

SAFETY DATA SHEET

IMAZALIL 13.8 EC

1. IDENTIFICATION

Product name: **IMAZALIL 13.8 EC**
Product type: Fungicide
EPA Registration No.: 53883-327
Chemical name of active ingredient(s): **Imazalil: 1-[2-(2,4-dichlorophenyl)-2-(2-propenyloxy)ethyl]-1H-imidazole**

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	Category 3	Category 3	Category 4	2B	1	NC

NC: Not classified

SIGNAL WORD: DANGER

HAZARD STATEMENTS:

- Toxic if swallowed.
- Toxic in contact with skin.
- Harmful if inhaled.
- Cause skin irritation
- Cause serious eye damage.
- Combustible liquid
- Suspected of causing cancer (Category 2) (imazalil, ethanol)
- Toxic to aquatic life.

PICTOGRAMS:



PRECAUTIONARY STATEMENTS:

- Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. If swallowed: Call a poison center if you feel unwell. Rinse mouth.

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- Wear protective gloves and protective clothing. If on skin: wash with plenty of water. Call a poison center or doctor if you feel unwell. Take off immediately all contaminated clothing and wash it before reuse.
- Avoid breathing mist, vapors and spray. Use only outdoors or in a well-ventilated area. In inhaled: remove a person to fresh air and keep comfortable for breathing.
- 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.
- Wear eye and face protection. If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye protection. Contact Safety Call® International for emergency medical treatment at (866) 897-8050.

PHYSICAL/CHEMICAL HAZARDS: Combustible. Do not use or store this product near heat or open flame.

STORAGE AND DISPOSAL: See Section 7 and 13.

OTHER HAZARDS: See Section 11 and 12.

3. COMPOSITION/INFORMATION ON INGREDIENTS

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Imazalil	35554-44-0	13.8	NE	NE	NE	NA
Other ingredients containing :		86.2				
Diocylsulfosuccinate	577-11-7		NE	NE	NE	NA
Ethanol	64-17-5		1000 ppm 1900 mg/m ³ (TWA)	1000 ppm (STEL)	NE	IARC: Group 1
Benzyl alcohol	100-51-6		NE	NE	NE	NA

NE=Not established; NA=Not applicable.

*IARC Group 1: The agent is carcinogenic to humans.

4. FIRST AID MEASURES

FIRST AID	
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 SWALLOWED:	<ul style="list-style-type: none"> Immediately call a poison control center or doctor 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.
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.

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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[®] international at (866) 897-8050 for emergency medical treatment information.

5. FIRE FIGHTING MEASURES

FLASH POINT: > 210°F

FLAMMABLE LIMITS: Not applicable

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

FIRE & EXPLOSION HAZARDS: Pesticide fires have potential to emit hazardous decomposition products.

FIRE-FIGHTING PROCEDURES: Isolate fire area and evacuate downwind. DO NOT breathe gases, smoke or vapors generated. Wear self-contained breathing apparatus and full-protective clothing.

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

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: Keep personnel away from the clean-up area. Wear appropriate personal protective equipment as specified in Section 8. In the case of liquids, use proper absorbent materials. For laboratories and small-scale operations, incidental spills within a hood or enclosure should be cleaned by using filtered vacuum or wet cleaning methods as appropriate. For large dry or liquid spills or those spills outside enclosure or hood, appropriate emergency response personnel should be notified. In manufacturing and large-scale operations, vacuuming prior to wet mopping or cleaning is required.

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. In case of spillage or leakages, soak up with an absorbent material such as sand, sawdust, earth, Fuller's earth, etc. Dispose of with chemical waste.

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.

EYE PROTECTION: Protective eyewear or chemical safety glasses with side shields or chemical goggles.

HAND PROTECTION: Chemical-resistant gloves.

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

RESPIRATOR REQUIREMENTS: If handling without sufficient ventilation, use NIOSH approved respiratory with a vapor/mist filter with MSHA/NIOSH approval number prefix TC-21C, or any N2, P or R or HE filter.

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

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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.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear, pale yellow – amber viscous oily liquid

ODOR: Slightly sweet solvent odor

pH: 7.98

FLASH POINT: 210°F

VISCOSITY : 336 – 338 mPa s. (20°C)

MELTING POINT: Not available

SOLUBILITY: Not available

RELATIVE DENSITY: 1.074 g/mL

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Oxidizer and strong acids. Extreme 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): 192 mg/kg (female); 309 mg/kg (male)

Acute Dermal LD₅₀ (Rabbit): > 900 mg/kg

Acute Inhalation LC₅₀ (Rat): > 3.1 mg/L/4 hr

Eye Irritation: Moderately irritating

Skin Irritation: Slightly irritating

Dermal Sensitization: Not a skin sensitizer

OTHER TOXICOLOGICAL INFORMATION:

Subchronic/Chronic Toxicity:

Imazalil: Animal studies show the liver was the primary target organ. Liver changes included centrilobular swelling, fatty surcharge and numerous vacuoles.

Benzyl alcohol caused dose-related effects in rats given oral dosages of 50 to 800 mg/kg/day for 13 weeks. Rats showed reductions in weight gain and also signs of staggering, lethargy, and respiratory difficulty, indicating neurotoxicity at the high dosage. Hemorrhages around the mouth and nose, and

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histological lesions in the brain, thymus, skeletal muscle, and kidney were also noted. Mice tested under similar conditions exhibited similar effects.

Reproductive/Developmental Effects:

Imazalil: No considered to be toxic for the reproductive system.

Diocetyl sodium sulfosuccinate administered at doses of 0.5 and 1% was not maternally or developmentally toxic in rats.

Benzyl alcohol did not affect the gestation index, reproductive index, litter size, average litter weight, or postnatal weight gain or survival when given to rats by gavage during days 6 to 15 of gestation.

Mutagenicity:

Imazalil: Not mutagenic.

Benzyl alcohol was negative in bacterial mutagenicity study (Ames) and was positive in a mammalian mutagenicity study (mouse lymphoma).

Carcinogenicity:

Imazalil: Not carcinogenic.

Benzyl alcohol was not carcinogenic in a 2 year oral gavage study in rats administered doses of up to 400 mg/kg/day for 5 days a week or in mice at doses up to 200 mg/kg/day for 5 days per week.

Target Organs: Based on animal tests, imazalil affects the nervous system and liver.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment wash waters or rinsate. Apply this product only as specified on the label. 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 Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

ECOTOXICOLOGICAL INFORMATION: (Based on Imazalil technical data)

Rainbow trout (*Onchorhynchus mykiss*) LC₅₀ (96 h) – 1.48 mg/L

Water flea (*Daphnia magna*) EC₅₀ (48 h) – 3.5 mg/L

Algae EC₅₀ (72 h) – 0.87 mg/L

Mallard duck LD₅₀ - > 200 mg/kg

Environmental fate, persistence and degradability, mobility: Imazalil does not leach to ground water.

Benzyl alcohol is expected to be readily biodegradable. Benzyl alcohol is characterized as a high risk air pollutant because it may emit toxic vapors when heated.

13. DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Do not contaminate water, food, or feed by storage or disposal. Improper disposal of excess pesticide, spray mixture, 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

DOT CLASSIFICATION:

UN2902, Pesticides, liquid, toxic, N.O.S. (imazalil), 6.1, PG III

NOTE: *Limited quantity and Consumer Commodity exceptions allowed.*

INTERNATIONAL TRANSPORTATION :

IMO (vessel): UN2902, Pesticides, liquid, toxic, N.O.S. (imazalil), 6.1, PG III, Marine pollutant

NOTE: *Limited quantity exception allowed.*

IATA (air): UN2902, Pesticides, liquid, toxic, N.O.S. (imazalil), 6.1, PG III

NOTE: *Limited quantity exception allowed.*

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.

DANGER Corrosive. Causes irreversible eye damage. Harmful or fatal if swallowed. Harmful if absorbed through skin or inhaled. Avoid breathing spray mist and contact with skin. Do not get in eyes, wear goggles, or face shield. Thoroughly wash hands with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

SARA TITLE III CLASSIFICATION:

Section 302: Not applicable.

Section 311/312: Acute health hazard (immediate)

Chronic health hazard (delayed)

Section 313: Not applicable.

CA PROPOSITION 65: This product contains chemicals (imazalil, ethanol) that are known to the State of California to cause cancer.

CERCLA RQ: Not applicable.

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:	2	2	0 MINIMAL
FLAMMABILITY:	1	1	1 SLIGHT
REACTIVITY:	0	0	2 MODERATE
			3 HIGH
			4 SEVERE

MSDS DATE: 5-19-2014.

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.