



Material Safety Data Sheet

Distance® Insect Growth Regulator

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Distance® Insect Growth Regulator
PCPA REGISTRATION NUMBER: 28414
PRODUCT CODE: 69730
VC NUMBER(S): 1035
SYNONYM(S): None
PRODUCT DESCRIPTION: Insect Growth Regulator

MANUFACTURER/DISTRIBUTOR

VALENT CANADA, INC.
6-130 Research Lane
Guelph, ON Canada N1G 5G3

EMERGENCY TELEPHONE NUMBERS

HEALTH EMERGENCY OR SPILL (24 hr):
(800) 682-5368
TRANSPORTATION (24 hr.): CHEMTREC
(800) 424-9300 or (202) 483-7616

Product Information

AGRICULTURAL PRODUCTS: (800) 682-5368

The current MSDS is available through our website (www.valent.ca) or by calling the product information number(s) listed above.

2. HAZARDS IDENTIFICATION

Emergency Overview

Caution

- Causes skin and eye irritation.
- Harmful if swallowed, inhaled or absorbed through skin
- Aspiration hazard, do not induce vomiting.
- Avoid breathing vapors or spray mist.
- Do not get in eyes, on skin or on clothing
- Keep out of reach of children

POTENTIAL HEALTH EFFECTS

Acute Toxicity (Primary Routes of Exposure): None known

Acute Eye Contact: This product can cause brief and/or minor eye irritation. The expected adverse health effects resulting from an exposure may include redness and possible swelling.

Acute Skin Contact: This product can cause moderate skin irritation. The expected adverse health effects resulting from an exposure may include redness and swelling. This product is slightly toxic when absorbed through the skin. This product is not expected to cause allergic skin reactions.

Acute Ingestion: This product is slightly toxic when ingested.

Ingestion of this product may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Because of the low viscosity of this substance, it can directly enter the lungs if it is swallowed (this is called aspiration). This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the substance is very difficult to remove and can cause injury to the lungs and death.

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Acute Inhalation: This product is minimally toxic when inhaled.

Exposure to high concentrations in the air may result in respiratory irritation. Signs and symptoms may include, but not be limited to, nasal discharge, sore throat, coughing and difficulty in breathing.

Chronic Toxicity (including cancer): Repeated high exposures to Pyriproxyfen Technical produced changes in the liver, kidney and red blood cells but did not produce cancer in test animals. Prolonged or repeated dermal exposures may cause drying, scaling and even blistering of the skin. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Symptoms include fatigue, concentration difficulties, anxiety, depression, rapid mood swings and short-term memory loss. The reports are not clear with regard to the types of solvents that may cause these symptoms, and there is controversy among scientists to whether the condition exists or is caused by this type of product. Since many other diseases cause some or all of these conditions, a doctor should be consulted if any appear. This product contains naphthalene which has been listed by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B).

Developmental Toxicity (birth defects): No developmental toxicity was produced in animals exposed to Pyriproxyfen Technical, even at doses that were toxic to the pregnant animal.

Reproductive toxicity: Pyriproxyfen Technical did not produce reproductive toxicity in animal studies.

Signs and Symptoms of Systemic Effects: The acute toxicity of this product is relatively low; transient, minimal signs of toxicity were observed in animals at high oral doses. This product contains a solvent mixture. Solvents, when inhaled, can cause nasal and respiratory irritation and central nervous system effects including dizziness, weakness, fatigue, nausea, headache and possibly unconsciousness and even death. Ingestion of solvents can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of low viscosity solvents can cause chemical pneumonitis which can be fatal.

Potentially Aggravated Medical Conditions: Individuals with preexisting diseases of the liver, kidney, red blood cell or central nervous system may have increased susceptibility to the toxicity of excessive exposures.

For complete discussion of the toxicology data from which this evaluation was made, refer to Section 11. For Ecotox/Environmental Information, refer to Section 12. For Regulatory Information, refer to Section 15.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight/ Percent	Purpose
Pyriproxyfen (2-[1-Methyl-2-(4-phenoxyphenoxy)ethoxy] pyridine)	95737-68-1	10 - 15	Active ingredient
Naphthalene	91-20-3	1 - 6	Solvent
Total hydrocarbons	64742-94-5	40 - 50	Solvent
Others	No CAS#	30 - 40	Other Ingredients

Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identity is withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling **(800) 682-5368** at any time.

4. FIRST AID MEASURES

EMERGENCY NUMBER (800) 682-5368

Have the product container or label with you when calling a poison control centre or doctor, or going for treatment. You may also contact **1-800-682-5368** for emergency medical treatment information.

Eye contact:

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

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Skin contact:

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

Ingestion:

Call a 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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 centre or doctor for further treatment advice.

Notes to physician:

Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis. If ingested, probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

FLASH POINT:	152° F	
FLASH POINT METHOD:	SetaFlash Closed Cup	
AUTOIGNITION:	No data available	
EXTINGUISHING MEDIA:	Water fog, carbon dioxide, foam, dry chemical	
FLAMMABLE LIMITS IN AIR - LOWER (%):		no data available
FLAMMABLE LIMITS IN AIR - UPPER (%):		no data available

NFPA Rating:

Health:	2
Flammability:	2
Reactivity:	0
Special:	0

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

Fire fighting instructions: Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 85 degrees F.

Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse.

6. ACCIDENTAL RELEASE MEASURES

VALENT EMERGENCY PHONE NUMBER: (800) 682-5368
CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300
OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION

Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the **North American Emergency Response Guidebook**.

UN/NA Number: Not applicable. **Emergency Response Guidebook No.:** Not applicable

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CONTAINMENT: Avoid runoff into storm sewers and ditches which lead to waterways. Contain spilled liquids with dry sorbents.

CLEANUP: Clean up spill immediately. Absorb spill with inert material (such as dry sand or earth), then place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

CONTAINMENT: This material forms an emulsion in water. Stop or reduce contamination of any water. Isolate contaminated water.

CLEANUP: Clean up spill immediately. Absorb spill with inert material (such as dry sand or earth), then place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

7. HANDLING AND STORAGE

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

Handling:

DO NOT USE OR STORE near flame, sparks or hot surfaces. Use only in well ventilated area. Keep container closed.

DO NOT weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous or explosive vapor or liquid.

Storage:

Keep pesticide in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place, out of direct sunlight.

Do not store at temperatures below 32° F (0° C). If the product is exposed to temperatures below 32° F (0° C), thaw at room temperature to 50° F (10° C) or warmer and shake gently to unify the product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. Unless ventilation is adequate to keep airborne concentrations below recommended exposure standards, approved respiratory protection should be worn.

This material may be a respiratory irritant and, unless ventilation is adequate, the use of approved respiratory protection is recommended. Use this material only in well ventilated areas.

SKIN & HAND PROTECTION: Do not get on skin or clothing. Skin contact should be minimized by wearing protective clothing including coveralls worn over short-sleeved shirt and short pants, socks, chemical-resistant footwear and chemical-resistant gloves. Remove contaminated clothing. Wash clothes before reuse.

Exposure limits

Chemical Name	Canadian OELs
Pyriproxyfen (2-[1-Methyl-2-(4-phenoxyphenoxy)ethoxy] pyridine)	none
Naphthalene	none
Total hydrocarbons	none
Others	none

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9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM:	Liquid
COLOUR:	Pale yellowish, clear
ODOUR:	Mild aromatic
FLASH POINT:	152° F
FLASH POINT METHOD:	SetaFlash Closed Cup
BOILING POINT:	No data available
SPECIFIC GRAVITY:	0.92 @ 20/20° C
pH:	5.7 (10% v/v)
Viscosity:	18.5 cps
CORROSION CHARACTERISTICS:	Not corrosive
SOLUBILITY:	Emulsifiable in water.

10. STABILITY AND REACTIVITY

Chemical stability:	Stable at normal ambient temperatures.
Incompatibility:	None known
Oxidation/Reduction properties:	Not an oxidizing or reducing agent.
Explosibility:	Not explosive.
Conditions to avoid:	Avoid contact with heat, sparks, flame and all ignition sources.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Oral Toxicity LD ₅₀ (rats)	4733 mg/kg (males); 3773 mg/kg (females)	EPA Tox Category	III
Dermal Toxicity LD ₅₀ (rabbits)	> 2000 mg/kg	EPA Tox Category	III
Inhalation Toxicity LC ₅₀ (rats)	> 3.1 mg/L	EPA Tox Category	IV
Eye Irritation (rabbits)	Moderately irritating	EPA Tox Category	III
Skin Irritation (rabbits)	Moderate to severely irritating	EPA Tox Category	III
Skin Sensitization (guinea pigs)	Non-sensitizer (Buehler)	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

Chemical Name	IARC - Group 1 (carcinogenic to humans)	IARC - Group 2A (Probably carcinogenic)	IARC - Group 2B (Possibly carcinogenic)	NTP Carcinogen List
Total hydrocarbons	no	no	no	Not listed
Naphthalene	no	no	X	Suspect Carcinogen
Others	no	No	no	Not listed
Pyriproxyfen (2-[1-Methyl-2-(4-phenoxyphenoxy)ethoxy]pyridine)	no	no	no	Not listed

TOXICITY OF PYRIPROXYFEN TECHNICAL

Subchronic: 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.

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 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: 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.

TOXICITY OF OTHER INGREDIENTS:

This product contains a solvent. Solvents, when inhaled, can cause nasal and respiratory irritation and central nervous system effects including dizziness, weakness, fatigue, nausea, headache and possibly unconsciousness and even death. Ingestion of solvents can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Prolonged or repeated dermal exposures may cause drying, scaling and even blistering of the skin. Aspiration of low viscosity products can cause chemical pneumonitis which can be fatal. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Symptoms include fatigue, concentration difficulties, anxiety, depression, rapid mood swings and short-term memory loss. The reports are not clear with regard to the types of solvents that may cause these symptoms, and there is controversy among scientists to whether the condition exists or is caused by this type of product. Since many other diseases cause some or all of these conditions, a doctor should be consulted if any appear. Acute exposure to naphthalene by inhalation, ingestion, and dermal contact has been associated with hemolytic anemia, damage to the kidneys, cataracts, and, in infants, brain damage. There is limited evidence of fetal and maternal toxicity from exposure to naphthalene.

Chronic (long-term) exposure of workers and rodents to naphthalene has been reported to cause cataracts and damage to the retina. Lesions in the kidneys and thymus, signs of anemia, and reduced spleen weights have been observed in rats and mice chronically exposed via gavage. A National Toxicology Program (NTP) report states that lifetime inhalation exposure to naphthalene resulted in increases in tumors of the nose in rats. In another NTP study, lifetime inhalation exposure to naphthalene increased lung tumors in female mice. The relevance of the rodent findings to humans is unknown. Naphthalene has been listed by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B).

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

12. ECOLOGICAL 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 µg/L
LC₅₀ (96 hr) Rainbow Trout: greater than 325 µg/L
LC₅₀ (21 day) Rainbow Trout: 90 µg/L
LC₅₀ (96 hr) Carp: 450 µg/L
LC₅₀ (96 hr) Killifish: 2660 µg/L
EC₅₀ (48 hr) Daphnia magna: 400 µg/L
MATC (21 day) Daphnia magna: 20 ppt
MATC (Early Life Cycle) Rainbow Trout: 5.4 µg/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 µg/bee.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

PRODUCT DISPOSAL: For information on disposal of unused, unwanted product, contact the provincial regulatory agency or manufacturer. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

CONTAINER DISPOSAL: Triple- or pressure-rinse the container. Add the rinsings to the spray mixture in the tank. Follow provincial instruction for any required additional cleaning of the container prior to disposal. Make the container unsuitable for further use. Dispose of the container in accordance with provincial requirements.

Disposal methods: Check government regulations and local authorities for approved disposal of this material. Dispose in accordance with applicable laws and regulations.

14. TRANSPORT INFORMATION

TDG proper shipping name:	Not regulated.
UN/NA Number:	Not applicable.
DOT (ground) shipping name:	Pesticides, liquid, non-regulated
Technical Name (hazardous material):	Not applicable
Hazard class:	Not applicable.
Packing group:	Not applicable
DOT reportable quantity (RQ):	267 gallons (Naphthalene RQ=100 lb)
Remarks:	Regulated as combustible liquid when shipped in bulk.
Exemption requirement:	49 CFR 173.150

Emergency Response Guidebook No.:	Not applicable
Marine pollutant:	Not applicable

15. REGULATORY INFORMATION

CANADIAN REGULATIONS:

WHMIS Hazard Class: B3 Combustible liquids
D2B Toxic materials
This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations (CPR)* and the MSDS contains all information required by the CPR.

Naphthalene

Canada DSL Inventory List -	Listed
EINECS Inventory List -	202-049-5

Total hydrocarbons

Canada DSL Inventory List -	Listed
EINECS Inventory List -	265-198-5

Others

Canada DSL Inventory List -	Present/Not determined
Canada NDSL Inventory List -	Not listed/Not determined
EINECS Inventory List -	Present/Not determined

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For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

PESTICIDE REGULATIONS: All pesticides are governed under PCPA (Pest Control Products Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

16. OTHER INFORMATION

REASON FOR ISSUE: New format. Revisions throughout MSDS.
MSDS NO.: CAN-0182
PCPA REGISTRATION NUMBER: 28414
REVISION NUMBER: 3
REVISION DATE: 04/06/2010
SUPERCEDES DATE: March 11, 2010
RESPONSIBLE PERSON(S): Valent U.S.A. Corporation, Corporate EH&S, (925) 256-2803

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the PMRA under the authority of the Pest Control Products Act through the product labeling. All necessary and appropriate precautionary, use, storage and disposal information is set forth on the labeling. It is a violation of Federal law to use a pesticide product in a manner not prescribed on the PMRA-accepted label.

The information in this MSDS is based on data available to us as of the revision date given herein, and believed to be correct. Contact Valent U.S.A. Corporaton to confirm if you have the most current MSDS.

Judgements as to the suitability of information herein for the individual's own use or purposes are necessarily the individual's own responsibility. Although reasonable care has been taken in the preparation of such information, Valent extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the individual's purposes or the consequences of its use.

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