



Material Safety Data Sheet

ENVIDOR® 2 SC MITICIDE

MSDS Number: 102000011424

MSDS Version 2.0

Revision Date: 06/27/2005

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name ENVIDOR® 2 SC MITICIDE
MSDS Number 102000011424
EPA Registration No. 264-831
Product Use Miticide for use on citrus, grapes, pome fruit and tree nuts.

Bayer CropScience
 2 T.W. Alexander Drive
 Research Triangle PK, NC 27709
 USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call 1-800-334-7577 (24 hours/day)
 For Product Information call 1-866-99BAYER (1-866-992-2937)

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Spirodiclofen	148477-71-8	22.30
Trade Secret Ingredient(s)		

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Caution! Harmful if swallowed or absorbed through skin. Do not get in eyes, on skin, or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Physical State viscous liquid suspension

Appearance white to beige

Routes of Exposure Ingestion, Eye contact, Skin contact, Skin Absorption

Immediate Effects

Eye Do not get in eyes.

Skin Harmful if absorbed through skin. May cause sensitisation by skin contact. Avoid contact with skin and clothing.



Material Safety Data Sheet
ENVIDOR® 2 SC MITICIDE

MSDS Number: 102000011424
 MSDS Version 2.0

Ingestion Harmful if swallowed. Do not take internally.

Chronic or Delayed Long-Term This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA.

SECTION 4. FIRST AID MEASURES

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

Eye 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 all contaminated clothing immediately. Rinse immediately with plenty of water for at least 15 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 directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person.

Inhalation Move 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.

Notes to Physician Treatment There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point Not relevant; aqueous solution

Fire and Explosion Hazards In the event of fire the following can be released:
 hydrogen chloride (HCl)
 carbon monoxide (CO)

Suitable Extinguishing Media water, dry chemical, foam



Material Safety Data Sheet

ENVIDOR® 2 SC MITICIDE

MSDS Number: 102000011424
MSDS Version 2.0

Fire Fighting Instructions Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Equipment or materials involved in pesticide fires may become contaminated.

Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods for Cleaning Up Take up with absorbent material (e.g. sand, earth or a proprietary absorbent material). Pack spilled material in suitable containers for recovery or disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional Advice Use personal protective equipment. Do not allow material to enter streams, sewers, or other waterways.

SECTION 7. HANDLING AND STORAGE

Handling Procedures Handle and open container in a manner as to prevent spillage.

Storing Procedures Do not contaminate water, food, or feed by storage or disposal.

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Work/Hygienic Procedures Wash hands thoroughly with soap and water after handling and 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 Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. As soon as practical, wash thoroughly and change into clean clothing.

Min/Max Storage Temperatures Do not transport or store below -10 °C / 14 °F
Do not transport or store above 40 °C / 104 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE



Material Safety Data Sheet
ENVIDOR® 2 SC MITICIDE

MSDS Number: 102000011424
 MSDS Version 2.0

	separately from other laundry.
	Follow all label instructions. Educate and train employees in safe use of the product.
Engineering Controls	Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.
Eye/Face Protection	safety glasses
Hand Protection	Chemical resistant nitrile rubber gloves Waterproof gloves
Body Protection	Wear long-sleeved shirt and long pants and shoes plus socks.
Respiratory Protection	When respiratory protection is necessary under the conditions of use, wear a respirator approved by the National Institute for Occupational Safety and Health (NIOSH).
Exposure Limits	This product contains material which are Trade Secret and may have Occupational Exposure Limits. If more information is required, call the product information number listed in Section 1.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to beige
Physical State	viscous liquid suspension
pH	4 - 6 (undiluted)
Specific Gravity	1.09 at 20 °C
Melting/Freezing Point	-17.8 °C / -0.0 °F
Water Solubility	miscible
Viscosity	700 - 1,000 mPa.s at 23 °C

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable
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SECTION 11. TOXICOLOGICAL INFORMATION

Only acute studies and a couple of mutagenicity studies have been performed on this product as formulated.



Material Safety Data Sheet

ENVIDOR® 2 SC MITICIDE

MSDS Number: 102000011424

MSDS Version 2.0

The non-acute information pertains to the active ingredient, Spirodiclofen Technical.

Acute Oral Toxicity male/female rat: LD50: > 2,000 mg/kg

Acute Dermal Toxicity male/female rat: LD50: > 4,000 mg/kg

Acute Inhalation Toxicity male/female rat: LC50: > 3.146 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
(actual)

male/female rat: LC50: > 12.58 mg/l
Exposure time: 1 h
Determined in the form of liquid aerosol.
Extrapolated from the 4 hr LC50.
(actual)

Skin Irritation rabbit: non-irritant

Eye Irritation rabbit: non-irritant

Sensitization guinea pig: sensitizing

Subchronic Toxicity In a 28-day dermal toxicity study using rats, Spirodiclofen Technical was tolerated without test material-related systemic or local effects at a limit dose of 1000 mg/kg/day. In subchronic toxicity studies using rats, mice and dogs, the principle target organs following administration of Spirodiclofen technical were the adrenals and the liver. At high dose levels, testicular effects were observed in mice and dogs.

Chronic Toxicity In a 1-year toxicity study in dogs, effects observed following administration of Spirodiclofen Technical included evidence of microsomal liver enzyme induction, increased organ weights (adrenal, prostate, testis), and histopathological findings (adrenal, testis). In a 2-year toxicity study in rats treated with Spirodiclofen Technical, effects observed included decreased body weight gains, changes in clinical chemistries, and histopathological findings (jejunum, adrenal, uterus, testis). In an 18-month chronic feeding study in mice treated with Spirodiclofen Technical, findings included organ weight changes (liver, kidney, adrenal, testis) and histopathological findings (liver, adrenal, testis).

Assessment Carcinogenicity

Oncogenicity studies have been conducted on Spirodiclofen Technical using rats and mice. In rats, histopathology revealed an increased incidence of adenocarcinomas in the uterine endometrium and testicular adenomas in animals at the highest dose tested (2500 ppm). In mice, there was an increased combined incidence of hepatocellular adenomas and carcinomas in animals at the mid- and high-dose levels (3500 and 7000 ppm).

ACGIH

None.

NTP



Material Safety Data Sheet

MSDS Number: 102000011424
MSDS Version 2.0

ENVIDOR® 2 SC MITICIDE

None.
IARC
None.
OSHA
None.

Reproductive & Developmental Toxicity **REPRODUCTION:** In a two generation study in rats, Spirodiclofen Technical was not a primary reproductive toxicant.

DEVELOPMENTAL TOXICITY: In developmental toxicity studies using rats and rabbits, Spirodiclofen Technical was not a primary developmental toxicant.

Neurotoxicity In an acute oral neurotoxicity screening study, Spirodiclofen Technical did not produce neurotoxicity in any rats treated at a limited dose of 2000 mg/kg. In a subchronic dietary neurotoxicity screening study, Spirodiclofen Technical produced slight neurobehavioral effects without correlating neuropathologic alterations. The neurobehavioral effects were expected to be reversible following the discontinuation of exposure.

Mutagenicity Envidor 2 SC was non-genotoxic in an Ames test and in an in vitro chromosome aberration test. In vitro and in vivo mutagenicity studies have been conducted on Spirodiclofen Technical, all of which were negative.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions This pesticide is toxic to fish and aquatic invertebrates. Avoid direct application or spray drift to water surfaces. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Apply this product only as specified on the label.



Material Safety Data Sheet

ENVIDOR® 2 SC MITICIDE

MSDS Number: 102000011424
MSDS Version 2.0

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance	Pesticide wastes are toxic. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.
Container Disposal	Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Not regulated for Domestic Surface Transportation

FREIGHT CLASSIFICATION:
Insecticides or Fungicides, N.O.I., other than poison

SECTION 15. REGULATORY INFORMATION

This product contains material(s) which are Trade Secret and are on various Regulatory Lists. These material(s) are not listed below. If more information is required, call the product information number listed in Section 1.

EPA Registration No. 264-831

US Federal Regulations

TSCA list

None.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

None.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

None.

US States Regulatory Reporting

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

None.

Canadian Regulations

Canadian Domestic Substance List



Material Safety Data Sheet

ENVIDOR® 2 SC MITICIDE

MSDS Number: 102000011424
MSDS Version 2.0

None.

Environmental

CERCLA

None.

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Reactivity - 0 Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Re-numbered due to system update.

Revision Date: 06/27/2005

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