

Material Safety Data Sheet



Cyper-Active® Technical Insecticide

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to 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: Cyper-Active® Technical Insecticide
EPA REGISTRATION NUMBER: 73049-386
MSDS IDENTIFICATION CODE/NO.: ENV-0144
CHEMICAL NAME: Cypermethrin
CHEMICAL FAMILY: Pyrethroid Pesticide
MOLECULAR FORMULA: C₂₂H₁₉Cl₂NO₃
PRODUCT DESCRIPTION: For formulation into insecticides only.

MANUFACTURER

Valent BioSciences Corporation
870 Technology Way
Libertyville, Illinois 60048

EMERGENCY TELEPHONE NUMBERS

HEALTH EMERGENCY OR SPILL (24 hr):
Within the United States (877) 315-9819
Outside the United States (651) 632-6184

PRODUCT INFORMATION

ENVIRONMENTAL SCIENCE PRODUCTS:
(866) 822-3731
www.valentbiosciences.com

EMERGENCY TELEPHONE #: Within the United States (877) 315-9819
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MSDS NO. ENV-0144

Revision Number: 1

Revision Date: 08/25/2006

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name (CAS #) [Chemical Name]	Weight Percent	ACGIH Exposure Limit	OSHA Exposure Limit
Cypermethrin (CAS # 52315-07-8) (+/-)-a-cyano(3-phenoxyphenyl)methyl (+/-) cis, trans-3-(2,2-dichloroethenyl)-2,2- dimethylcyclopropanecarboxylate IUPAC: (RS)-2,2- dimethylcyclopropanecarboxylate Synthetic Pyrethroid	= 88	None established (TWA-TEL: 45 µg/m ³ Manufactures recommendation)	None established STEL (15 minutes): 100 µg/m ³ Manufactures recommendation)
Inert Ingredients Containing: **	= 12		

* 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 (877) 315-9819 (within the United States) or (651) 632-6184 (outside the United States) at any time.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
DARK BROWN, VISCOUS LIQUID WITH A MILD CHEMICAL ODOR	
WARNING:	<ul style="list-style-type: none"> - MAY BE FATAL IF SWALLOWED - MAY CAUSE EYE IRRITATION - SLIGHTLY COMBUSTIBLE. MAY SUPPORT COMBUSTION AT ELEVATED TEMPERATURES. - THERMAL DECOMPOSITION AND BURNING MAY FORM TOXIC BY PRODUCTS - TOXIC TO FISH AND AQUATIC ORGANISMS. KEEP OUT OF DRAINS AND WATER COURSES. - THIS MATERIAL SHOULD ONLY BE HANDLED BY A TRAINED PROFESSIONAL

POTENTIAL HEALTH EFFECTS

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

Signs and Symptoms of Systemic Effects: Effects from overexposure result from either inhaling or coming into contact with the skin. Symptoms of over exposure include decreased activity, tremors, convulsions, loss of bladder control, incoordination, and increased sensitivity to sound. Contact with this product may produce skin sensations such as numbing, burning and tingling. These skin sensations are reversible and usually subside within 12 hours.

Eye: Slightly irritating.

Skin: Minimally irritating. May cause allergic reactions.

Ingestion: May cause irritation if ingested.

Inhalation: Slightly irritating

CARCINOGENICITY INFORMATION:

This product is considered to have a low oncogenic potential. None of the components known present in this material at concentrations equal to or greater than 0.1% are listed as a carcinogen by the National Toxicology Program (NTP), the International agency for Research on Cancer (IARC), The Occupational Safety and Health Administration (OSHS) or ACGIH.

SECTION 4: FIRST AID MEASURES**EMERGENCY NUMBER**

Within the United States (877) 315-9819

Outside the United States (651) 632-6184

Have the product container or label with you when calling poison control center or doctor, or going for treatment.

EYES: 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: 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 person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a 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 mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

HINTS FOR THE PHYSICIAN: This product contains a Pyrethroid pesticide. If a small amount is ingested (or if treatment is delayed), oral administration of large amounts of activated charcoal and a cathartic is probably sufficient therapy. If large amount are ingested and vomiting has not occurred, emesis should be induced with supervision. Keep patient's head below hips to prevent aspiration. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered.

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Central nervous system stimulation should be controlled with sedation by, e.g. barbiturates.

Do not administer milk, cream or other substances containing vegetable or animal fats. These only enhance absorption of lipophilic substances.

If localized paresthesia develops, thoroughly wash site with soap and water. Cold cream can be applied to help diminish the effect.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT: > 572°F (> 300°C)

AUTOIGNITION: NA

EXTINGUISHING MEDIA: Carbon Dioxide, dry chemical, alcohol or polymer foam

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

FIRE AND EXPLOSION HAZARDS:

Slightly Combustible. Do not use or store near heat or open flame. Material may support combustion at elevated temperatures.

FIRE FIGHTING INSTRUCTIONS: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear. Keep upwind. Isolate hazard area. Avoid inhalation of smoke and fumes. Use water or foam to reduce fumes. Do not touch spilled material. If possible, move containers from area. Extinguish only if flow can be stopped. Use flooding amounts of water as a fog. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors.

HAZARDOUS COMBUSTION PRODUCTS: May form toxic materials: Carbon dioxide and carbon monoxide, various hydrocarbons, etc.

SECTION 6: ACCIDENTAL RELEASE MEASURES

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OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION

If it is safe to do so:

- Evacuate non-essential personnel from the area to prevent human exposure.
- Remove all sources of ignition.
- Ventilate area.
- Stop the source of the spill. Contain the spill to prevent further contamination of the soil, surface water, or ground water.
- May produce slippery conditions.

GENERAL AND DISPOSAL: Use proper protective equipment to minimize personal exposure (see Section 8). Take all necessary action to prevent and to remedy the adverse effect of the spill. Ensure that the disposal is in compliance with all Federal, Provincial, and local regulations (See Section 13 for applicable RCRA Number). Refer to Section 15 for applicable Reportable Quantity (RQ) and other regulatory requirements.

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SPILL OR LEAK**CONTAINMENT:**

Small Spills: Soak up liquid with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. and dispose of in trash. Place in an approved chemical waste container for disposal. Where possible drum should be oriented to prevent further leakage. Drum should be placed in a spillage drum for further movement or transport. Do not allow spill material to enter any body of water.

Large Spills: Eliminate all ignition sources. Stop leak if you can do so without coming into contact with spilled material. Dike far ahead of liquid spill for later disposal. All equipment used to clean up spill should be grounded. Prevent entry into waterways, sewers, basements or confined areas. Inform appropriate authorities immediately if contamination occurs.

CLEANUP:

Clean spill area with small amount of soapy water or neutralizing agent. Let solution sit for 5 minutes. Use a stiff brush to scrub affected area. Repeat if necessary to remove visible staining. Additional decontamination can be made by applying bleach to affected area.

Contain and absorb the rinsate with inert absorbents and place into the same disposal container. Area can be washed with water to remove the last trace residue. Do not allow water to contaminate water supplies or sewers.

Recommended Cleaning and Neutralizing Agent:

Dilute alkaline (base) solution, SuperSoap™, Tide®, Spic and Span®

SECTION 7: HANDLING AND STORAGE**END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL****HANDLING PRECAUTIONS (Based on EPA Guidelines):**

May be fatal if swallowed. May cause eye irritation. Avoid breathing vapors. May cause allergic skin reactions.

Do not use or store near heat, open flame or hot surfaces. Keep out of reach of children and animals. Use appropriate personnel protective equipment. Avoid contamination of feed and foodstuff. Toxic to fish, do not apply directly to water.

STORAGE PRECAUTIONS: Do not contaminate water, food or feed by storage. Store in original container, upright at room temperature. Avoid exposure to extreme temperatures. Under cold conditions some products may precipitate. Keep container closed when not in use.

WORK/HYGIENIC PRACTICES: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash clothing before reuse.

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

ENGINEERING CONTROLS: Control airborne concentrations below the appropriate exposure guidelines. Use local exhaust ventilation. Ventilate all transport vehicles prior to unloading.

RESPIRATION/VENTILATION: Use in a well ventilated area. If not adequate, use a respirator approved by the National Institute of Occupational Health and Safety.

EYE PROTECTION: For splash, mist or spray exposure, wear chemical protective goggles or face shield.

HAND PROTECTION: Use of chemically resistant gloves.

SKIN AND BODY PROTECTION: Clothing (disposable or washable) to minimize skin contact. Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items – such as shoes, belts and watchbands. That become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

OTHER/GENERAL PROTECTION: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash clothing before reuse. Eye wash facility and safety shower should be available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Dark-brown viscous liquid
ODOR:	Mild chemical
PHYSICAL STATE:	Liquid
SOLUBILITY (H₂O):	Insoluble
pH:	NA
DENSITY/Wt. PER VOLUME:	10.2 lb/gal @ 25°C (1220 g/L)
SPECIFIC GRAVITY:	1.22 @ 25°C (water =1)
VAPOR PRESSURE:	3.2 X 10 ⁻⁸ @ 25° C

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID: Excessive heat and sources of ignition.

INCOMPATIBILITY: Strong oxidizing agents and acids.

HAZARDOUS DECOMPOSITION PRODUCTS: May form toxic materials: Carbon dioxide and carbon monoxide, hydrogen cyanide, chlorine and hydrogen chloride.

OXIDATION/REDUCTION PROPERTIES: Product does not have the potential to act as a strong oxidizing or reducing agent.

HAZARDOUS POLYMERIZATION: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

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MSDS NO. ENV-0144

Revision Number: 1

Revision Date: 08/25/2006

ACUTE (Product Specific Information):

Oral Toxicity LD₅₀ (rat):	7,180 mg/kg (undiluted) IV EPA Tox Category
	247 mg/kg (diluted in corn oil)
Dermal Toxicity LD₅₀ (rabbit):	>2460 mg/kg III EPA Tox Category
Inhalation Toxicity LC₅₀(rat):	2.50 mg/L IV EPA Tox Category
Eye Irritation (rabbit):	Mildly irritating IV EPA Tox Category
Skin Irritation (rabbit):	Minimally irritating IV EPA Tox Category
Skin Sensitization (guinea pig):	Sensitizer

TOXICITY OF ACTIVE INGREDIENTS:

ACUTE EFFECTS FROM OVEREXPOSURE: This product has moderate oral, and low dermal and inhalation toxicity. It is mildly irritating to the eyes and minimally irritating to the skin. Large doses of cypermethrin ingested by laboratory animals produced signs of toxicity including loss of motor control, tremors, decreased activity, urinary incontinence, incoordination, increased sensitivity to sound and convulsions. Experience to date indicates that contact with cypermethrin may produce skin sensations such as numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours.

CHRONIC EFFECTS OF OVEREXPOSURE: In studies with laboratory animals, cypermethrin did not cause reproductive toxicity, teratogenicity, neurotoxicity or carcinogenicity in male and female rats and male mice. Cypermethrin caused an increase in benign lung tumors in female mice at 1600 ppm in the diet. The EPA concluded on a weight of evidence approach that cypermethrin represents a low oncogenic potential to female mice at this dose level (approximately 228 mg/kg/day). Liver enlargement is often noted in laboratory animals that have ingested large doses of cypermethrin during their life span. An overall absence of genotoxicity has been demonstrated in tests of mutagenicity DNA damage and chromosome aberrations.

CARCINOGENICITY: NTP: Not Listed; IARC: Not Listed; OSHA: Not Listed; ACGIH: Not Listed

SECTION 12: ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION****ACUTE AND LONG-TERM TOXICITY TO FISH AND INVERTEBRATES:**

This product is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water.

OTHER ENVIRONMENTAL INFORMATION:

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 Pollutant 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. Do not contaminate water when disposing of equipment wash waters.

ENVIRONMENTAL DATA: Cypermethrin is rapidly degraded in soil with a half-life of 2 to 4 weeks. It is readily hydrolyzed under basic conditions (pH=9) but, under acidic and neutral conditions, hydrolysis half-life can be 20 to 29 days. Cypermethrin has a high affinity for organic matter and a Log Pow of 5.0; yet, because of the ease with which the material undergoes degradation, it has a very low potential for bioconcentration (BCF=17), and is not mobile in soil.

ECOTOXICOLOGICAL INFORMATION: Cypermethrin is considered highly toxic to fish and aquatic arthropods and has LC₅₀ values which range from 0.004 µg/L to 3.6 µg/L. The aquatic arthropods tended to be some of the more sensitive species. Care should be taken to avoid contamination of the aquatic environment. Cypermethrin is slightly toxic to birds and oral LD₅₀ values are greater than 10,248 mg/kg.

SECTION 13: DISPOSAL CONSIDERATIONS

PRODUCT DISPOSAL: Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. Acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal. Never place unused product down any indoor or outdoor drain.

CONTAINER DISPOSAL:

Triple rinse (or equivalent) for non-returnable containers prior to disposal. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved State and local procedures. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

SECTION 14: TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME: Pyrethroid pesticide, liquid, toxic, (cypermethrin)

RQ: NA

DOT HAZARD CLASS: 6.1

UN/NA NUMBER: 3352

PACKAGING GROUP: III

MARINE POLLUTANT: Cypermethrin

REMARKS: DOT shipping label: Keep away From Food

EXEMPTION REQUIREMENT: NA

NOTE: 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.

EPA Registration Number: 73049-386

OTHER U.S. FEDERAL REGULATIONS:

Chemical name	RCRA-U Series Waste:	Clean Water Act-Hazardous Substances:	Clean Water Act Section 307:
Cypermethrin * (52315-07-8)	None	Not Listed	Not Listed

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MSDS NO. ENV-0144

Revision Number: 1

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CWA Section 311:

Chemical Name	SARA 313 Chemicals:	SARA Section 302:	CERCLA reportable Quantity (RQ):
Cypermethrin * (52315-07-8)	Not Listed	Not Listed	None

SARA (311. 312)

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

Chemical Name	IARC – Group 1 (Carcinogenic to humans)	IARC – Group 2 (Probably carcinogen)	IARC- Group 2B (possibly carcinogenic)	NTP Carcinogen List
Cypermethrin * (52315-07-8)	No	No	No	Not Listed

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Rights 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	NJ Environmental Hazardous Substances List
Cypermethrin * (52315-07-8)	Not Listed	Not Listed	Not Listed

Chemical Name	MN Hazardous Substance list	MA Rights to Know	MI Critical Materials List
Cypermethrin * (52315-07-8)	Not Listed	Present	Not Listed

Chemical Name	NJ Right to Know	PA Right to Know	RI Right to Know
Cypermethrin * (52315-07-8)	Not Listed	Not Listed	Not Listed

California proposition 65: Not Listed

CHEMICAL INVENTORY INFORMATION:

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MSDS NO. ENV-0144

Revision Number: 1

Revision Date: 08/25/2006

TSCA Inventory List – Registered pesticide, exempt from TSCA

Chemical Name	Canada NDSL Inventory List	Canada DSL Inventory List	EINECS Inventory List
Cypermethrin * (52315-07-8)	Not Listed	Not Listed	Present/257-842-9

NFPA HAZARD RATING - HEALTH: 1 Slight
 - FIRE: 2 Moderate
 - REACTIVITY: 0 Negligible
 - SPECIAL: -

RATINGS:

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4).

These values are obtained using professional judgment. Because the customer is most aware of the application of the product, he must ensure that the proper personal protective equipment (PPE) is provided consistent with the information contained in the product MSDS.

* 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: Revised Product Name
REVISION NUMBER: 1
REVISION DATE: 08/25/2006
SUPERSEDES DATE: 12/27/2005
EPA REGISTRY NUMBER: 73049-386
MSDS NUMBER: ENV-0144

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

This information is provided in good faith but without express or implied warranty. Buyer assumes all responsibility for safety and use not in accordance with label instructions.

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

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