



# Safety Data Sheet

**METLOCK™ CT Fungicide**

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** METLOCK™ CT Fungicide  
**EPA REGISTRATION NUMBER:** 59639-191  
**PRODUCT CODE:** Not established  
**VC NUMBER(S):** 1895

METLOCK is a trademark of Valent U.S.A. Corporation

**MANUFACTURER/DISTRIBUTOR**  
VALENT U.S.A. CORPORATION  
P.O. Box 8025  
1600 Riviera Avenue, Suite 200  
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) 682-5368

The current MSDS is available through our website ([www.valent.com](http://www.valent.com)), or by calling the product information numbers listed above.

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**CAUTION**

- Harmful if swallowed
- Causes moderate eye irritation
- Avoid contact with eyes or clothing
- Keep out of reach of children

### POTENTIAL HEALTH EFFECTS

**Acute Toxicity (Primary Routes of Exposure):** Inhalation, eye, skin contact and ingestion are possible

**Acute Eye Contact:** Moderately irritating based on toxicity studies.

**Acute Skin Contact:** Minimally irritating and minimally toxic based on toxicity studies.

**Acute Ingestion:** Slightly toxic if ingested based on toxicity studies.

**Acute Inhalation:** Low inhalation toxicity. Overexposure may cause upper respiratory tract irritation.

**Chronic Toxicity (including cancer):** The active ingredients did not cause cancer in long-term animal studies. This product is not listed as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or ACGIH.

**Emergency Telephone:** (800) 892-0099  
**REVISION NUMBER:** 2

**SDS NO.:** 0436  
**REVISION DATE:** 08/01/2013

**Developmental Toxicity (birth defects):** Not considered a developmental hazard.

**Reproductive Toxicity:** Not considered a reproductive hazard.

**Signs and Symptoms of Systemic Effects:** No Data Available

**Potentially Aggravated Medical Conditions:** Individuals with preexisting diseases of the liver or blood may have increased susceptibility to the toxicity of excessive exposures. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

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
Metalaxyl (N-(2,6-dimethylphenyl)-N-(methoxyacetyl)alaninemethyl ester)	57837-19-1	4.51	Active Ingredient
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol)	125116-23-6	2.25	Active Ingredient
Other ingredients	Various CAS#s	93.24	Other Ingredients

Other ingredients, which may be maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identities are 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) 892-0099** at any time.

### 4. FIRST AID MEASURES

#### EMERGENCY NUMBER (800) 892-0099

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-892-0099** 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.

#### SKIN CONTACT:

Wash with soap and water. Remove and wash contaminated clothing separately.

#### 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:

Seek fresh air.

**NOTES TO PHYSICIAN:**

No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

## 5. FIRE FIGHTING MEASURES

**FLASH POINT:** > 200°F (93° C)  
**FLASH POINT METHOD:** Not applicable  
**AUTOIGNITION:** No data available  
**EXTINGUISHING MEDIA:** Water fog, carbon dioxide, foam, dry chemical

**FLAMMABLE LIMITS IN AIR - LOWER (%):** Not applicable  
**FLAMMABLE LIMITS IN AIR - UPPER (%):** Not applicable

**NFPA RATING:**

Health:	1
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 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.

**HAZARDOUS DECOMPOSITION PRODUCTS:** May form toxic materials such as: Carbon dioxide, hydrogen chloride, Oxides of sulfur, Oxides of Nitrogen Carbon monoxide, various hydrocarbons, etc.

## 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 additional spill response information refer to the North American Emergency Response Guidebook.

**UN/NA NUMBER:** Not applicable      **EMERGENCY RESPONSE GUIDEBOOK NO.:** Not applicable

**FOR SPILLS ON LAND:**

**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.

**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.

**7. HANDLING AND STORAGE**

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

**HANDLING:**

Keep pesticide in original container. Do not contaminate food or feed. Do not put into food or drink containers. Do not dilute in food or drink containers.

Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Keep container tightly closed. Stable at normal temperatures and storage conditions in closed original package.

**STORAGE:**

Do not reuse empty container. Open dumping is prohibited. Store in a cool, dry place, out of direct sunlight. Do not store at temperatures below 32°F. If the product is exposed to temperatures below 32°F, thaw at room temperature to 50°F or warmer and shake gently to unify the product. To close package, replace and tighten cap to form an airtight seal.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

**Formulators, mixers, loaders, applicators and other handlers should refer to the product label before use for detailed information on personal protective equipment (PPE).**

**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. If ventilation is not adequate to keep airborne concentrations below recommended exposure standards, approved respiratory protection should be worn.

**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 hands before breaks and at the end of work.

**EXPOSURE LIMITS**

Chemical Name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Metalaxyl (N-(2,6-dimethylphenyl)-N-(methoxyacetyl)alaninemethyl ester)	None	None	None
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol)	None	None	None
Other ingredients	None	None	None

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL FORM:** Liquid at 23° C  
**COLOR:** Colorless translucent at 23° C  
**ODOR:** Slightly sweet odor at 23 °C  
**FLASH POINT:** > 200°F (93° C)  
**FLASH POINT METHOD:** Not applicable  
**DENSITY:** 1.03 g/cm<sup>3</sup> at 20°C  
**pH:** 8.67 @ 26° C  
**VISCOSITY:** 84.1 cP @ 20° C; 29.9 cP @ 40° C  
**CORROSION CHARACTERISTICS:** No data available

**10. STABILITY AND REACTIVITY**

**CHEMICAL STABILITY:** Stable at normal ambient temperatures.  
**OXIDATION/REDUCTION PROPERTIES:** Not reactive with water, monoammonium phosphate, zinc, and potassium permanganate.  
**EXPLODABILITY:** Not expected to be explosive  
**HAZARDOUS DECOMPOSITION PRODUCTS:** May form toxic materials such as: Carbon dioxide, hydrogen chloride, Oxides of sulfur, Oxides of Nitrogen  
 Carbon monoxide, various hydrocarbons, etc.  
**HAZARDOUS POLYMERIZATION :** Will not occur

**11. TOXICOLOGICAL INFORMATION**

**ACUTE TOXICITY:**

Oral Toxicity LD <sub>50</sub> (rats)	5000 mg/kg	EPA Tox Category	III
Dermal Toxicity LD <sub>50</sub> (rats)	> 5000 mg/kg	EPA Tox Category	IV
Inhalation Toxicity LC <sub>50</sub> (rats)	> 2.06 mg/L (4-hour)	EPA Tox Category	IV
Eye Irritation (rabbits)	Moderately irritating	EPA Tox Category	III
Skin Irritation (rabbits)	Minimally irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

Chemical Name	IARC - Group 1 (carcinogenic to humans)	IARC - Group 2A (Probably carcinogenic)	IARC - Group 2B (Possibly carcinogenic)	NTP Carcinogen List
Metalaxyl (N-(2,6-dimethylphenyl)-N-(methoxy acetyl)alaninemethyl ester)	No	No	No	Not listed
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-yl)methyl)cyclopentanol)	No	No	No	Not listed
Other ingredients	No	No	No	Not listed

**TOXICITY OF METCONAZOLE TECHNICAL**

**SUBCHRONIC:** Subchronic (28 to 90 days) studies of Metconazole Fungicide Technical in rodents and dogs reported decreased body weights, fatty vacuolation and hypertrophy of the liver, reduced RBC parameters, increased serum liver enzyme levels, and increased spleen and liver weights. There is no evidence for neurotoxicity or immunotoxicity following treatment with Metconazole Fungicide Technical. The lowest no-observable-effect level (NOEL) was 2.5 mg/kg/day.

**CHRONIC/CARCINOGENICITY:** In a one-year dog study, Metconazole Fungicide Technical produced effects on liver histopathology, increase serum liver enzymes and bleeding/irritation in the gastrointestinal tract. The NOEL was 11.1 mg/kg/day. In a 2-year study in rats, Metconazole Fungicide Technical produced histological changes in the liver, kidney and adrenal and possibly leukemia. The NOEL for this study was 4.8 mg/kg/day. In an 18-month mouse study, increased white blood cell count, increased serum liver enzymes increased liver weights, histopathological changes in the liver, spleen and adrenal and increased liver adenomas and adenocarcinomas were observed at doses of 300 ppm or higher. The NOEL in mice was 4.8 mg/kg/day. The mechanism of liver tumor formation in mice is believed to be not relevant to humans.

**DEVELOPMENTAL TOXICITY:** Maternal and fetal effects were observed in rats and rabbits treated with Metconazole Fungicide Technical during gestation. The NOELs in rats and rabbits are 16 and 20 mg/kg/day, respectively.

**REPRODUCTION:** Metconazole Fungicide Technical was tested in a 2-generation rat reproduction study. At maternally toxic doses effects were noted on estrus cycling, litter size, gestation length and pup body weight. The NOEL was 10.6 mg/kg/day.

**MUTAGENICITY:** Not considered a genotoxic hazard. Negative in gene mutation assays *in vitro*, in *in vivo/in vitro* UDS assays and in *in vivo* micronucleus assays in mice. Positive in an *in vitro* chromosome aberration assay in the presence of S-9 but not observed in the *in vivo* assay.

**TOXICITY OF METALAXYL TECHNICAL**

**SUBCHRONIC:** Repeated overexposure to metaxyl may affect the liver.

**CHRONIC/CARCINOGENICITY:** Prolonged overexposure to metalaxyl may affect liver and blood. Metalaxyl did not cause cancer in laboratory animals. The U.S. EPA has given metalaxyl a Class E classification (evidence of non-carcinogenicity for humans).

**DEVELOPMENTAL TOXICITY:** For metalaxyl, a study using rats resulted in maternal toxicity and fetotoxicity at the higher dose levels. However, no treatment-related developmental effects were noted in a study using rabbits.

**REPRODUCTION:** In animal studies, metalaxyl did not interfere with reproduction.

**MUTAGENICITY:** No mutagenic effect was found in various tests with microorganisms and mammals with metalaxyl.

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:**

The following are results of tests with Metconazole Fungicide Technical:  
 Bird (quail, duck) NOAEL: 60 mg/kg  
 Based upon EPA designation, Metconazole Fungicide Technical is practically non-toxic to mallard ducks and slightly toxic to bobwhite quail. Test results include:

Oral LD<sub>50</sub> bobwhite quail: 875 mg/kg  
 Dietary LC<sub>50</sub> bobwhite quail: 1,057 mg/kg  
 Dietary LC<sub>50</sub> mallard duck: > 5,200 mg/kg  
 The following are results of tests with Metalaxyl Technical:

Based upon EPA designation, Metalaxyl Technical is practically non-toxic to birds.  
 Test results include:

Dietary LC<sub>50</sub> bobwhite quail: > 10,000 mg/l  
 Dietary LC<sub>50</sub> mallard duck: 1,466 mg/kg

**AQUATIC ORGANISM TOXICITY:** Based upon EPA designation, Metconazole Fungicide Technical is moderately toxic to fish and freshwater invertebrates and highly toxic to marine invertebrates.  
 Test results include:

LC<sub>50</sub> (96 hr) Fathead Minnow: 6.3 mg/L  
 LC<sub>50</sub> (96 hr) Rainbow Trout: 2.2 mg/L  
 LC<sub>50</sub> (96 hr) Sheepshead Minnow: 3.9 mg/L  
 LC<sub>50</sub> (48 hr) Daphnia magna: 4.2 mg/L  
 LC<sub>50</sub> (96 hr) Mysid Shrimp: 0.053 mg/L  
 EC<sub>50</sub> (96 hr) Oyster Shell Deposition: 2.3 mg/L  
 EC<sub>50</sub> (72 hr) Green Algae: 1.7 mg/L  
 EC<sub>50</sub> (96 hr) Blue-green Algae: > 13 mg/L  
 EC<sub>50</sub> (96 hr) Fresh Water Diatom: 0.0098 mg/L  
 EC<sub>50</sub> (96 hr) Marine Diatom: 1.7 mg/L  
 EC<sub>50</sub> (7 day) Duckweed: > 0.17 mg/L

Based upon EPA designation, Metalaxyl Technical is practically non-toxic to fish, estuarine species and aquatic plants. Test results include:

LC<sub>50</sub> (96 hr) Rainbow Trout: 139 mg/L  
 LC<sub>50</sub> (48 hr) Daphnia magna: 29 mg/L  
 LC<sub>50</sub> (96 hr) Bluegill: 139 mg/L

**OTHER NON-TARGET ORGANISM TOXICITY:**

The contact LD<sub>50</sub> (96 hr) of Metconazole Fungicide Technical to the honeybee is >90 µg/bee. Not hazardous to arthropods (honey bee, etc.) or earthworms.  
 Metconazole Fungicide Technical has a photodegradation half-life in water of 144 - 190 days and a soil photodegradation half-life of 65 days (for light-dark cycle: 12 hours).

Metalaxyl is practically non-toxic to small animals and honey bees. In soils, metalaxyl is moderately stable under normal environmental conditions. The primary routes of dissipation in surface soil are aerobic soil metabolism from microbial degradation and uptake by plants. Hydrolysis, photolysis and volatilization are not significant routes of breakdown. Metalaxyl is very water soluble and variably binds to organic materials in the soils. In the aquatic environment, metalaxyl degrades moderately under both aerobic and anaerobic conditions by the microbial degradation.

**OTHER ENVIRONMENTAL INFORMATION:**

This product is toxic to birds, mammals, fish and aquatic invertebrates. Do not apply directly to water or to areas where surface water is present or to intertidal areas below mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

**13. DISPOSAL CONSIDERATIONS**

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

**PRODUCT DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Refer to pesticide label for proper container disposal instructions based on container type and size.

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

**14. TRANSPORTATION INFORMATION**

**DOT (ground) SHIPPING NAME:** Not regulated for domestic ground transport by U.S. DOT

**ICAO/IATA PROPER SHIPPING NAME:** UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Metconazole), 9, III, Marine Pollutant  
**REMARKS:** Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations -- see UN Special Provision 375.  
 For US shipping, Emergency Response Guidebook No. 171.

**IMDG PROPER SHIPPING NAME:** UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Metconazole), 9, III, Marine Pollutant  
**EMS NO.:** F-A, S-F

**15. REGULATORY INFORMATION**

**PESTICIDE REGULATIONS:** 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.

**U.S. FEDERAL REGULATIONS:**

Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

**SARA (311, 312):**

Immediate Health:	Yes
Chronic Health:	No
Fire:	No



Sudden Pressure: No  
 Reactivity: No

**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. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

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

**16. OTHER INFORMATION**

**REASON FOR ISSUE:** Added the EPA registration number. Update transportation information. Minor edits throughout for clarity.  
**SDS NO.:** 0436  
**EPA REGISTRATION NUMBER:** 59639-191  
**REVISION NUMBER:** 2  
**REVISION DATE:** 08/01/2013  
**SUPERCEDES DATE:** April 4, 2012  
**RESPONSIBLE PERSON(S):** Valent U.S.A. Corporation, Corporate EH&S, (925) 256-2803

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS 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.

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

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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