



Material Safety Data Sheet

Tourney™ Fungicide

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, and 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.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Tourney™ Fungicide
VC NUMBER(S): 1585
ITEM: 61710.480
SYNONYM(S): V-10116 VPP Fungicide
EPA REGISTRATION NUMBER: 59639-144

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 or by calling the product information numbers listed above. (www.valentbiosciences.com)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight/Percent	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-yl)methyl)cyclopentanol) * (125116-23-6).	48.5 - 51.5	None.	None.	See regulated exposure limits
Particulates Not Otherwise Classified** (No CAS#).	25 - 30	None.	None.	None
Others ** (Various CAS#s).	20 - 26	None.	None.	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 (800) 892-0099 at any time.

Emergency Telephone: (800) 892-0099.
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3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW.

- CAUTION**
- Harmful if swallowed.
 - May cause skin, eye and respiratory irritation.
 - Avoid contact with eyes, skin and clothing.
 - Keep out of reach of children.

POTENTIAL HEALTH EFFECTS

Acute Toxicity (Primary Routes of Exposure)

Signs and Symptoms of Systemic Effects: No Data Available.

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 brief and/or minor irritation. The expected adverse health effects resulting from an exposure may include redness and possibly some minor swelling. This product is minimally 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.

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): In long-term (> 28 days) studies, Metconazole Fungicide Technical produced toxic effects on the liver, blood, spleen, kidney and gastrointestinal tract. Increased liver adenomas and adenocarcinomas were observed in mice, but these tumors are unlikely to be relevant to humans.

This material contains a small amount of crystalline silica. Repeated inhalation of large amounts of silica dust over an extended period of time may result in a progressive, disabling disease, silicosis. The International Agency for Research on Cancer (IARC) has determined that respirable crystalline silica is carcinogenic to humans. The National Toxicology Program (NTP) classifies respirable crystalline silica as a known carcinogen.

Developmental Toxicity (birth defects): At doses producing maternal toxicity malformations were observed in the fetuses of rats and rabbits treated with Metconazole Fungicide Technical during gestation.

Reproductive Toxicity: 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.

Potentially Aggravated Medical Conditions: Individuals with preexisting diseases of the liver or blood 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.

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.

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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 center or doctor for treatment advice.

SKIN CONTACT:

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.

INGESTION:

Call a poison control center or doctor immediately for treatment advice. Have a 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 center or doctor for further treatment advice.

NOTES TO PHYSICIAN:

None

5. FIRE FIGHTING MEASURES

FLASH POINT: 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.

HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce: HCl gas, Oxides of sodium, Oxides of phosphorus, Oxides of sulfur.

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.

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.

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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.**

Avoid prolonged contact with eyes, skin or clothing. Avoid contact with eyes. Wash thoroughly after handling.

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, away from heat, flame and strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.**

EYES: 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.

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

EXPOSURE LIMITS - See Section 2.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Free-flowing granules
COLOR:	Off-white
ODOR:	No data available
BULK DENSITY:	32 - 33 lb/ft ³
pH:	8 - 9 @ 25° C (1% w/v in water)
SOLUBILITY:	Active ingredient is dispersible in water, granules are insoluble in water.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable at normal ambient temperatures.
INCOMPATIBILITY:	Strong acids and oxidizing agents
OXIDATION/REDUCTION PROPERTIES:	No chemical incompatibility in contact with water, monoammonium phosphate, zinc, and potassium permanganate.
EXPLODABILITY:	Not expected to be explosive.
HAZARDOUS DECOMPOSITION PRODUCTS:	Oxides of sodium, sulfur and phosphorus
CONDITIONS TO AVOID:	High heat and humidity

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral Toxicity LD ₅₀ (rats).	1750 mg/kg	EPA Tox Category	III
Dermal Toxicity LD ₅₀ (rats)	> 5000 mg/kg	EPA Tox Category	IV
Inhalation Toxicity LC ₅₀ (rats).	> 2.27 mg/L	EPA Tox Category	IV
Eye Irritation (rabbits).	Slightly irritating	EPA Tox Category	III
Skin Irritation (rabbits).	Non-irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs).	Non-sensitizer	EPA Tox Category	Not applicable

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. 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: Malformations were observed in the fetuses of 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 OTHER INGREDIENTS:

This product contains crystalline silica. Repeated inhalation of the dust may cause insidious lung injury and possibly silicosis. In patients with silicosis, areas of the lung become filled with scar tissue. The signs and symptoms may include cough, shortness of breath, difficulty in breathing, and loss of weight. The disease can progressively worsen and result in death. In their Monograph - Volume 42, the International Agency for Research on cancer (IARC) classified crystalline silica as a probable human carcinogen. Users of this product should confirm that their operating, storage, and distribution facilities comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for all materials containing more than 0.1% crystalline silica. Employee exposures to airborne crystalline silica dust should be controlled to below the OSHA 8 hour PEL for the particular type of crystalline silica present.

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.

12. ECOLOGICAL INFORMATION

AVIAN TOXICITY: The following are results of tests with Metconazole Fungicide Technical:

Bird (quail, duck) NOAEL: 60 mg a.i./kg

AQUATIC ORGANISM TOXICITY: May be toxic to aquatic organisms. The following are results of tests with Metconazole Fungicide Technical:

Trout 96-hr LC₅₀: 2.2 mg/L
 Carp 96-hr LC₅₀: 3.4 mg/L
 Daphnia 48-hr EC₅₀: 4.2 mg./L
 Algae 72-hr EbC₅₀: 1.7 mg a.i./l

OTHER NON-TARGET ORGANISM TOXICITY: 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)

13. DISPOSAL CONSIDERATIONS

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

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

DOT:	Not regulated
DOT (ground) SHIPPING NAME:	Pesticide, Solid, Non-regulated
DOT REPORTABLE QUANTITY (RQ):	Not applicable.
UN/NA NUMBER:	Not applicable
HAZARD CLASS:	Not applicable.
ICAO/IATA:	Not regulated

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:

Chemical Name	RCRA - U Series Wastes	Clean Water Act - Hazardous Substances	Clean Water Act Section 307
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol) * (125116-23-6).	None.	Not listed.	Not listed.
Particulates Not Otherwise Classified** (No CAS#).	None.	Not listed.	Not listed.
Others ** (Various CAS#s).	None.	Not listed	Not listed

CWA Section 311: No data.

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Chemical Name	SARA 313 Chemicals	SARA Section 302	CERCLA Reportable Quantity (RQ):
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol) * (125116-23-6).	Not listed.	Not listed.	None.
Particulates Not Otherwise Classified** (No CAS#).	Not listed.	Not listed.	None.
Others ** (Various CAS#s).	Not listed.	Not listed.	None.

SARA (311, 312):

Immediate Health:	Yes.
Chronic Health:	Yes.
Fire:	No
Sudden Pressure:	No
Reactivity:	No

Chemical Name	IARC - Group 1 (carcinogenic to humans)	IARC - Group 2A (Probably carcinogenic)	IARC - Group 2B (Possibly carcinogenic)	NTP Carcinogen List
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol) * (125116-23-6).	No.	No.	No.	Not listed.
Particulates Not Otherwise Classified** (No CAS#).	No.	No.	No.	Not listed.
Others ** (Various CAS#s).	No	No.	No.	Not listed.

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 2 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above.

Chemical Name	California Proposition 65	California - Directors List of Hazardous Substances
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol) * (125116-23-6).	Not listed.	Not listed.
Particulates Not Otherwise Classified** (No CAS#).	Not listed.	Not listed.
Others ** (Various CAS#s).	Not listed.	Not listed.

Chemical Name	MI - Critical Materials List	MA Right To Know	NJ Right To Know
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol) * (125116-23-6).	Not listed.	Not listed.	Not listed.
Particulates Not Otherwise Classified** (No CAS#).	Not listed.	Not listed.	Not listed.
Others ** (Various CAS#s).	Not listed.	Not listed.	Not listed.

Chemical Name	PA Right To Know	RI Right To Know	MN Hazardous Substance
Metconazole (5-[(4-chlorophenyl)methyl]-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol) * (125116-23-6).	Not listed.	Not listed.	Not listed.
Particulates Not Otherwise Classified** (No CAS#).	Not listed.	Not listed.	Not listed.
Others ** (Various CAS#s).	Not listed.	Not listed.	Not listed.

CANADIAN REGULATIONS:

WHMIS Hazard Class: Not determined.

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16. OTHER INFORMATION

REASON FOR ISSUE: Slight formulation change, edits throughout. Correct sensitization data.
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REVISION NUMBER: 6
REVISION DATE: 01/22/2008
SUPERCEDES DATE: 03/16/2007
RESPONSIBLE PERSON(S): Valent U.S.A. Corporation, Corporate EH&S, (925) 256-2803

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.

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