory analytical methods for analysis of each compound present within the pesticides, Aero Environmental Services collected samples for the following compounds

- Petroleum Distillates
- Pyrethrins
- Piperonyl Butoxide
- MGK-264

During the evening shift on July 18, 2013, Aero Environmental Services performed area air samples and wipe samples within two buses; Bus No. 7690 & 7349, after application of pesticides by IsoTech. Both air and wipe samples were conducted approximately 30 minutes after the application of the pesticides. This is the time that IsoTech re-enters the bus to begin ventilation and wipe any residual product from the surfaces. These samples would reflect the worse case scenario for the operators even though the buses are ventilated for a minimum of 4 hours prior to the operators being allowed back onto the buses. Additional samples were then collected after the buses were allowed to ventilate after approximately 3 ½ hours.

The analysis for Naphtha was performed by Galson Laboratories, 601 Kirkville Road, East Syracuse, NY 13057. The analysis for the pyrethrum, piperonyl butoxide, and MGK-264 were subcontracted out by Galson Laboratories to another laboratory specializing in pesticides (Bureau Veritas Laboratory, Novi, Michigan). Analytical results are presented in Appendices B.

4.1 PETROLEUM DISTILLATES (NAPHTHA)

Petroleum distillates are a common component of all the pesticides used by IsoTech, except for the NyGuard IGR. Air samples were collected on passive monitors (3M 3500) for an exposure time of 60 minutes. Wipe samples were collected by wiping an area of 100 square centimeters with a charcoal wafer. All the samples were analyzed by NIOSH Method 1550. The method uses gas chromatography with a flame ionization detector (GC/FID) for detection of Naphtha. Measured concentrations of Naphtha in both the air and wipe samples were below the limit of detection; <85 mg/m^3 and <1.1 μg/cm^2. The analytical results are below the OSHA PEL of 500 ppm. Results are presented in Table 1, Appendix B.

4.2 PYRETHRUM

Air samples for Pyrethrum were collected on sorbent tubes containing a glass fiber filter and two sections of XAD-2 adsorbent (OVS-2). Air was drawn through the sampling tube at a flow rate of one 1 liter per minute for a total volume of approximately 54 liters. Wipe samples were collected by wiping an area of 100 square centimeters with a glass fiber filter wetted with methanol. All samples were analyzed by OSHA Method 70. The method uses gas chromatography with an electron capture detector (GC/ECD) for detection of Pyrethrums. Results are presented in Table 2, Appendix B.

Analytical results for the air samples revealed the concentrations were below the limit of detection, <0.019 mg/m^3. The analytical results are below both the OSHA and Cal/OSHA PEL of 5 mg/m^3.

Analysis of the wipe samples revealed a concentration of 0.08 μg/cm^2 (Sample No. 13133-W1), and less than the limit of detection, <0.02 μg/cm^2 (Sample No. 13133-W4). The acute dermal toxicity concentration for Shockwave™ is $>2{,}000$ micrograms per kilograms of body weight (μg/kg). Shockwave™ is comprised of 1% Pyrethrum. This would equate to a dermal toxicity concentration of $>20{,}000$ μg/kg for Pyrethrum. At this concentration one would need to come in direct contact and transfer the material through 269 square feet of body area per kilogram of body weight (ft^2/kg). The concentration of 0.08 μg/cm^2 does not present a health hazard.

4.3 PIPERONYL BUTOXIDE & MGK-264

Air samples for Piperonyl Butoxide & MGK-264 were collected on the same sorbent tubes containing a glass fiber filter and two sections of XAD-2 adsorbent (OVS-2). Air was drawn through the sampling tube at a flow rate of one liter per minute for a total volume of approximately 54 liters. Wipe samples were collected by wiping an area of 100 square centimeters with a glass fiber filter wetted with methanol. All samples were analyzed by OSHA Method PV2110. The method uses high performance liquid chromatography (HPLC) using an ultraviolet (UV) detector for detection of Piperonyl Butoxide & MGK-264. Results are presented in Table 3, Appendix B.

Analytical results for Piperonyl Butoxide revealed results below the limit of detection for both the air samples and the wipe samples; <0.019 mg/m^3 and <0.02 μg/cm^2. Analytical results for MGK-264 were below the limit of detection for the air samples, <0.019 mg/m^3. However, the wipe samples revealed concentrations of 0.066 μg/cm^2 (Sample No. 13133-W2) and 0.58 μg/cm^2 (Sample No. 13133-W5). Using the acute dermal toxicity concentration for Shockwave™ of $>2{,}000$ μg/kg and the concentration of MGK-264 in

Shockwave™ of 3%, this would equate to a dermal toxicity concentration of >60,000 µg/kg for MGK-264. At this concentration one would need to come in direct contact and transfer the material through 111 ft^2/kg. The concentration of 0.58 µg/cm^2 does not present a health hazard.

5.0 CONCLUSIONS

The findings and conclusions within this report are indicative of conditions that existed at the time of the investigation and are subject to the limitations and variability of the sampling methodology. Aero Environmental Services concludes:

- ***Naphtha*** - analytical results for Naphtha in both the air and wipe samples from the two buses were below the limit of detection; <85 mg/m^3 and <1.1 µg/cm^2. The analytical results are below the OSHA PEL of 500 ppm.

- ***Pyrethrum*** - analytical results for Pyrethrum in the air samples from the two buses revealed the concentrations were below the limit of detection, <0.019 mg/m^3. The analytical results are below both the OSHA and Cal/OSHA PEL of 5 mg/m^3.

  Analytical results of the wipe sample from the driver's seat cushion on Bus No. 7690 revealed a concentration of 0.08 µg/cm^2 (Sample No. 13133-W1). At this concentration one would need to come in direct contact and transfer the material through 269 ft^2/kg. The concentration of 0.08 µg/cm^2 does not present a health hazard.

- ***Piperonyl Butoxide*** - analytical results for Piperonyl Butoxide in both the air and wipe samples from the two buses were below the limit of detection; <0.019 mg/m^3 and <0.02 µg/cm^2.

- ***MGK-264*** - analytical results for MGK-264 in the air samples from the two buses were below the limit of detection; <0.019 mg/m^3.

  Analytical results of the wipe samples from the driver's seat cushion on Bus No. 7690 and the steering wheel on Bus No. 7349 revealed concentrations of 0.066 µg/cm^2 (Sample No. 13133-W2) and 0.58 µg/cm^2 (Sample No. 13133-W5). At the highest concentration of 0.58 µg/cm^2 one would need to come in direct contact and transfer the material through 111 ft^2/kg. The concentration of 0.58 µg/cm^2 does not present a health hazard.

* * * *

AERO
ENVIRONMENTAL SERVICES

Appendix A

Material Safety Data Sheets

MATERIAL SAFETY DATA SHEET

Prescription Treatment® brand Cy-Kick® CS Pressurized Crack & Crevice® Residual

EMERGENCY PHONE NUMBERS:

MEDICAL: 800-225-3320 (Prosar) **TRANSPORTATION:** 800-424-9300 (Chemtrec)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Prescription Treatment® brand Cy-Kick® CS Pressurized Crack & Crevice® Residual
EPA Reg. No.: 499-303
Product Code(s): 02-0606 (12 x 20 oz)
EPA Signal Word: CAUTION
Distributed by: Whitmire Micro-Gen Research Laboratories, Inc.
3568 Tree Court Industrial Blvd.
St. Louis MO 63122-6682

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPOSITION INFORMATION

ACTIVE INGREDIENT (0.1%)	%	CAS NO.
Cyfluthrin	0.1	68359-37-5
OTHER INGREDIENTS* (99.9%)	**%**	**CAS NO.**
Petroleum Distillate	> 10.0	64742-47-8
Hydrocarbons C3-C4	proprietary	68476-40-4

* All ingredients may not be listed. Ingredients not listed do not meet the reporting requirements of the OSHA Hazard Communication Standard (HCS) as specified in 29 CFR 1910.1200.

EXPOSURE INFORMATION

	OSHA PEL		ACGIH TLV	
MATERIAL	STEL	TWA	STEL	TWA
Cyfluthrin	NE	NE	NE	NE
Petroleum Distillate*	NE	500 ppm	NE	NE
Hydrocarbons C3-C4	NE	NE	NE	1,000 ppm

* TWA recommended by ingredient supplier = 166 ppm

SECTION 3. HAZARDS IDENTIFICATION

NOTES TO PHYSICIAN

Contains petroleum distillate - vomiting may cause aspiration pneumonia. No specific antidote is available. Treat the patient symptomatically.

SIGNS/SYMPTOMS OF EXPOSURE

May cause eye irritation. Encapsulation greatly reduces the toxicity and irritation potential of the active ingredient.

ROUTES OF ENTRY

Primary: Skin **Secondary:** Inhalation **Tertiary:** Ingestion

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition in open flame may result in possible toxic substances, such as carbon monoxide and carbon dioxide.

UNUSUAL FIRE, EXPLOSION AND REACTIVITY HAZARDS

Contents under pressure. Exposure to temperatures above 130°F may cause bursting.

SECTION 4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor or going for treatment. Describe any symptoms and follow the advice given.

Eye Contact: Hold eyes open and rinse slowly and gently with water for 15 - 20 min. Remove contact lenses, if present, after the first 5 min, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

Ingestion: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give ANY liquid to the person. Do not give anything by mouth to an unconscious person.

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

Inhalation: 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.

Note to Physician: This product contains petroleum distillate. Do not induce vomiting. Vomiting may pose an aspiration pneumonia hazard.

Medical Conditions Generally Aggravated by Exposure: None known

Emergency Telephone Number of Prosar: 800-225-3320 (for medical emergencies)

SECTION 5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION

Flash Point (TCC): None (concentrate)
Flame Projection: None
Explosibility Limits of propellant in Air (% by volume):
Lower (LEL) = 1.8% Upper (UEL) = 9.5%
NFPA 30B Flammability: Level 1 Aerosol

UNUSUAL FIRE, EXPLOSION AND REACTIVITY HAZARDS

Contents under pressure. Exposure to temperatures above 130°F may cause bursting.

IN CASE OF FIRE

Extinguisher Media: Carbon Dioxide, Dry Chemical, Foam, Water
Special Fire Fighting Procedures: Fire fighting personnel should wear full protective equipment and positive pressure self-contained breathing apparatus (SCBA) approved for firefighting.

SECTION 6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR LEAK

If container begins to leak (through puncture, etc.), eliminate all ignition sources and allow to discharge completely in well ventilated area, then dispose of as directed below. This product contains no Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) listed chemicals. Releases of this product are NOT reportable to the National Response Center.

Emergency Telephone Number of Chemtrec: 800-424-9300 (for transportation spills)

PROTECTIVE EQUIPMENT FOR CLEANUP PERSONNEL

Eyes: Use proper protection – safety glasses are recommended.

Skin: Wear chemical-resistant gloves. (Good practice requires that gross amounts of any chemical be removed from the skin as soon as practical, especially before eating or smoking.)

Inhalation: Use of a respirator may be appropriate when working with spills in enclosed or confined spaces, or when prolonged exposure to product vapor or spray mist may occur. When using a respirator, wear a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R or P prefilter. See 29 CFR 1910.134 for respiratory protection, training and testing requirements.

WASTE DISPOSAL METHOD

Do not contaminate water, food or feed by storage or disposal of wastes. Take full or leaking containers to a local disposal company for biological treatment or incineration. Review all local, state and federal regulations concerning health and pollution to determine approved disposal procedures. NEVER PLACE WASTES DOWN ANY INDOOR OR OUTDOOR DRAIN OR SEWER.

SECTION 7. HANDLING AND STORAGE

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Keep out of reach of children. **CAUTION** – Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

PHYSICAL OR CHEMICAL HAZARDS

Flammable. Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Do not use or store near heat or open flame. Exposure to temperatures above 130°F may cause bursting. Do not spray directly into any electronic equipment such as radios, televisions, computers, etc. Do not spray where electrical short circuits might result, such as in wall outlets, conduits, motors, switches, etc. Product should only be used when can temperature is above 60°F. If can temperature is below 60°F, store at room temperature until a temperature above 60°F is reached.

OTHER PRECAUTIONS

Avoid contamination of food, utensils, and food preparation areas. Keep children and pets off treated areas until spray has dried. Do not use in classrooms while in use. Do not use in rooms while occupied by the elderly or infirm.

STORAGE

Do not contaminate water, food or feed. Store in a cool, dry area away from heat or open flame, and inaccessible to children.

MATERIAL SAFETY DATA SHEET

Prescription Treatment® brand Cy-Kick® CS Pressurized Crack & Crevice® Residual

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Respiratory Protection: None required when used according to label directions.
Protective Gloves: Chemical-resistant gloves are recommended if prolonged or repeated skin contact is likely. (Good practice requires that gross amounts of any chemical be removed from the skin as soon as practical, especially before eating or smoking.)
Eye Protection: Use proper protection – safety glasses are recommended.
Other Protective Equipment: None required

VENTILATION

Local Exhaust: None required
Mechanical: None required
Special: None required
Other: Provide adequate ventilation

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white liquid
Solubility in Water: Disperses
Viscosity: NE
Boiling Point: NE
pH: 7.5 - 8.5 (1% in H_2O)
Odor: Characteristic cyfluthrin odor
Vapor Pressure: 50 psig @ 70°F
Vapor Density: NE
Freezing/Melting Point: NE
Density: 0.96 g/cm³ @ 68°F (H_2O = 1)

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

Stability: Indefinite when stored and used according to label directions.
Conditions to Avoid: Heat, sparks, open flame
Incompatibility (Material to Avoid): Strong oxidizers
Hazardous Polymerization: Will not occur

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition in open flame will result in possible toxic substances, such as carbon monoxide and carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY

Primary: Skin **Secondary:** Inhalation **Tertiary:** Ingestion

ACUTE

Eyes: May cause irritation. Product produced mild conjunctival irritation in albino rabbit eyes, reversible in 7 days. No corneal opacity or iritis was observed.
Ingestion: Acute oral toxicity LD_{50} > 5,000 mg/kg (rats).
Skin: Product is not a skin irritant to albino rabbits. Acute dermal toxicity LD_{50} > 2,000 mg/kg (rabbits). Primary skin irritation index = 0.04 (rabbits). Product is not a sensitizer when tested on guinea pigs.
Inhalation: Unlikely due to product being pressurized and producing particles large enough not to be respirable.

CHRONIC/CARCINOGENICITY

Neither this product nor any of its ingredients are classified as carcinogens by the National Toxicity Program (NTP), the International Agency for Research on Cancer (IARC) or the Occupational Safety and Health Administration (OSHA).

SECTION 12. ECOLOGICAL INFORMATION

This product is toxic to fish, birds, and other wildlife. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on the label.

SECTION 13. DISPOSAL CONSIDERATION

Do not contaminate water, food or feed by disposal of container or waste. Dispose of container and waste in accordance with all federal, state and local regulations.

Container Disposal: Do not puncture or incinerate! Empty container by using the product according to the label directions. Offer empty container for recycling, if available, or place in trash if allowed by state and local regulations. If container is partly full, contact your local solid waste agency for disposal instructions.
Waste Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

SECTION 14. TRANSPORT INFORMATION

SHIPMENT BY GROUND WITHIN U.S. (DOT CLASSIFICATION)

Proper Shipping Description: Consumer Commodity ORM-D
Package Marking: Consumer Commodity ORM-D
Package Labeling: None required
Certified Packaging: None required

Product in unopened original packaging is compliant with all regulations for ground shipment within the U.S. WMG disclaims any liability for claims or damages that may result from shipment by other means. Packages offered or intended for other modes of transportation are subject to additional requirements. Consult an appropriately trained Shipping Professional before offering for shipment.

SECTION 15. REGULATORY INFORMATION

CERCLA

This product contains no CERCLA listed chemicals.

SARA TITLE III SECTIONS 311/312 HAZARD CLASS

This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate (Acute) Health Hazard
Fire Hazard
Release of Pressure (Puncture) Hazard

SARA TITLE III SECTION 313 CHEMICALS

This product contains no substances subject to the reporting requirements of Section 313 of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) or 40 CFR Part 372 in concentrations above the de minimis concentration level.

TSCA

All components of this product are listed or excluded from listing on the US Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

SECTION 16. OTHER INFORMATION

NFPA HEALTH RATING INFORMATION
HEALTH - 1 FLAMMABILITY - 2 INSTABILITY - 1

HMIS HAZARD RATING INFORMATION
HEALTH - 1 FLAMMABILITY - 2 PHYSICAL HAZARD - 0

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

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

Questions concerning the safe handling of the product should be referred to the Whitmire Micro-Gen Customer Service Department at 800-777-8570.

NA - Not Applicable
NE - Not Established
PEL - Permissible Exposure Limit
TLV - Threshold Limit Value
STEL - Short Term Exposure Limit (15 min)
TWA - Time Weighted Average (8 hr)

WHITMIRE MICRO-GEN
RESEARCH LABORATORIES, INC.

Effective Date: 12/01/08
Review Date: 12/01/08
Supersedes: 08/03/05
Text ID: 081208-2
Code #: 214-027
Part No.: 19-0756-05

MATERIAL SAFETY DATA SHEET

MGK® **NyGuard™ IGR Concentrate**

Revision Date: 9/29/2008

PRODUCT CODE: 002482

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT CODE: EPA REG. NO. : 1021-1603
PRODUCT NAME: **NyGuard™ IGR Concentrate**
PRODUCT DESCRIPTION: Emulsifiable insecticide concentrate containing insect growth regulator.
CHEMICAL NAME: Mixture
MANUFACTURER: **M**cLaughlin **G**ormley **K**ing Company, 8810 Tenth Avenue North, Minneapolis MN. 55427
TELEPHONE M-F, 8:00-4:30 CST, 14:00-22:30 GMT: (800) 645-6466 or (763) 544-0341
MSDS & Product Information, 8:00-4:30 CST, 14:00-22:30 GMT: (800) 645-6466 or (763) 544-0341

24 HOUR EMERGENCY PHONE (CHEMTREC) U.S. and CANADA:	(800)-424-9300	**CHEMTREC (ALL OTHER AREAS):**	(703) 527-3887

FOR INFORMATION REGARDING MEDICAL EMERGENCIES OR PESTICIDE INCIDENTS CALL:
1-888-740-8712 in U.S and CANADA or **952-852-9509** from all other areas

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS: EMERGENCY OVERVIEW

CAUTION. Causes moderate eye irritation. Avoid contact with skin, eyes, and clothing. Contains petroleum distillate - Vomiting may cause aspiration pneumonia.

EYES: Causes moderate eye irritation.
SKIN: Can cause skin irritation. Can cause a burning or prickling sensation on more sensitive areas (face, eyes, mouth).
SKIN ABSORPTION: May be harmful if absorbed through the skin.
INGESTION: May be harmful if swallowed. Small amounts of this material may get into the lungs during ingestion or vomiting and may cause mild to severe lung injury.
INHALATION: Excessive inhalation may cause nasal and respiratory irritation.
CHRONIC EFFECTS: None known.

ECOLOGICAL: See Section's 12 and 15.
TOXICOLOGICAL: See Section 11.

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT(s)	CAS #	EINECS	EXPOSURE LIMITS	% BY WT.
Pyriproxyfen (NYLAR®) [2-{1-Methyl-2-(4-phenoxyphenoxy) ethoxy} pyridine]	095737-68-1	Not available	Not established	10.0

PEL = Permissible Exposure Limits. TWA = Time Weighted Average (8 hr).
TLV = Threshold Limit Value. STEL = Short Term Exposure Limit (15 min.).

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

PRODUCT CODE: 002482

4. FIRST-AID MEASURES

FIRST AID PROCEDURES:

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.

INHALATION: 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.

INGESTION: 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 control center or doctor. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS: This product contains Petroleum Distillates; Vomiting may pose an aspiration pneumonia hazard.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: >200 ºF/ >93.3 ºC **METHOD:** TAG Closed Cup

This product is NOT classified as a combustible or flammable liquid by OSHA.

FLAMMABLE LIMITS:

LOWER FLAMMABLE LIMIT: not established.

UPPER FLAMMABLE LIMIT: not established.

AUTOIGNITION TEMPERATURE: not established.

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

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

EXTINGUISHING MEDIA: Foam, carbon dioxide, or dry chemical.

FIRE FIGHTING INSTRUCTIONS: 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 spray. Contain the run-off, if possible, for proper disposal.

6. ACCIDENTAL RELEASE MEASURES:

SMALL SPILL: 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: 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.

WASTE DISPOSAL METHOD: Contaminated absorbent and wash water should be disposed of according to local, state, and federal regulations.

PRODUCT CODE: 002482

7. HANDLING AND STORAGE

HANDLING: Take prudent precautions to avoid contact with skin, eyes, and clothing. Do not contaminate water, food or feedstuffs by storage, handling or disposal. Read and observe all precautions and instructions on the label.

STORAGE: Store containers upright and closed. Store in areas that are cool, dry and well-ventilated. Emptied containers may retain product residues.
KEEP OUT OF REACH OF CHILDREN.

WORK HYGIENIC PRACTICES: DO NOT SMOKE, EAT, 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, and using the toilet.

ELECTROSTATIC ACCUMULATION: This product contains petroleum distillates, for which there is the potential for electrostatic accumulation. Proper grounding procedures should be used when transferring this material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS: Not established by OSHA or ACGIH (see Section 2 for individual components).
ENGINEERING CONTROLS: Ventilate treatment area thoroughly before re-entry.
RESPIRATORY PROTECTION: Not required.
SKIN PROTECTION: Take prudent precautions to avoid contact with skin and clothing.
EYE PROTECTION: Take prudent precautions to avoid contact with eyes.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Light-yellow colored liquid.
ODOR: Sweet surfactant odor.
PHYSICAL STATE: Liquid
VAPOR PRESSURE: Not established
VOC: < 1%
VAPOR DENSITY: Heavier than air.
BOILING POINT: Not established
MELTING POINT: Not established
SOLUBILITY IN WATER: Partially miscible in water.
SPECIFIC GRAVITY: 0.939 @ 20ºC (68ºF)
COLOR, (GARDNER): 3
pH: 5.0 @ 10% in H_2O.
WATER / OCTANOL PARTITION CO-EFFICIENT: Not established
VISCOSITY: 28 CPS @ 22ºC (71.6ºF)
REFRACTIVE INDEX: 1.4723 @ 25ºC (77ºF)

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.
INCOMPATIBILITY: Strong acidic or alkaline materials. Compounds containing a methoxy group.
HAZARDOUS DECOMPOSITION PRODUCTS: See Section 5
HAZARDOUS POLYMERIZATION: Will not occur

PRODUCT CODE: 002482

11. TOXICOLOGICAL INFORMATION

ACUTE STUDIES:

INGESTION:

Acute Oral LD_{50} (rat)	> 5,000 mg/kg

SKIN:

Acute Dermal LD_{50} (rabbit)	> 5,000 mg/kg
Primary skin irritation (rabbit):	Slightly irritating at 72 hours. Irritation Index = 2.5
Dermal Sensitization (guinea pig):	Negative; Not a dermal sensitizer.

INHALATION:

Acute Inhalation LC_{50} (rat)	> 5.05 mg/L. Rats exposed for 4 hours to test atmosphere.

EYE:

Primary eye irritation (rabbit):	Irritation cleared by Day 4.

SUBCHRONIC:

GENERAL COMMENTS: Some or all of the toxicity data reported above was bridged from a substantially similar formula.

CHRONIC:

CARCINOGENICITY: 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.

ONCOGENICITY: Not determined

REPRODUCTIVE: Not determined

TERATOGENICITY: Not determined

MUTAGENICITY: Not determined

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This product is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

PERSISTENCE IN THE ENVIRONMENT

BIODEGRADATION: Not available

CHEMICAL DEGRADATION: Not available

TOXIC EFFECTS ON ORGANISMS:

FISH: LC_{50} Not available

BIRD: LC_{50} Not available

TOXICITY TO USEFUL INSECTS: Not available

13. DISPOSAL CONSIDERATIONS

DISPOSAL:

If empty: Do not reuse this container. Place in trash or offer for recycling if available.

If partially filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

RCRA / CERCLA HAZARDOUS WASTE:

INGREDIENT	RCRA ID#:	CERCLA RQ-VALUE
None		

RCRA/ EPA WASTE INFORMATION: None of the ingredients in this product appear on the RCRA lists (40 CFR 261.24, 40 CFR 251.33) or CERCLA Hazardous Substance List (40 CFR Part 302 Table 302.4).

24 HOUR EMERGENCY PHONE (CHEMTREC): (800)-424-9300 **(ALL OTHER AREAS):** (703) 527-3887

PRODUCT CODE: 002482

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

PROPER SHIPPING NAME: Insecticides, Insect or Animal Repellent, Liquid, N.O.S.
HAZARD CLASS: Non-Hazardous
IDENTIFICATION NUMBER (UN or NA): N/A
PACKING GROUP: N/A

OTHER SHIPPING INFORMATION: Not regulated as Hazardous by the Department of Transportation for Non-Bulk quantities (< 119 Gallons/ 450 Liters). Please contact MGK® when shipping in Bulk quantities.

INTERNATIONAL TRANSPORTATION REGULATIONS:

ICAO / IATA DESCRIPTION: Non-Hazardous
PROPER SHIPPING NAME: Insecticides, Insect or Animal Repellent, Liquid, N.O.S.

IMO DESCRIPTION (IMDG CODE): Not Available.

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

SARA TITLE III: (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/ 312 HAZARD CATEGORIES:

FIRE: NO **PRESSURE GENERATING:** NO **REACTIVITY:** NO **ACUTE:** YES

SECTION 313 REPORTABLE INGREDIENTS: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

CAS#:	CHEMICAL NAME:	% BY WEIGHT:

This product contains no SARA Title III Section 313 chemicals that exceed the reporting limits.

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

There are no components that are subject to emergency requirements under CERCLA Section 103(a)(40 CFR 302.4) in this formulation.

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.

STATE REGULATIONS:

VOLATILE ORGANIC COMPOUNDS (VOC): This product contains less than 1% VOC's.

PRODUCT CODE: 002482

16. OTHER INFORMATION

HMIS RATINGS:

We assign HMIS ratings to this product based on the hazards of its ingredient(s). Since the customer is most aware of the applications and conditions of use, he must ensure that the proper personal protective equipment is provided consistent with information contained in Section's 7 and 8 of this MSDS.

HMIS RATINGS:		
	Health	1
	Flammability	1
	Reactivity	1

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.

Material **S**afety **D**ata **S**heet prepared by T. Azzivitto

MATERIAL SAFETY DATA SHEET

MGK®

Date Issued: 10/11/2005
MSDS No: ONSLAUGHT
Date-Revised: 05/08/2009
Revision No: 3

Onslaught™ Microencapsulated Insecticide

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Onslaught™ Microencapsulated Insecticide
PRODUCT DESCRIPTION: A Microencapsulated Insecticide.
PRODUCT CODE: 028371, EPA REG. NO. : 1021-1815
ACTIVE INGREDIENT(S): 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. Causes moderate eye irritation. Harmful if swallowed or absorbed through the skin. Avoid contact with skin, eyes, and clothing.
Wear OSHA-approved safety glasses with side-shields, safety goggles, or a full-face shield.
Contains petroleum distillates - Vomiting may cause aspiration pneumonia.

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).

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).

3. COMPOSITION / INFORMATION ON INGREDIENTS

MATERIAL SAFETY DATA SHEET

MGK®

Date Issued: 10/11/2005
MSDS No: ONSLAUGHT
Date-Revised: 05/08/2009
Revision No: 3

Onslaught™ Microencapsulated Insecticide

Chemical Name	Wt.%	CAS	EINECS
Esfenvalerate	6.4	066230-04-4	Not Avail.
Petroleum Distillates	5 - 10	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 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 Pyrethroid exposure is topical application of Tocopherol Acetate (Vitamin E).

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: > 93.3°C (200°F) TAG Closed Cup

FLAMMABLE CLASS: This product is NOT classified as flammable or combustible by OSHA.

EXTINGUISHING MEDIA: Use water spray, foam, carbon dioxide or dry chemical.

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

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

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: 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 such as sand, or vermiculite. Clean spill area of residues and absorbent.

MATERIAL SAFETY DATA SHEET

MGK®

Date Issued: 10/11/2005
MSDS No: ONSLAUGHT
Date-Revised: 05/08/2009
Revision No: 3

Onslaught™ Microencapsulated Insecticide

LARGE SPILL: 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, storage tanks, etc., via drains, pumps, etc. Absorb with appropriate absorbent such as sand or vermiculite. Clean spill area of residues and absorbent.

ENVIRONMENTAL PRECAUTIONS

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

7. HANDLING AND STORAGE

GENERAL PROCEDURES: DO NOT USE IN OR AROUND ELECTRICAL EQUIPMENT DUE TO THE POSSIBILITY OF SHOCK HAZARD. Do not use or store near heat, sparks, open flame, or any other ignition sources.

HANDLING: DO NOT allow material to exceed 160°F (71.1°C) as HYDROGEN CYANIDE GAS may be produced. Wear OSHA-approved safety glasses with side-shields, safety goggles, or a full-face shield.
Mechanical ventilation should be used when handling this product in enclosed spaces. Do not contaminate water, feed or food by storage, handling or disposal. Read and observe all precautions and instructions on the label.

STORAGE: Store containers upright and closed. Store in areas that are cool, dry and well-ventilated. Keep away from heat, sparks, open flame, and any other ignition sources. DO NOT allow product to exceed 160°F (71.1°C) as HYDROGEN CYANIDE GAS may be produced. Keep away from strong acids, bases and oxidizers. Emptied containers may retain product residues.

KEEP OUT OF REACH OF CHILDREN

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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
Esfenvalerate	TWA	None		None		[1]	2 [1]
Petroleum Distillates	TWA	None		None		100	525
OSHA TABLE COMMENTS: 1. Skin							

ENGINEERING CONTROLS: Mechanical ventilation should be used when handling this product in enclosed spaces. Local exhaust ventilation may be necessary.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear OSHA-approved safety glasses with side-shields, safety goggles, or a full-face shield.

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

WORK HYGIENIC PRACTICES: DO NOT SMOKE, EAT, OR DRINK, OR APPLY COSMETICS IN WORK AREA!

MATERIAL SAFETY DATA SHEET

MGK®

Date Issued: 10/11/2005
MSDS No: ONSLAUGHT
Date-Revised: 05/08/2009
Revision No: 3

Onslaught™ Microencapsulated Insecticide

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: Odorless.

APPEARANCE: Creamy, yellow/ light-brown color.

pH: 5.5
Notes: @ 10% in water.

VAPOR PRESSURE: Not Available

VAPOR DENSITY: Heavier than air.

FREEZING POINT: Not Available

FLASHPOINT AND METHOD: > 93.3°C (200°F) TAG Closed Cup

EVAPORATION RATE: Not Available

SPECIFIC GRAVITY: 1.020 (Water = 1) at 20°C (68°F)

VISCOSITY #1: 1025 CPS at 18.5°C (65.3°F) Brookfield

(VOC): < 2.000 %

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: HYDROGEN CYANIDE GAS may be formed by thermal decomposition at 160°F (71.1°C) or higher, or by contact with alkaline substances such as soda ash & lye.

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 by Day 4.

MATERIAL SAFETY DATA SHEET

MGK®

Date Issued: 10/11/2005
MSDS No: ONSLAUGHT
Date-Revised: 05/08/2009
Revision No: 3

Onslaught™ Microencapsulated Insecticide

SKIN EFFECTS: Slight irritation at 72 hours. Irritation Index = 1.0

SENSITIZATION: Negative; Not considered to be a dermal sensitizer to albino guinea pigs.

GENERAL COMMENTS: The above toxicity data was bridged from the insecticide concentrate, that is used in the manufacture of this end-use product.

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.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This product is toxic to fish and other aquatic invertebrates. Do not apply directly to water. Do not contaminate water when disposing of equipment wash waters. 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: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

EMPTY CONTAINER: Do not reuse empty container. Wrap container in several layers of newspaper and discard in trash.

RCRA/EPA WASTE INFORMATION: None of the ingredients in this product appear on the RCRA lists (40 CFR 261.24, 40CFR 251.33) or CERCLA Hazardous Substance list (40 CFR Part 302 Table 302.4)

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Insecticides, Insect or Animal Repellent, Liquid, N.O.S.

PRIMARY HAZARD CLASS/DIVISION: Non-Hazardous

AIR (ICAO/IATA)

SHIPPING NAME: Insecticides, Insect or Animal Repellent, Liquid, N.O.S.

PRIMARY HAZARD CLASS/DIVISION: Non-Hazardous

VESSEL (IMO/IMDG)

SHIPPING NAME: Not Available

15. REGULATORY INFORMATION

UNITED STATES

MATERIAL SAFETY DATA SHEET

MGK®

Date Issued: 10/11/2005
MSDS No: ONSLAUGHT
Date-Revised: 05/08/2009
Revision No: 3

Onslaught™ Microencapsulated Insecticide

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

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

313 REPORTABLE INGREDIENTS:
COMPONENT, CAS#, Max %

Esfenvalerate, 066230-04-4, 6.40

302/304 EMERGENCY PLANNING

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

There are no components that are subject to emergency requirements under CERCLA Section 103(a)(40 CFR 302.4) in this formulation.

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 2% VOC's.

16. OTHER INFORMATION

REVISION SUMMARY: Revision #: 3 This MSDS replaces the October 04, 2007 MSDS. Any changes in information are as follows: In Section 12 Environmental Data

HMIS RATING

HEALTH:	1
FLAMMABILITY:	1
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

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).

MATERIAL SAFETY DATA SHEET

MGK®

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

SHOCKWAVE™ Fogging Concentrate

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.

MATERIAL SAFETY DATA SHEET

MGK®

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

SHOCKWAVE™ Fogging Concentrate

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

MATERIAL SAFETY DATA SHEET

MGK®

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

SHOCKWAVE™ Fogging Concentrate

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

MATERIAL SAFETY DATA SHEET

MGK®

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

SHOCKWAVE™ Fogging Concentrate

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

MATERIAL SAFETY DATA SHEET

MGK®

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

SHOCKWAVE™ Fogging Concentrate

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

MATERIAL SAFETY DATA SHEET

MGK®

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

SHOCKWAVE™ Fogging Concentrate

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

MATERIAL SAFETY DATA SHEET

MGK®

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

SHOCKWAVE™ Fogging Concentrate

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

AERO
ENVIRONMENTAL SERVICES

Appendix B

Analytical Results

Table 1 - *Sample Summary of Analytical Results for Naphtha*
Sampling Date: July 18, 2013
Project No. 13138

LA County Metro
Division 9 - El Monte, CA

Sample Number	Analyte	Bus Number	Sample Location	Concentration		Exposure Limits	
				mg/m^3	$\mu g/cm^2$	[1] mg/m^3	ppm
13133-N1	Naphtha	7690	Air sample at driver's seat 30 minutes after application of pesticide	<85		2,924	500
13133-W3	Naphtha	7690	Wipe sample on the bus's back seat cushion 30 minutes after application of pesticide		<1.1	-	-
13133-N2	Naphtha	7390	Air sample at driver's seat 3 hours after application of pesticide	<85		2,294	500
13133-W6	Naphtha	7390	Wipe sample on the driver's seat 3 hours after application of pesticide		<1.1	-	-

[1] OSHA PEL

AERO ENVIRONMENTAL SERVICES

Table 2 - *Sample Summary of Analytical Results for Pyrethrum*
Sampling Date: July 18, 2013
Project No. 13138

LA County Metro
Division 9 - El Monte, CA

Sample Number	Analyte	Bus Number	Sample Location	Concentration		Exposure Limits	
				mg/m^3	$\mu g/cm^2$	[1] mg/m^3	[2] ft^2/kg
13133-P1	Pyrethrum	7690	Air sample at driver's seat 30 minutes after application of pesticide	<0.019		5	-
13133-W1	Pyrethrum	7690	Wipe sample on the driver's seat cushion 30 minutes after application of pesticide		**0.08**	-	269
13133-P2	Pyrethrum	7349	Air sample at driver's seat 3 hours after application of pesticide	<0.019		5	-
13133-W4	Pyrethrum	7349	Wipe samples on the steering wheel 3 hours after application of pesticide		<0.02	-	269

[1] OSHA & CAL/OSHA PEL
[2] Based on Acute Dermal Toxicity for Shockwave™ of >20,000 $\mu g/kg$ for Pyrethrum

AERO ENVIRONMENTAL SERVICES

Table 3 - *Sample Summary of Analytical Results for Piperonyl Butoxide & MGK-264*
Sampling Date: July 18, 2013
Project No. 13138

LA County Metro
Division 9 - El Monte, CA

Sample Number	Analyte	Bus Number	Sample Location	Concentration		Exposure Limits	
				mg/m^3	$\mu g/cm^2$	[1] mg/m^3	[2] ft^2/kg
13133-BU1	Piperonyl Butoxide MGK-264	7690	Air sample at driver's seat 30 minutes after application of pesticide	<0.019 <0.019		-	-
13133-W2	Piperonyl Butoxide MGK-264	7690	Wipe sample on the driver's seat cushion 30 minutes after application of pesticide		<0.01 **0.066**	-	- 111
13133-BU2	Piperonyl Butoxide MGK-264	7349	Air sample at driver's seat 3 hours after application of pesticide	<0.019 <0.019		-	-
13133-W5	Piperonyl Butoxide MGK-264	7349	Wipe samples on the steering wheel 3 hours after application of pesticide		<0.01 **0.58**	-	- 111

[1] No OSHA or CAL/OSHA PEL Established
[2] Based on Acute Dermal Toxicity for Shockwave™ of >60,000 μg/kg for MGK-264

AERO
ENVIRONMENTAL SERVICES

Appendix C

Photographs

Location: LA Metro, Division 9
3449 Santa Anita Avenue, El Monte, CA

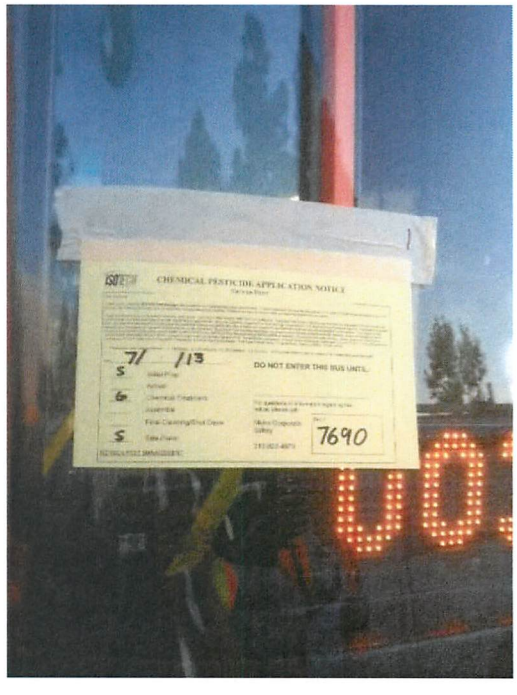
Project No. 13133
Date: July 18, 2013

Photograph No. 1

Description:
Bus No. 7690

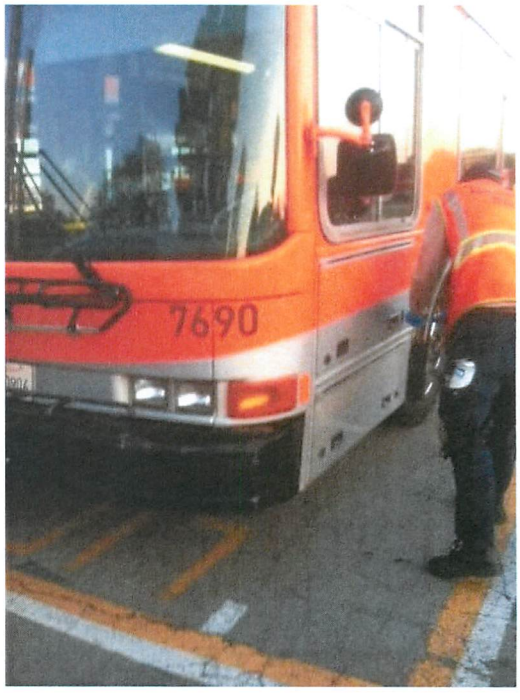
Photograph No. 2

Description:
Bus No. 7690, Chemical Pesticide Application Notice



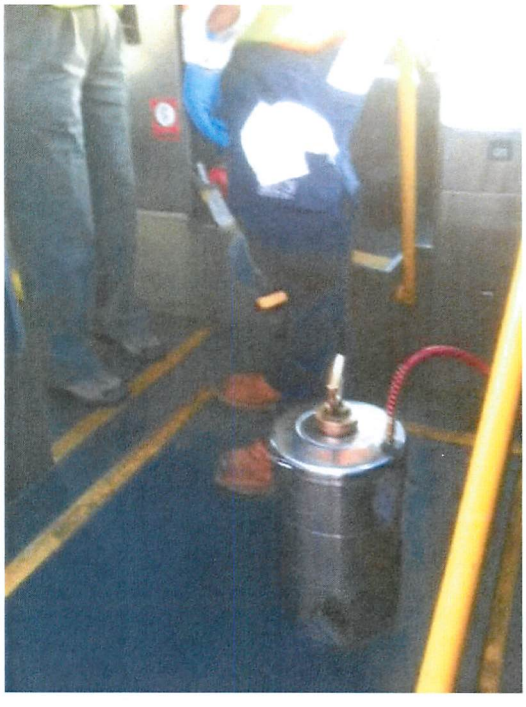
Photograph No. 3

Description:
Bus No. 7690, worker spraying exterior panel with *Cy-Kick* product



Photograph No. 4

Description:
Pesticide container – mixture of *Onslaught* and *Nuguard* products



Photograph No. 5

Description:
Bus No. 7690

Photograph No. 6

Description:
Bus No. 7349, worker spraying exterior panel with *Cy-Kick* product

Photograph No. 7

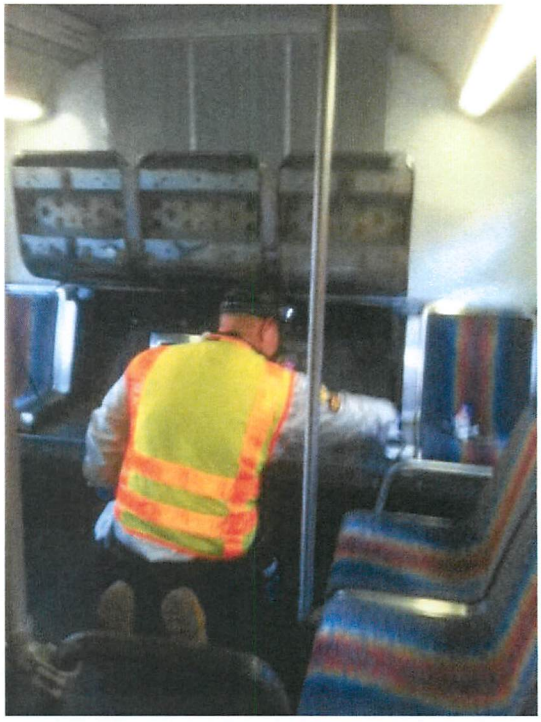
Description:
Bus No. 7349

Photograph No. 8

Description:
Bus No. 7349, internal panel behind driver seat

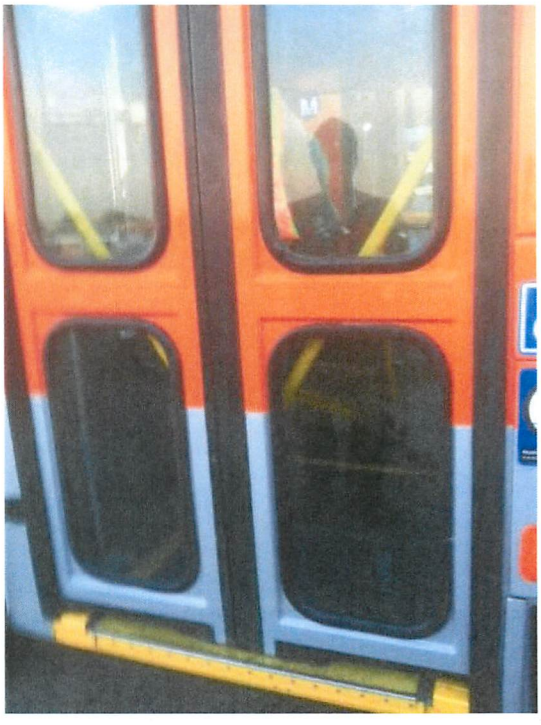
Photograph No. 9

Description:
Bus No. 7349, worker spraying interior of rear seat of bus



Photograph No. 10

Description:
Bus No. 7349, bus sealed during spraying of *Shock Wave* product

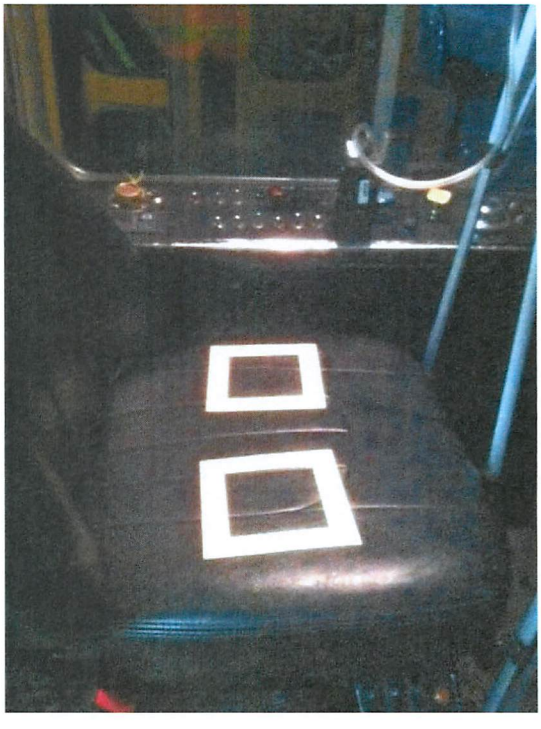


Photograph No. 11

Description:
Bus No. 7690, air samples collected after 30 minutes of venting

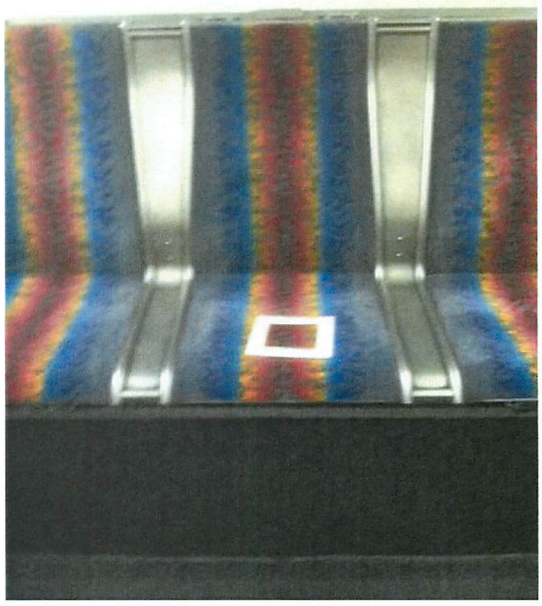
Photograph No. 12

Description:
Bus No. 7690, wipe sample location



Photograph No. 13

Description:
Bus No. 7690, wipe sample location

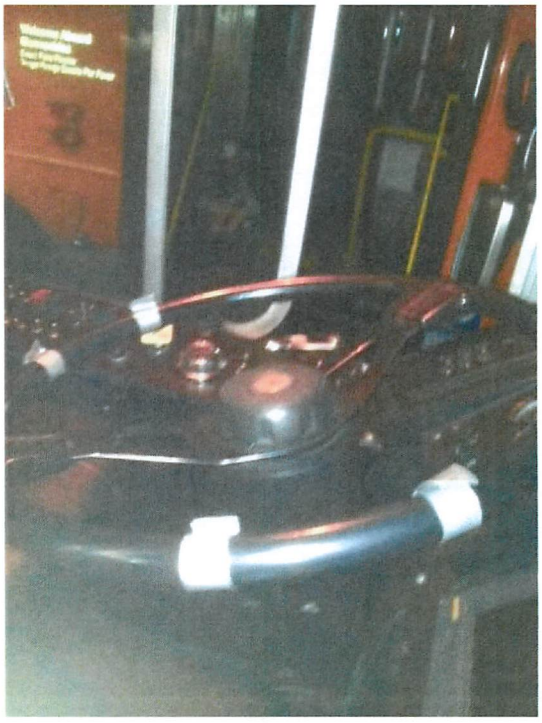


Photograph No. 14

Description:
Bus No. 7349, air samples collected after 3 hours of venting

Photograph No. 15

Description:
Bus No. 7349, wipe sample location on steering wheel



Photograph No. 16

Description:
Bus No. 7349, wipe sample location on rear bus seat