MATERIAL SAFETY DATA SHEET

In the event or a medical or chemical emergency contact ChemTel, Inc. North American 1-800-255-3924 or worldwide Intl. + 01-813-248-0585

Voluntary Purchasing Groups, Inc.
230 FM 87
Bonham, Texas 75418

Ferti-lome® Systemic Insect Spray Ready-To-Spray

Effective Date: June 4, 2012

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Ferti-lome® Systemic Insect Spray Ready-To-Spray
EPA No.: 53883-205-7401

COMPANY IDENTIFICATION:
Voluntary Purchasing Groups, Inc.
230 FM 87
Bonham, TX. 75418

2. COMPOSITION / INFORMATION ON INGREDIENTS:

Imadcloprid (CAS# 138261-41-3) 1.47%

ACGIH: Not Established
OSHA: Not Established

3. HAZARDOUS IDENTIFICATONS:

EMERGENCY OVERVIEW
CAUTION! Color: Tan; Form: Liquid; Opaque aqueous suspension; Odor: Similar to white glue; Causes eye irritation.

POTENTIAL HEALTH EFFECTS:
ROUTE(S) OF ENTRY: Inhalation; Skin Contact; Eye Contact; Ingestion

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:
ACUTE EFFECTS OF EXPOSURE: Exposure during the labeled use of this product is expected to be minimal. Consumers should refer to the packaging label for proper handling procedures. No specific symptoms of acute overexposure are known to occur in humans. Based on EPA Toxicity Category criteria, this product is mildly toxic by the oral and dermal routes of exposure. In addition, animal studies have shown that it is minimally irritating to the conjunctiva of the eye but the irritation is reversible within 72 hours.
CHRONIC EFFECTS OF EXPOSURE: Based on animal studies, no adverse effects are expected from chronic exposure to this product.
CARCINOGENICITY: This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA.
MEDICAL CONDITIONS
AGGRAVATED BY EXPOSURE: No specific medical conditions are known which may be aggravated by exposure to this product.

4. FIRST AID:

FIRST AID FOR 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.
FIRST AID FOR 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.
FIRST AID FOR 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 information.
FIRST AID FOR INGESTION: Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by physician or poison control center. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Treat symptomatically.

5. FIRE FIGHTING MEASUREES:

FLASH POINT: Greater than 200ºF (93ºC)
EXTINGUISHING MEDIA: Water; Carbon Dioxide; Dry Chemical; Foam
SPECIAL FIRE FIGHTING PROCEDURES: Keep out of smoke, cool exposed containers with water spray. Fight fire from upwind position. Use self-contained breathing equipment. Contain run-off by diking to prevent entry into sewers or waterways. Equipment or materials involved in pesticide fires may become contaminated.

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6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES: Isolate area and keep unauthorized people away. Do not walk through spilled material. Avoid breathing vapors and skin contact. Remove sources of ignition if combustible or flammable vapors may be present and ventilate area. Wear proper protective equipment. Dike contaminated area with absorbent granules, soil, sand, etc. **If large spill**, material should be recovered. Small spills can be absorbed with absorbent granules, spill control pads, or any absorbent material. Carefully sweep up absorbed spilled material. Place in covered container for reuse or disposal. Scrub contaminated area with soap and water. Use dry absorbent material such as clay granules to absorb and collect wash solution for proper disposal. Contaminated soil may have to be removed and disposed. Do not allow material to enter streams, sewers, or other waterways or contact vegetation.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE (MIN/MAX): 32ºF/30º day avg. not to exceed 100ºF (38ºC)
SHELF LIFE: Time/temperature dependent.
SPECIAL SENSITIVITY: Not established
HANDLING/STORAGE PRECAUTIONS: Do not allow product to contaminate material which is intended for use or consumption by humans or animals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

REQUIRED WORK/HYGIENE PROCEDURES: Exposure during the labeled use of this product is expected to be minimal. Consumers should refer to the packaging label for proper handling procedures. However, if exposure to this product is possible while handling large quantities such as in subsequent manufacturing, transportation spills or other emergencies, the following personal protection is recommended.

EYE PROTECTION REQUIREMENTS: Splash-proof goggles
SKIN PROTECTION REQUIREMENTS: Long sleeves and trousers
HAND PROTECTION REQUIREMENTS: Chemical-resistant gloves such as latex or nitrile
VENTILATION REQUIREMENTS: Control exposure levels through the use of general and local exhaust ventilation where needed.
RESPIRATOR REQUIREMENTS: If needed, based on the conditions of use, wear a NIOSH-approved particulate respirator.
ADDITIONAL PROTECTIVE MEASURES: Clean water should be available for washing in case of eye or skin contamination. Educate and train employees in safe use of the product. Follow all label instructions. Launder clothing after use. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PAROPERTIES:

PHYSICAL FORM: Liquid
APPEARANCE: Opaque aqueous suspension
COLOR: Tan
ODOR: Similar to white glue
MOLECULAR WEIGHT: 255.7 (for imidacloprid)
pH: 7.3-8.3
BOILING POINT: Not established
MELTING/FREEZING POINT: Freezing: 32ºF (0ºC)
VISCOSITY: approx. 300 cps @ 20ºC
SOLUBILITY IN WATER: 0.51 g/L @ 20ºC (for imidacloprid)
SPECIFIC GRAVITY: 1.06 @ 20ºC
BULK DENSITY: Not applicable
VAPOR PRESSURE: 1.5 x 10-9 mm @ 20 C (for imidacloprid)

10. STABILITY AND REACTIVITY:

STABILITY: This is a stable material.
HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITIES: None known
INSTABILITY CONDITIONS: Strong exothermal reaction above 200ºC (imidacloprid)
DECOMPOSITION PRODUCT: Proposed under extreme conditions such as fire: HCl, HCN, CO, NO(x) (for imidacloprid)

11. TOXICOLOGICAL INFORMATION:

Acute toxicology studies have not been performed on this product as formulated. The acute toxicology information provided are from a similar formulation containing a higher percentage of the active ingredient, imidacloprid. The non-acute information pertains to imidacloprid technical.

ACUTE TOXICITY
ORAL LD50: Male Rat: >4870 mg/kg; Female rat: 4143 mg/kg
DERMAL LD50: Male and Female Rabbit: >2000 mg/kg
INHALATION LC50: 4 Hr Exposure to Liquid Aerosol: Male and Female Rat: >5.33 mg/L (analytical); 1 Hr Exposure to Liquid Aerosol (extrapolated from 4 Hr LC50): Male and Female Rat: >20 mg/L (analytical)
EYE EFFECTS: Rabbit: Only minimal irritation to the conjunctiva was observed with all irritation resolving within 72 hours.
SKIN EFFECTS: Rabbit: Not a dermal irritant.
SENSITIZATION: Guinea Pig: Not a dermal sensitizer.

SUBCHRONIC TOXICITY: In a 3 week dermal toxicity study, rabbits were treated with the active ingredient, imidacloprid, at the limit dose level of 1000 mg/kg for 6 hours/day, 5 days/week. There were no local or systemic effects observed at any of the levels tested. The no-observed-effect-level (NOEL) was 1000 mg/kg. In a 4 week inhalation study, rats were exposed to dust concentrations of imidacloprid at 5.5, 30.5 and 191.2 mg/cubic meter for 6 hours/day, 5 days/week. Effects observed at the high concentration included decreased body weight gains, decreased heart and thymus weights, increased liver weights, and induction of the hepatic mixed-function oxidases. Histopathological examinations did not reveal any organ damage or local injury to the respiratory tract. The NOEL was 5.5 mg/cubic meter based on induction of the hepatic mixed-functioned oxidases.

CHRONIC TOXICITY: Dogs were administered imidacloprid for 1 year at dietary concentrations of 200, 500 or 1250 ppm. Due to the lack of significant effects, the high dose was increased to 2500 ppm at 17 weeks for the remainder of the study. Effects observed at the high dose included decreased food consumption, increased liver weights and elevated serum chemistries. The NOEL was 500 ppm. In chronic studies using rats, imidacloprid was administered for 2 years at dietary concentrations of 100,300, 900 or 1800 ppm. Histopathology examinations revealed an increased incidence of mineralization in the colloid of the thyroid follicles at concentrations of 300 ppm and greater. At 1800 ppm, there were changes in the serum chemistries and a slight increase in the incidence of parafollicular hyperplasia seen in the thyroids. Body weight gains were reduced at 900 and 1800 ppm. The overall NOEL was 100 ppm.

CARCINOGENICITY: Imidacloprid was investigated for carcinogenicity in chronic feeding studies using mice and rats at maximum levels of 2000 and 1800 ppm, respectively. There was no evidence of a carcinogenic potential observed in either species.

MUTAGENICITY: The imidacloprid mutagenicity studies, taken collectively, demonstrate that the active ingredient is not genotoxic or mutagenic.

DEVELOPMENTAL TOXICITY: In a developmental toxicity study using rats, imidacloprid was administered by oral gavage during gestation at doses of 10, 30 or 100 mg/kg. At the maternally toxic dose of 100 mg/kg, skeletal examinations of the fetuses revealed a slight increase in the incidence of wavy ribs. The NOELs for maternal and developmental toxicity were 10 and 30 mg/kg, respectively. Teratogenic effects were not observed at any of the doses tested. Rabbits were administered imidacloprid during gestation at oral doses of 8, 24 or 72 mg/kg. At the maternally toxic dose of 72 mg/kg, reduced body weights and delayed skeletal ossification were observed in the fetuses. The NOELs for maternal and developmental toxicity were 8 and 24 mg/kg, respectively. Teratogenic effects were not observed at any of the doses tested.

REPRODUCTION: In a reproduction study, imidacloprid was administered to rats for 2 generations at dietary concentrations of 100, 250 or 700 ppm. Offspring at 700 ppm, exhibited reduced mean body weights and body weights gains. No other reproductive effects were observed. The maternal and reproductive NOELs were 100 and 250 ppm, respectively.
NEUROTOXICITY: In an acute neurotoxicity screening study using rats, imidacloprid was administered as a single oral dose at levels of 42, 151, or 307 mg/kg. Clinical observations and neurotoxicity evaluations were performed over a period of 15 days followed by a neurohistopathological examination. Deaths attributed to imidacloprid were observed at the high dose within a day of treatment. The NOEL for motor and locomotor activity was 42 mg/kg for males. Females at the low dose exhibited minimal decrease in activity in the

figure-eight maze. In a subsequent study, the NOEL for motor and locomotor activity in females was 20 mg/kg. All clinical signs and neurobehavioral effects were ascribed to acute cholinergic toxicity, with complete recovery at sub-lethal doses within 7 days following treatment. The NOEL for neurotoxicity was 307 mg/kg based on the absence of treatment-related microscopic lesions in skeletal muscle or neural tissue. In a 13 week neurotoxicity screening study, imidacloprid was administered to rats at dietary concentrations of 140, 963 or 3027 ppm. At the mid- and high-dose, effects observed included reductions in body weight and feed consumption, and clinical chemistry findings. Neurobehavioral changes were observed only in males at the high dose. There were no correlative micropathologic findings in muscle or neural tissues in any animals at any treatment level. The NOEL for neurotoxicity was 3027 ppm. The overall NOEL was 140 ppm.

12. ECOLOGICAL INFORMATION:

This product is toxic to aquatic invertebrates. Bayer will provide a summary of specific ecological effects data upon written request. As with any pesticide, this product should be used according to label directions and should be kept out of streams, lakes and other aquatic habitats of concern.

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: Follow container label instructions for disposal of wastes generated during use in compliance with the product label. In other situations, bury in an EPA-approved landfill or burn in an incinerator approved for pesticide destruction. Do not reuse container.

14. TRANSPORT INFORMATION:

Technical Shipping Name: Imidacloprid
Freight Class Package: Insecticides, NOI-NMFC 102120
Product Label: Not noted

DOT: Non-regulated
HAZARD CLASS OR DIVISION: Non-Regulated IMO / IMDG CODE (OCEAN)
HAZARD CLASS DIVISION NUMBER: Non-Regulated ICAO / IATA (AIR)
HAZARD CLASS DIVISION NUMBER: Non-Regulated

15. REGULATORY INFORMATION:

OSHA STATUS: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS: This product is exempt from TSCA Regulation under FIFRA Section 3 (2) (B) (ii) when used as a pesticide.
CERCLA REPORTABLE QUANTITY: No components listed

SARA TITLE III:
SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None
SECTION 311/312 HAZARD CATEGORIES: Immediate health hazard
SECTION 313 TOXIC CHEMICALS: None
RCRA STATUS: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24**)**

16. OTHER INFORMATION:

NFPA 704M RATINGS:	Health	Flammability	Reactivity	Other
	1	1	1	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

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