

MATERIAL SAFETY DATA SHEET

Product identifier: COURAZE 4 Insecticide

Product use: Insecticides.

Supplier's name and address:

Cheminova Inc.

P.O. Box 110566

One Park Drive, Suite 150

Research Triangle Park, NC

27709

Phone #: (919) 474-6600 (8 AM to 5:00 PM EST, Monday to Friday)

Emergency Telephone #: 1-866-303-6950 (Medical Emergencies)
1-800-424-9300 (24 Hr. Chemtrec Number)

MSDS Prepared by: Cheminova Inc.

MSDS Preparation date: March 26, 2012

Revision date: N/A

Revision reasons: N/A

Manufacturer's name and address:

Refer to supplier.

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name COURAZE® 4 Insecticide

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Imidacloprid	138261-41-3	40.40
Inert Ingredients Including Glycerin	56-81-5	59.60

SECTION 3. HAZARDS IDENTIFICATION

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

<u>Emergency Overview</u>	Keep out of reach of children. CAUTION. Harmful if inhaled or swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with eyes or clothing.
Physical State	aqueous suspension
Appearance	opaque
Routes of Exposure	Inhalation, Eye and Skin Contact
Immediate Effects	
Eye	Mildly irritating based on toxicity studies.
Skin	Minimally toxic and slightly irritating based on toxicity studies.
Ingestion	Moderately toxic based on toxicity studies.
Inhalation	Moderate to low inhalation toxicity based on toxicity studies. Inhalation of glycerin mists may cause irritation of respiratory tract.

SECTION 4. FIRST AID MEASURES

General	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
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 physician or poison control center immediately.
Ingestion	Call a physician or poison control center 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.
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 physician or poison control center immediately for treatment advice.
Skin	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a physician or poison control center immediately for treatment advice.
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 physician or poison control center immediately.
Notes to Physician Treatment	There is no specific antidote. Treat the patient symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	> 100 °C / 212 °F
Suitable Extinguishing Media	water, carbon dioxide (CO ₂), dry chemical, foam
Fire Fighting Instructions	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
Unusual Fire and Explosions Hazards Instructions	If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.
Hazardous Decomposition Materials (Under Fire Conditions) Instructions	May produce gases such as hydrogen chloride, hydrogen cyanide, and oxides of carbon and nitrogen.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear appropriate protective gear for the situation. See Personal Protection Information in Section 8.
Environmental Precautions	Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.
Methods for Containment	Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.
Methods for Cleaning Up	Pump any free liquid into an appropriate closed container. Absorb and place into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: Disposal Considerations for more information.
Additional Information	Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Avoid breathing spray mist. Avoid contact with eyes or clothing. Users should wash hands 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 product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
Storing Procedures	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. Handle and open container in a manner as to prevent spillage. Do not contaminate water, food or feed by storage or disposal.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection	Follow all label instructions. Train employees in safe use of the product. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.
Engineering Controls	Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.
Eye/Face Protection	To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.
Skin Protection	To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves made of waterproof material. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Instructions Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Limits
This product contains material which are Trade Secret and may have Occupational Exposure Limits.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Imidacloprid	NE	NE	NE	NE	NE
Glycerin Mist	15 (T) 5 (R)	NE	10	NE	mg/m ³

T = Total Dust
R = Respirable Fraction

NE = Not Established

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	opaque
Physical State	aqueous suspension
Density	10.04 pounds/gallon
pH	6.18 (1% w/w solution)
Solubility in Water	Miscible
Melting / Freezing Point	Not determined
Specific Gravity	1.206 @ 20°C
Vapor Pressure	Not determined
Viscosity	208.295 cSt @ 20°C

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Excessive heat. For imidacloprid, strong exothermal reaction above 200°C.
Incompatible Materials	Not known.

Hazardous Decomposition Products Under fire conditions, may produce gases such as hydrogen chloride, hydrogen cyanide, and oxides of carbon and nitrogen.

Hazardous Reactions Hazardous polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Data from laboratory studies conducted on a similar, but not identical, formulation.

Oral Toxicity Rat: LD50: 1,139 mg/kg (female)

Dermal Toxicity Rat: LD50: > 5,000 mg/kg

Inhalation Toxicity Rat: LC50: >0.53 mg/l (female) and >2.02 mg/l (male)
Exposure time: 4 h

Eye Irritation Rabbit: Mildly irritating.

Skin Irritation Rabbit: Slightly irritating.

Sensitization Not a contact sensitizer in guinea pigs following repeated skin exposure.

Assessment Carcinogenicity

None listed with ACGIH, IARC, NTP or OSHA.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Subchronic (Target Organ) Effects: Repeated overexposure to imidacloprid, may affect heart, thyroid, blood chemistry, and liver.

Carcinogenicity / Chronic Health Effects: Prolonged overexposure to imidacloprid can cause effects to the thyroid. Imidacloprid did not cause cancer in laboratory animal studies. The U.S. EPA has given imidacloprid a Group E classification (evidence of non-carcinogenicity in humans).

Reproductive Toxicity In a two-generation reproduction study in rats, imidacloprid produced reduced mean body weights and body weight gains. No other reproductive effects were observed.

Developmental Toxicity Rat and rabbit studies on imidacloprid resulted in skeletal abnormalities, increased resorptions (rabbits) and reduced body weight gains at doses that were also toxic to mother animals.

Genotoxicity The imidacloprid mutagenicity studies, taken collectively, demonstrate that the active ingredient is not genotoxic or mutagenic.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

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. This product is toxic to wildlife and highly toxic to aquatic invertebrates.

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

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

Container Disposal

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke.

SECTION 14. TRANSPORT INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

DOT:

Non Regulated – See 49 CFR 173.132(b)(3)

IMDG:

Non Regulated – See IMDG 2.6.2.1.3

IATA:

Non Regulated – See IATA 3.6.1.5.3

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.

US Federal Regulations

TSCA list

None.

SARA Hazard Notification/Reporting: Hazard Categories Under Criteria of SARA Title III Rules – Section 370

Immediate.

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.

SECTION 16. OTHER INFORMATION

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.

Couraze is a registered trademark of Cheminova.