

SAFETY DATA SHEET

I.G. REGULATOR

1. IDENTIFICATION

Product name: **I.G. Regulator**
Product type: Insect Growth Regulator
EPA Registration No.: 53883-60
Chemical name of active ingredient(s): Pyriproxyfen: 2-[1-methyl-2-(4-phenoxyphenoxy)ethoxy]pyridine
Manufacturer/Registrant: Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507

For fire, spill, and/or leak emergencies, contact Chemtrec: Phone: 1-800-424-9300
For medical emergencies and health and safety inquiries, contact Safety Call: Phone: 1-866-897-8050
Poison Control Center Phone: 1-800-222-1222

2. HAZARDS IDENTIFICATIONS

OSHA HCS CLASSIFICATION (29 CFR 1910.1200)

Acute Toxicity:

| | Acute oral | Acute dermal | Acute inhalation | Eye irritation | Skin irritation | Skin Sensitization |
|-----------------|------------|--------------|------------------|----------------|-----------------|--------------------|
| Category | NC | NC | NC | 2B | 2 | NC |

NC: Not classified

SIGNAL WORD: WARNING

HAZARD STATEMENTS:

- Cause eye irritation
- Cause skin irritation
- Suspected of causing cancer (Category 2)

PICTOGRAM:



PRECAUTIONARY STATEMENTS:

- Wash hands thoroughly after handling. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice.
- Wash hand thoroughly after handling. Wear protective gloves. If on skin: wash with plenty of water. If skin irritation occurs: get medical advice. Take off contaminated clothing and wash it before reuse.
- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Contact Safety Call® International for emergency medical treatment at (866) 897-8050.

PHYSICAL OR CHEMICAL HAZARDS: Do not use or store near heat or open flame.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

| COMMON NAME | CAS NO. | % | OSHA PEL | ACGIH TLV | OTHER | NTP/IARC/OSHA (Carcinogen) |
|------------------------------|------------|--------|--------------------------------|--------------------------------|--|----------------------------|
| Pyriproxyfen | 95737-68-1 | 1.3 | NE | NE | NE | NA |
| Anionic emulsifier contains- | | | NE | 15 ppm (TWA) | NE | NA |
| Aromatic hydrocarbon solvent | 64742-94-5 | <1.2 | NE | NE | NA | |
| Naphthalene | 91-20-3 | < 0.12 | 10 ppm 50 mg/m ³ | 10 ppm 52 mg/m ³ | 15 ppm 75 mg/m ³ (STEL) | NTP – 2* IARC –2B** |

NE=Not established; NA=Not applicable.

* Substances, which may reasonably be anticipated to be carcinogens.

** Substance is possibly carcinogenic to humans

4. FIRST AID MEASURES

| FIRST AID | |
|--|---|
| IF SWALLOWED: | <ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person. |
| IF IN EYES: | <ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continuing rinsing eye. • Call a poison control center or doctor for treatment advice. |
| IF ON SKIN OR CLOTHING: | <ul style="list-style-type: none"> • 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. |
| IF INHALED: | <ul style="list-style-type: none"> • 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. |
| <p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall[®] at (866) 897-8050 for emergency medical treatment information.</p> <p>NOTE TO PHYSICIAN: Contain petroleum distillate, vomiting may cause aspiration pneumonia.</p> | |

5. FIRE FIGHTING MEASURES

FLASH POINT: > 90°C (194°F)

FLAMMABLE LIMITS: Not applicable

EXTINGUISHING MEDIA: Water spray, fog, CO₂, foam, dry chemical.

FIRE & EXPLOSION HAZARDS: Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

FIRE-FIGHTING PROCEDURES: Use appropriate extinguishing media for combustibles in the area. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

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HAZARDOUS DECOMPOSITION PRODUCTS: May release irritating and toxic gases due to thermal decomposition.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: In case of spillage or leakages, eliminate all ignition sources. Soak up with an absorbent material such as sand, sawdust, earth, Fuller's earth, etc. Dispose of with chemical waste. Remove any contaminated soil. Place in closed, labeled containers and store in a safe place until disposed. Do not contaminate water while cleaning equipment or disposing of wastes. This product is toxic to fish. Keep out of lakes, streams or ponds. Use proper protective equipment to minimize exposure. Take all necessary actions to prevent and to remedy the adverse effects of the spill. Ensure that the disposal is in compliance with federal requirements and state or local regulations.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Carefully open containers and after partial use close container tightly. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store upright at room temperature. Avoid exposure to extreme temperatures. Store in a locked area out of reach of children and domestic animals.

STORAGE TEMPERATURE (MIN/MAX): Normal ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

HAND PROTECTION: Chemical-resistant gloves.

SKIN PROTECTION: Long-sleeve shirt, long pants, shoes plus socks.

EYE PROTECTION: Protective eyewear or chemical safety glasses with side shields or chemical goggles when working in non-ventilated spaces.

RESPIRATOR REQUIREMENTS: For most conditions, no respiratory protection should be needed; however, if handling without sufficient ventilation, use NIOSH approved air-purifying respirator with any R, P or HE filter.

VENTILATION: Whenever possible, adequate ventilation should be used to minimize the need for personal protective equipment.

ADDITIONAL PROTECTIVE MEASURES:

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

USER SAFETY RECOMMENDATIONS:

Users Should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

EXPOSURE GUIDELINES: Refer to Section 3.

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ENGINEERING CONTROLS: Refer to product label. Minimize airborne concentrations.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear liquid
ODOR: Slight chemical odor
pH: 4.5 – 6.5 (1% solution)
FLASH POINT: > 90°C (194°F)
DENSITY: 0.88 – 0.92 g/ml

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.
CONDITIONS TO AVOID: Acidic and alkaline conditions and excessive heat.
HAZARDOUS DECOMPOSITION PRODUCTS: May release irritating and toxic gases due to thermal decomposition.
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY/IRRITATION STUDIES:

Acute Oral LD₅₀ (Rat): > 5,000 mg/kg
Acute Dermal LD₅₀ (Rabbit): > 2,000 mg/kg
Acute Inhalation LC₅₀ (Rat): > 7.6 mg/L/4 hr
Eye Irritation: Moderately Irritating
Skin Irritation: Moderately irritating
Dermal Sensitization: Not a skin sensitizer

TOXICITY OF PYRIPROXYFEN TECHNICAL:

SUBCHRONIC TOXICITY:

Subchronic oral toxicity studies conducted with Pyriproxyfen Technical in the rat, mouse and dog indicate a low level of toxicity. Effects observed at high dose levels consisted primarily of decreased body weight; increased liver weights; histopathological changes in the liver and kidney; decreased red blood cell counts, hemoglobin and hematocrit; altered blood chemistry parameters; and, at 5000 and 10000 ppm in mice, a decrease in survival rates. The NOELs from these studies were 1000 ppm (149.4 mg/kg/day) in mice, 100 mg/kg/day in dogs and 400 ppm (23.5 mg/kg/day) in rats.

In a 4 week inhalation study of Pyriproxyfen Technical in rats, decreased body weight and increased water consumption was observed at 1000 mg/m³. The NOEL in this study was 482 mg/m³.

A 21-day dermal toxicity study in rats with Pyriproxyfen Technical did not produce any signs of dermal or systemic toxicity at 1000 mg/kg/day.

CHRONIC/CARCINOGENICITY:

Pyriproxyfen Technical has been tested in chronic studies with dogs, rats and mice. Dogs exposed to dose levels of 300 mg/kg/day or higher for 52 weeks showed overt clinical signs of toxicity, elevated levels of blood enzymes and liver damage. The NOEL in this study was 100 mg/kg/day. In a 78 week study in mice, dietary levels of 3000 ppm or greater produced gross and histopathological changes in the kidney. The NOEL in this study was 600 ppm. In a 2-year study in rats, dietary levels of 3000 ppm or greater produced decreased body weights in female rats. The NOEL in the rat study was 600 ppm. No oncogenic response was produced in mice or rats.

TERATOLOGY/DEVELOPMENTAL TOXICITY:

Tests for developmental toxicity in rats and rabbits were conducted with Pyriproxyfen Technical. In the study conducted with rats, maternal toxicity (mortality, decreased body weight gain and food consumption and clinical signs of toxicity) was observed at doses of 300 mg/kg/day and greater. The maternal NOEL was 100 mg/kg/day. A transient increase in skeletal variations was observed in rat fetuses exposed to 300 mg/kg/day and greater. The NOEL for prenatal developmental toxicity was 100 mg/kg/day. An increased incidence of visceral and skeletal variations was observed postnatally at 1000 mg/kg/day. The NOEL for postnatal developmental toxicity was 300 mg/kg/day. In the study conducted with rabbits, maternal toxicity (clinical signs of toxicity including one death, decreased body

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weight gain and food consumption, and abortions or premature deliveries) was observed at oral doses of 300 mg/kg/day or higher. The maternal NOEL was 100 mg/kg/day. No developmental effects were observed in the rabbit fetuses. The NOEL for developmental toxicity in rabbits was 1000 mg/kg/day.

REPRODUCTION TOXICITY:

A dietary rat reproduction study was conducted with Pyriproxyfen Technical. Systemic toxicity (reduced body weights, histopathological changes in the liver and kidney, and increased liver weight) was produced at 5000 ppm. The systemic NOEL was 1000 ppm. No effects on reproduction were produced even at 5000 ppm, the highest dose tested.

MUTAGENICITY:

Pyriproxyfen Technical was negative in the following tests for mutagenicity: Ames Assay with and without S9, unscheduled DNA synthesis in HeLa S3 cells, in vitro gene mutation in V79 Chinese hamster cells, and in vitro chromosomal aberration in Chinese hamster ovary cells.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: This product is toxic to fish and aquatic invertebrates. Do not apply directly to water or to areas where surface waters present or to intertidal areas below the mean high water mark. Run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by cleaning equipment or disposal of equipment wash waters.

ECOTOXICOLOGICAL INFORMATION:

AVIAN TOXICITY: Pyriproxyfen Technical is practically non-toxic to avian species. Test results include:

- Oral LD₅₀ mallard duck: greater than 2000 mg/kg
- Oral LD₅₀ bobwhite quail: greater than 2000 mg/kg
- Dietary LC₅₀ mallard duck: greater than 5200 ppm
- Dietary LC₅₀ bobwhite quail: greater than 5200 ppm
- Reproduction bobwhite quail: NOEC = 600 ppm
- Reproduction mallard duck: NOEC = 600 ppm

AQUATIC ORGANISM TOXICITY: Pyriproxyfen Technical is moderately to highly toxic to fish and moderately to very highly toxic to aquatic invertebrate species. Test results include:

Freshwater species:

- LC₅₀ (96 hr.) Bluegill Sunfish: greater than 270 ug/l
- LC₅₀ (96 hr.) Rainbow Trout: greater than 325 ug/l
- LC₅₀ (21 day) Rainbow Trout: 90 ug/l
- LC₅₀ (96 hr.) Carp: 450 ug/l
- LC₅₀ (96 hr.) Killifish: 2660 ug/l
- EC₅₀ (48 hr.) Daphnia magna: 400 ug/l
- MATC (21 day) Daphnia magna: 20 ppt
- MATC (Early Life Cycle) Rainbow Trout: 5.4 ug/l

Estuarine species:

- LC₅₀ (96 hr.) Sheepshead Minnow: greater than 1.02 ppm
- LC₅₀ (96 hr.) Mysid Shrimp: 65 ppb
- EC₅₀ (96 hr.) Oyster Shell Deposition: 92 ppb

OTHER NON-TARGET ORGANISM TOXICITY: Pyriproxyfen Technical is practically non-toxic to bees. The acute contact LC₅₀ in bees was greater than 100 ug/bee.

13. DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spilled bait, or rinsate is a violation of Federal Law. Dispose of excess or waste pesticide by use according to label directions, or contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

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14. TRANSPORT INFORMATION

Ground Domestic (DOT):**Non-bulk:** Not regulated by DOT**Bulk:** NA 1993, Combustible liquid, N.O.S. (hydrocarbon solvent),**Vessel (IMDG):** UN3082, Environmentally Hazardous substances, liquid, n.o.s. (pyriproxyfen), 9, PG III, Marine Pollutant**Air (IATA):** UN3082, Environmentally Hazardous substances, liquid, n.o.s. (pyriproxyfen), 9, PG III

15. REGULATORY INFORMATION

FIFRA INFORMATION:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION Harmful if swallowed or absorbed through skin. Do not breathe vapors or spray mist. Avoid contact with skin or eyes. In case of contact, flush with plenty of water. Wash with soap and warm water after use. Obtain medical attention if irritation persists. Avoid contamination of feed or feedstuff.

SARA TITLE III CLASSIFICATION:

Section 302: Not applicable

Section 311/312: Acute health hazard (immediate)

Chronic health hazard

Fire hazard

Section 313: Naphthalene (<0.12%) CAS#: 91-20-3

CA PROPOSITION 65: Not applicable**CERCLA RQ:** Naphthalene RQ=100 lbs.

RCRA CLASSIFICATION: 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.

TSCA STATUS: The ingredients of this product are listed on the TSCA inventory or are exempt.

16. OTHER INFORMATION

| HAZARD RATINGS | NFPA | HMIS | | |
|----------------|------|------|---|----------|
| HEALTH: | 1 | 1 | 0 | MINIMAL |
| FLAMMABILITY: | 2 | 1 | 1 | SLIGHT |
| REACTIVITY: | 0 | 0 | 2 | MODERATE |
| | | | 3 | HIGH |
| | | | 4 | SEVERE |

MSDS DATE: 3-4-2013. Supersedes version dated 11-4-2011. Changes made to all sections.

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