



# Material Safety Data Sheet

**TAME<sup>®</sup> 2.4 EC Spray (DANGER Statement)**

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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:** TAME<sup>®</sup> 2.4 EC (DANGER Statement)  
**VC NUMBER(S):** VC-1044  
**EPA REGISTRATION NUMBER:** 59639-77  
**SYNONYM(S):** None

**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.
<b>FENPROPATHRIN*</b> (39515-41-8) [alpha-cyano-3-phenoxybenzyl 2,2,3,3-tetramethyl-cyclopropanecarboxylate]	29 - 32	None	---
<b>Naphthalene</b> (91-20-3)**	5 - 6	10 ppm TWA 15 ppm STEL	OSHA, ACGIH
<b>Total Hydrocarbons **</b>	50 - 60	100 ppm	Mfgr.
<b>Other**</b>	10 - 15	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

**DANGER:**

- CORROSIVE, CAUSES IRREVERSIBLE EYE DAMAGE
- MAY BE FATAL IF SWALLOWED
- HARMFUL IF INHALED
- AVOID INHALING FUME OR SPRAY MIST
- DO NOT GET IN EYES, ON SKIN OR ON CLOTHING
- ASPIRATION HAZARD, DO NOT INDUCE VOMITING
- KEEP OUT OF REACH OF CHILDREN

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**POTENTIAL HEALTH EFFECTS****Acute Toxicity (Primary Routes of Exposure)**

**Signs and Symptoms of Systemic Effects:** : Fenpropathrin technical is a nervous system toxin that causes salivation, weakness, ataxia, tremors, and convulsions in laboratory animals. This product contains a solvent mixture. Solvents, when inhaled, can cause nasal and respiratory irritation and central nervous system effects including dizziness, weakness, fatigue, nausea, headache and possibly unconsciousness and even death. Ingestion of solvents can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Acute exposure to naphthalene by inhalation, ingestion, and dermal contact has been associated with hemolytic anemia, damage to the kidneys, cataracts, and, in infants, brain damage.

**Eye:** This product has been shown to be corrosive to eyes. 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 irreversible eye damage and possibly blindness.

**Skin:** This product is expected to cause moderate skin 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 swelling.

This product has been shown to be slightly 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.

This product is not expected to cause allergic skin reactions.

This product contains a pyrethroid. Skin contact with pyrethroids can result in a temporary burning, tingling or itching sensation.

**Ingestion:** This product has been shown to be moderately 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.

Because of the low viscosity of this substance, it can directly enter the lungs if it is swallowed (this is called aspiration). This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the substance is very difficult to remove and can cause injury to the lungs and death. Ingestion of this product may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Inhalation:** This product has been shown to be moderately 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 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):** Fenpropathrin technical did not produce tumors in rats or mice. Increased pituitary, kidney and adrenal weights were observed at high doses in a two year study in rats.

Chronic exposure of workers and rodents to naphthalene has been reported to cause cataracts and damage to the retina. Lesions in the kidneys and thymus, signs of anemia, and reduced spleen weights have been observed in rats and mice chronically exposed via gavage.

**Teratology (Birth Defects) Information:** Fenpropathrin technical did not cause birth defects when tested in experimental animals even at maternally toxic dose levels. There is limited evidence of fetal and maternal toxicity from exposure to naphthalene.

**Reproduction Information:** Fenpropathrin technical was tested in a three-generation rat reproduction study. Reproductive effects were observed only at a dose that also produced systemic toxicity.

**Potentially Aggravated Condition:** Individuals with preexisting diseases of the central nervous system 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 fresh water for at least 15 minutes while holding eyelids open. Remove contact lenses if worn. Get medical attention.

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

**INGESTION:** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Center. Promptly drink a large quantity of milk, egg whites or gelatin solution. If these are not available, drink large quantities of water. Avoid alcohol. Get medical attention immediately.

**INHALATION:** If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention

**NOTES TO PHYSICIAN:** Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis.

If ingested, probable mucosal damage may contraindicate the use of gastric lavage.

Treatment is supportive and symptomatic. Diazepam has been recommended to reduce the CNS effects of fenpropathrin.

## SECTION 5: FIRE FIGHTING MEASURES

**FLASH POINT:** 152° F **METHOD:** Setaflash

**AUTOIGNITION:** NDA

**EXTINGUISHING MEDIA:** CO<sub>2</sub>, dry chemical, foam, water fog.

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

**NFPA RATINGS:** Health 2; Flammability 3; 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:** Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 85 °F.

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. Read the entire document.

**HAZARDOUS COMBUSTION PRODUCTS:** Normal combustion forms carbon dioxide, water vapor and toxic hydrogen cyanide. 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:** 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 forms an emulsion in water. Stop or reduce contamination of any water. Isolate contaminated water.

**CLEANUP:** Remove contaminated water for treatment or disposal.

## SECTION 7: HANDLING AND STORAGE

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

DO NOT USE OR STORE near flame, sparks or hot surfaces. Use only in well ventilated area. Keep container closed.

DO NOT weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous or explosive vapor or liquid.

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. Do not store below 30° F.

## 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:** This material may be an inhalation hazard and, unless ventilation is adequate, the use of approved respiratory protection is recommended. Use this material only in well ventilated areas.

**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

<b>APPEARANCE:</b>	Clear amber liquid
<b>ODOR:</b>	Aromatic
<b>MELTING POINT:</b>	NA
<b>BOILING POINT:</b>	NDA
<b>SPECIFIC GRAVITY:</b>	0.968 @ 20° C
<b>SOLUBILITY:</b>	Forms an emulsion in water. Soluble in common organic solvents.
<b>VAPOR PRESSURE:</b>	NA
<b>DISSOCIATION CONSTANT:</b>	NA
<b>OCTANOL/WATER PARTITION COEFFICIENT:</b>	NA
<b>pH:</b>	4 – 5 (1% emulsion)
<b>VISCOSITY:</b>	5 cps @ 20° C
<b>CORROSION CHARACTERISTICS:</b>	NDA

## SECTION 10: STABILITY AND REACTIVITY

**CHEMICAL STABILITY:** Stable. Do not store at temperatures below 30° F.

**INCOMPATIBILITY:** Avoid contact with alkaline materials.

**OXIDATION/REDUCTION PROPERTIES:** NDA

**SECTION 11: TOXICOLOGICAL INFORMATION****ACUTE** (Product Specific Information):

**Eye Irritation:** Corneal involvement or irritation persisting for more than 21 days. (Toxicity Category I)

**Skin Irritation:** Moderate irritation (erythema) at 72 hours. (Toxicity Category III)

**Dermal Toxicity:** The dermal LD<sub>50</sub> in rabbits is greater than 2 g/kg. (Toxicity Category III)

**Oral Toxicity:** The oral LD<sub>50</sub> in rats is 66 mg/kg (Toxicity Category II)

**Inhalation Toxicity:** The 4-hour inhalation LC<sub>50</sub> in male rats is 1.43 mg/l. (Toxicity Category II) This product is also expected to be a respiratory irritant.

**Skin Sensitization:** This product did not produce a positive skin reaction in a Buehler Skin Sensitization Test.

**TOXICITY OF FENPROPATHRIN TECHNICAL:**

**SUBCHRONIC:** Fenpropathrin technical is a nervous system toxin that causes salivation, weakness, ataxia, tremors, and convulsions in laboratory animals.

**CHRONIC/CARCINOGENICITY:** A two year chronic/oncogenicity study was conducted in rats with doses of 50, 150, 450 and 600 ppm of fenpropathrin technical. Systemic toxicity observed at 450 ppm or greater included increased mortality, body tremors, and increased pituitary, kidney and adrenal weights. The NOEL for these effects was 150 ppm (7.23 mg/kg/day). No oncogenic effects were observed at any dose level.

A two year oncogenicity study was conducted in mice with dose levels of 40 150 and 600 ppm of fenpropathrin technical. No toxicity other than a marginal increase in hyperactivity in females receiving 600 ppm was observed. The systemic NOEL for this study is 600 ppm (56.0 and 65.2 mg/kg/day for males and females, respectively) . No oncogenic effects were observed at any dose level.

A one year study in dogs was conducted at dose levels of 100, 250 and 750 ppm of fenpropathrin technical. The NOEL for this study was 100 ppm (2.5 mg/kg/day) based on ataxia, languid behavior and tremors observed at 250 ppm or higher dose levels.

**TERATOLOGY/DEVELOPMENTAL TOXICITY:** Fenpropathrin technical did not cause birth defects when tested in experimental animals. In a developmental toxicity study with rats, maternal toxicity at 10 mg/kg/day included neurotoxic effects and deaths. The maternal NOEL in this study was 6 mg/kg/day. No developmental toxicity was observed at 10 mg/kg/day. In a developmental toxicity study in rabbits, nervous system toxicity was observed at 12 mg/kg/day and higher in the dams and the maternal NOEL was 6 mg/kg/day. No developmental effects were observed in rabbits even at the highest dose of 36 mg/kg/day.

**REPRODUCTION:** Fenpropathrin technical was tested in a three-generation rat reproduction study in rats at dose levels of 40, 120 and 360 ppm. The systemic NOEL in the parental generations was 40 ppm (2 mg/kg/day) based on tremors, muscle twitching, increased sensitivity and maternal deaths at 120 ppm. The reproductive NOEL was 120 ppm (6 mg/kg/day) based on decreased F1B

pup weights and increased F2B loss at 360 ppm. The NOEL for systemic toxicity in the pups was 40 ppm (2 mg/kg/day) based on body tremors and increased mortality at 120 ppm.

**MUTAGENICITY:** Fenpropathrin technical was negative in the following studies: gene mutation, chromosomal aberration, DNA damage/repair in *Bacillus subtilis*, micronucleus assay and sister chromatid exchange.

**TOXICITY OF OTHER INGREDIENTS:** This product contains a solvent. Solvents can cause nasal and respiratory irritation and central nervous system effects including dizziness, weakness, fatigue, nausea, headache and possibly unconsciousness and even death. Ingestion of solvents can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Prolonged or repeated dermal exposures may cause drying, scaling and even blistering of the skin.

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Symptoms include fatigue, concentration difficulties, anxiety, depression, rapid mood swings and short-term memory loss. The reports are not clear with regard to the types of solvents that may cause these symptoms, and there is controversy among scientists to whether the condition exists or is caused by this type of product. Since many other diseases cause some or all of these conditions, a doctor should be consulted if any appear.

Acute exposure to naphthalene by inhalation, ingestion, and dermal contact has been associated with hemolytic anemia, damage to the kidneys, cataracts, and, in infants, brain damage. There is limited evidence of fetal and maternal toxicity from exposure to naphthalene.

Chronic exposure of workers and rodents to naphthalene has been reported to cause cataracts and damage to the retina. Lesions in the kidneys and thymus, signs of anemia, and reduced spleen weights have been observed in rats and mice chronically exposed via gavage.

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:** Fenpropathrin technical is slightly toxic to birds following acute exposures.

Oral LD<sub>50</sub> mallard duck: 1,089 mg/kg  
Dietary LC<sub>50</sub> bobwhite quail: > 10,000 ppm  
Dietary LC<sub>50</sub> mallard duck: 9,026 ppm

No reproductive effects were observed in mallard ducks or bobwhite quail exposed to dietary levels of fenpropathrin technical. In mallard ducks, a NOEL was established at 125 ppm. In bobwhite quail, the NOEL was established at 25 ppm.

**AQUATIC ORGANISM TOXICITY:** Fenpropathrin technical is very highly toxic to freshwater organisms:

96 hour LC<sub>50</sub> rainbow trout: 2.3 ug/l  
96 hour LC<sub>50</sub> bluegill sunfish: 2.2 ug/l  
96 hour LC<sub>50</sub> sheepshead minnow: 3.1 ug/l  
96 hour (shell deposition) EC<sub>50</sub> eastern oyster: >125 ug/l  
48 hour LC<sub>50</sub> *Daphnia magna*: 0.53 ug/l  
96 hour LC<sub>50</sub> mysid shrimp: 0.019 ug/l  
Chronic toxicity *Daphnia magna*: MATC > 0.091 ug/l, < 0.23 ug/l  
Chronic toxicity mysid shrimp: MATC > 0.012 ug/l, < 0.024 ug/l

**OTHER NON-TARGET ORGANISM TOXICITY:** Fenpropathrin technical is highly toxic to bees. The acute contact LD<sub>50</sub> for honey bees is 0.05 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

<b>D.O.T. SHIPPING NAME:</b>	Pesticides, liquid, toxic, n.o.s. (contains fenpropathrin), 6.1, UN 2902, III
<b>TECHNICAL SHIPPING NAME:</b>	Fenpropathrin 31% Solution
<b>RQ:</b>	178 gal
<b>D.O.T. HAZARD CLASS:</b>	6.1
<b>U.N./N.A. NUMBER:</b>	UN 2902
<b>REMARKS:</b>	Severe marine pollutant when shipped in bulk or non-bulk by water.

### 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:**

<b>OSHA:</b>	NA
<b>CERCLA RQ*:</b>	Product RQ = 178 gal, Naphthalene RQ = 100 lb
<b>RCRA**:</b>	Naphthalene Waste code U165, Toluene Waste code U220
<b>SARA TITLE III:</b>	

**Sara (313) Chemicals:** Naphthalene, trimethylbenzene and fenpropathrin are subject to reporting under Section 313.

**Sara (311,312) Chemicals:**

Immediate Health Effects: Yes  
 Chronic Health Effects: Yes  
 Fire Hazard: Yes  
 Sudden Release of Pressure: No  
 Reactivity Hazard: No

**Sara Section 302:** NA

**SECTION 311 CLEAN WATER ACT:** A component of this product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills that produce a visible sheen on either

surface water, or in waterways/sewers that lead to surface water, must be reported to the National Response Center at 800-424-8802.

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.

**PROPOSITION 65: WARNING:** This product contains chemicals know to the State of California to cause cancer and to cause reproductive toxicity.

\* 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

<b>REASON FOR ISSUE:</b>	Correction of minor typographical error in Section 3.
<b>REVISION NUMBER:</b>	6
<b>REVISION DATE:</b>	05/02/2000
<b>SUPERSEDES DATE:</b>	06/10/1999
<b>MSDS NUMBER:</b>	0032

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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