Material Safety Data Sheet

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-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 is regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling. All necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	SEIZE™ 35 WP Insect Growth Regulator
VC NUMBER(S):	VC-1275
EPA REGISTRATION NUMBER:	59639-115
SYNONYM(S):	V-71639 35 WP Insect Growth Regulator

MANUFACTURER
VALENT USA CORPORATION
P.O. Box 8025
1333 N. California Blvd., Suite 600
Walnut Creek, CA 94596-8025

EMERGENCY TELEPHONE NUMBERS
HEALTH EMERGENCY OR SPILL (24 hr):
(800) 892-0099
TRANSPORTATION (24 hr.): CHEMTREC
(800) 424-9300 or (202) 483-7616

PRODUCT INFORMATION
AGRICULTURAL PRODUCTS: (800) 6VALENT
PROFESSIONAL PRODUCTS: (800) 89VALENT

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name (CAS #) [Chemical Name]	Weight Percent	Exposure Limit	Ref.
Pyriproxyfen* (95737-68-1) [2-[1-Methyl-2-(4-phenoxyphenoxy)ethoxy]pyridine]	35	None	-
Kaolin (1332-58-7)	11 – 12	15 mg/m^3 total dust; 5 mg/m^3 respirable fraction	OSHA
		2 mg/m^3 respirable fraction	ACGIH
Amorphous Precipitated Silica (112926-00-8)	38 – 40	80 mg/m^3 / %SiO2	OSHA
		10 mg/m^3	ACGIH
Particulates not otherwise classified	3 – 5	15 mg/m^3 total dust; 5 mg/m^3 respirable fraction	OSHA
		10 mg/m^3 inhalable particulate; 3 mg/m^3 respirable particulate	ACGIH
Other**	8 - 13	None	---

* Active Ingredient

** 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 **1-800-892-0099** at any time.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION:
- **FOR RESEARCH AND DEVELOPMENT PURPOSES ONLY**
- **TO BE USED ONLY UNDER THE DIRECT SUPERVISION OF A TECHNICALLY QUALIFIED INDIVIDUAL**
- **CAUSES MODERATE EYE IRRITATION**
- **AVOID CONTACT WITH EYES, SKIN OR CLOTHING**
- **AVOID BREATHING DUST OR SPRAY MIST**
- **KEEP OUT OF REACH OF CHILDREN**

POTENTIAL HEALTH EFFECTS

Acute Toxicity (Primary Routes of Exposure)

Signs and Symptoms of Systemic Effects:

Eye: This product is expected to cause brief and/or minor eye irritation. The degree of injury will depend on the amount and duration of contact and the speed and thoroughness of the first aid treatment. The expected adverse health effects resulting from an exposure may include redness and possible swelling.

Skin: This product is expected to cause brief and/or minor irritation. The degree of injury will depend on the amount and duration of contact and the speed and thoroughness of the first aid treatment. The expected adverse health effects resulting from an exposure may include redness and possibly some minor swelling.

This product is not expected to cause allergic skin reactions.

This product has been shown to be minimally toxic when absorbed through the skin. The degree of injury will depend on the amount of material inhaled and the speed and thoroughness of the first aid treatment. The expected adverse systemic health effects are described above.

Ingestion: This product has been shown to be minimally toxic when ingested. The degree of injury will depend on the amount of material ingested and the speed and thoroughness of the first aid treatment. The expected adverse systemic health effects are described above.

Inhalation: This product has been shown to be minimally toxic when inhaled. The degree of injury will depend on the amount of material inhaled and the speed and thoroughness of the first aid treatment. The expected adverse systemic health effects are described above.

Exposure to high concentrations of dust 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): Studies with Pyriproxyfen Technical indicated that repeated high exposures produced changes in the liver, kidney and red blood cells but did not produce cancer in test animals.

Teratology (Birth Defects) Information: No developmental toxicity was produced in animals exposed to Pyriproxyfen Technical, even at doses that were toxic to the pregnant animal.

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

Potentially Aggravated Condition: Individuals with preexisting diseases of the liver, kidney, or red blood cell 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 Regulatory Information, refer to Section 15.

SECTION 4: FIRST AID MEASURES

EMERGENCY NUMBER (800) 892-0099

EYES: Flush eyes immediately with plenty of water while holding eyelids open. Remove contact lenses if worn. If irritation persists, see a doctor.

SKIN: Wash with soap and water. Remove and wash contaminated clothing separately. Get medical attention if irritation persists.

INGESTION: If swallowed, drink 1 or 2 glasses of water (or milk) and induce vomiting by touching the back of the throat with finger. If possible, contact a physician or Poison Control Center before inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person. Take person and product container to the nearest emergency treatment center.

INHALATION: If inhaled, remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

NOTES TO PHYSICIAN: None

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT: NA **METHOD:** NA
AUTOIGNITION: NA
EXTINGUISHING MEDIA: CO_2, dry chemical, foam, water fog.

FLAMMABLE LIMITS (% by volume in air): Lower: NA Upper: NA

NFPA RATINGS: Health 0; Flammability 1; Reactivity 0; Special None

(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: Products of combustion from fires involving this product 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. Read the entire document.

HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce oxides of nitrogen. Incomplete combustion can produce carbon monoxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

VALENT EMERGENCY PHONE NUMBER: (800) 892-0099
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 SPILLS ON LAND:

CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water.
CLEANUP: Clean up spill immediately. Vacuum or sweep up material and 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.

FOR SPILLS IN WATER:

CONTAINMENT: This material will disperse or dissolve in water. Stop the source of the release. Contain and isolate to prevent further release into soil, surface water and ground water.
CLEANUP: Clean up spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal.

SECTION 7: HANDLING AND STORAGE

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

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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

EYE PROTECTION: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATION/VENTILATION: If operating conditions result in airborne concentrations of this material, the use of an approved respirator is recommended. Use adequate ventilation to keep the airborne concentration of this material below the recommended exposure standards.

SKIN PROTECTION: Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including gloves.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Off-white powder
ODOR:	NDA
BULK DENSITY:	11.6 lbs./cu. ft.
SOLUBILITY:	Dispersible in water
pH:	7.9 @ 24° C (1% suspension)
CORROSION CHARACTERISTICS:	NDA

SECTION 10: STABLITY AND REACTIVITY

CHEMICAL STABILITY: Stable at normal ambient temperatures.
INCOMPATIBILITY: None known.
OXIDATION/REDUCTION PROPERTIES: Not reactive with water, monoammonium phosphate, zinc, and potassium permanganate.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE (Product Specific Information):

Eye Irritation: Eye irritation reversible within 7 days. (Toxicity Category III)

Skin Irritation: Mild or slight skin irritation at 72 hours. (Toxicity Category IV)

Dermal Toxicity: The dermal LD_{50} in rats was > 5000 mg/kg. (Toxicity Category IV)

Oral Toxicity: The oral LD_{50} in rats was > 5000 mg/kg. (Toxicity Category IV)

Inhalation Toxicity: The inhalation LC50 was > 2.13 mg/mL. (Toxicity Category IV) Dust from this product is also expected to be a respiratory irritant.

Skin Sensitization: This product was not a skin sensitizer in Guinea Pigs.

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/m^3. The NOEL in this study was 482 mg/m^3.

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.

This product is not listed as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).

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 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.

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 3. For information regarding regulations pertaining to this product, refer to Section 15.

SECTION 12: ECOLOGICAL INFORMATION

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

Oral LD_{50} mallard duck: greater than 2000 mg/kg
Oral LD_{50} bobwhite quail: greater than 2000 mg/kg
Dietary LC_{50} mallard duck: greater than 5200 ppm
Dietary LC_{50} 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:

LC_{50} (96 hr) Bluegill Sunfish: greater than 270 ug/l
LC_{50} (96 hr) Rainbow Trout: greater than 325 ug/l
LC_{50} (21 day) Rainbow Trout: 90 ug/l
LC_{50} (96 hr) Carp: 450 ug/l
LC_{50} (96 hr) Killifish: 2660 ug/l
EC_{50} (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:

LC_{50} (96 hr) Sheepshead Minnow: greater than 1.02 ppm
LC_{50} (96 hr) Mysid Shrimp: 65 ppb
EC_{50} (96 hr) Oyster Shell Deposition: 92 ppb

OTHER NON-TARGET ORGANISM TOXICITY: Pyriproxyfen Technical is practically non-toxic to bees. The acute contact LC_{50} in bees was greater than 100 ug/bee.

SECTION 13: DISPOSAL CONSIDERATIONS

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

DISPOSAL METHODS: Check governmental regulations and local authorities for approved disposal of this material. Dispose in accordance with applicable laws and regulations.

SECTION 14: TRANSPORT INFORMATION

D.O.T. SHIPPING NAME:	Insecticide, dry non-regulated
TECHNICAL SHIPPING NAME:	Pyriproxyfen 35% Powder
RQ:	None
D.O.T. HAZARD CLASS:	NA
U.N./N.A. NUMBER:	NA
REMARKS:	NA
EXEMPTION REQUIREMENT:	NA

SECTION 15: REGULATORY INFORMATION

REGULATIONS UNDER FIFRA: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide 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.

OTHER U.S. FEDERAL REGULATIONS:

OSHA: See Section 2
CERCLA RQ*: None
RCRA:** NA
SARA TITLE III:
Sara (313) Chemicals: None
Sara (311,312):
Immediate Health Effects: YES
Chronic Health Effects: YES
Fire Hazard: NO
Sudden Release of Pressure: NO
Reactivity Hazard: NO
Sara Section 302: NA

This product is not listed as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

* RQ: Reportable Quantity
** RCRA waste codes must be determined on a case-by-case basis (i.e., spill, processing waste, etc.).

For information regarding potential adverse health effects from exposure to this product, refer to Sections 3 and 11.

SECTION 16: OTHER INFORMATION

REASON FOR ISSUE: Amend CAS # for Kaolin
REVISION NUMBER: 1
REVISION DATE: 12/11/02
SUPERSEDES DATE: 10/11/02
MSDS NUMBER: 0210

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 USA CORPORATION TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS.

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