


**LARVIN[®] BRAND 3.2 THIODICARB
INSECTICIDE/OVICIDE**

MSDS Version 4.1

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name	LARVIN [®] BRAND 3.2 THIODICARB INSECTICIDE/OVICIDE
Chemical Name	Thiodicarb
Synonym	
MSDS Number	92
Chemical Family	
Chemical Formulation	C ₁₀ H ₁₈ N ₄ O ₄ S ₃
EPA Registration No.	264-379
Canadian Registrat. No.	

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

For Product Use Information: (866)-992-2937 Monday through Friday(CRLF) 8:00AM-4:30PM(CRLF) For Medical Emergency contact DART: (800) 334-7577 24 Hours/Day(CRLF) For Transportation Emergency CHEMTREC: (800) 424-9300 24 Hours/Day

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component Name</u>	<u>CAS No.</u>	<u>Concentration % by Weight</u>	
		<u>Minimum</u>	<u>Maximum</u>
THIODICARB	59669-26-0	35.8000	
1,2-Propylene glycol	57-55-6	3.0000	
Other ingredients (Trade secret)		61.2000	

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SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview	Warning! May be fatal if swallowed. May be harmful if inhaled. May be harmful if absorbed through skin. May cause eye irritation. May cause mild skin sensitization.
Physical State	liquid
Odor	sulfur-like odor
Appearance	cream colored
Immediate Effects	
Eye	Causes redness, irritation, tearing.
Skin	Harmful if absorbed through skin. May produce symptoms similar to those from ingestion.
Ingestion	May be fatal if swallowed. This product causes reversible cholinesterase inhibition. Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced signs and symptoms. May lead to rapid onset of nausea, vomiting, diarrhea, pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, respiratory depression, and convulsions.
Inhalation	Highly toxic if inhaled. May produce symptoms similar to those from ingestion.
Chronic or Delayed Long-Term	This product does not contain any ingredients designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.
Medical Conditions Aggravated by Exposure	Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

SECTION 4. FIRST AID MEASURES

Eye	Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention.
Skin	In case of contact, immediately wash with plenty of soap and water for at least 15 minutes. Seek medical attention. Remove contaminated clothing and shoes while washing. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned.
Ingestion	If victim is conscious and alert, give 2-3 glasses of water to drink and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent

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aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

Inhalation

Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.

Note to Physician

All treatment should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

This product contains a methyl carbamate insecticide, which is a cholinesterase inhibitor. Overexposure to this substance may cause toxic signs and symptoms due to stimulation of the cholinergic nervous system. These effects of overexposure are spontaneously and rapidly reversible.

Specific treatment consists of parenteral atropine sulfate. Improve tissue oxygenation as much as possible before administering atropine to minimize the risk of ventricular fibrillation. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinized, then intramuscularly every 30 to 60 minutes as needed to maintain the effect for at least 12 hours. Dosages for children should be appropriately reduced. Complete recovery from overexposure is to be expected within 24 hours.

To aid in confirmation of a diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen. Call 1-800-334-7577 before sending samples. Analysis will be arranged by Bayer.

Persons regularly exposed in manufacturing and handling this product should have a preexposure and periodic red blood cell cholinesterase level checks. Narcotics and other sedative should not be used. Further, drugs like 2-PAM (pyridine-2-aldoxime methiodide) are NOT recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	Not applicable
Fire and Explosion Hazards	Not combustible.
Suitable Extinguishing Media	Use extinguishing method suitable for surrounding fire.
Fire Fighting Instructions	Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate

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hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

SECTION 6. ACCIDENTAL RELEASE MEASURES

General and Disposal

Evacuation Procedures and Safety: Evacuate and isolate spill area.

Cleanup and Disposal of Spill: Recover material, if possible. Pump any free liquid into an appropriate closed container. Absorb with vermiculite or other inert absorbent. Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Decontaminate tools and equipment following cleanup.

Land Spill or Leaks

Containment of Spill: Dike spill using absorbent or impervious materials such as earth, sand or clay. Follow procedure under Cleanup and Disposal of Spill. Collect and contain contaminated absorbent and dike material for disposal.

Environmental and Regulatory Reporting: Prevent material from entering public sewer system or any waterway. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies. If spilled on the ground, the affected area should be removed to a depth of one or two inches and placed in an appropriate container for disposal.

SECTION 7. HANDLING AND STORAGE

Handling Procedures

Avoid direct or prolonged contact with skin and eyes. Do not ingest. Do not breathe vapors and mists.

Storing Procedures

Store in original container. Store unused product in a cool, ventilated, dry, locked area. Keep out of reach of children and domestic animals. Store in an area that is away from food, feedstuffs, fertilizers and seed, away from the home or home garden.

Work/Hygienic Procedures

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:

Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.

Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.

Wash exposed skin promptly to remove accidental splashes of contact with this material.

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In addition, based upon the specific hazard of this product: Do not take clothing/objects contaminated by this material off the work site. Shower and change into street clothes before leaving the work site.

Min/Max Storage Temperatures / 50 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls Where engineering controls are indicated by use conditions of a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation.

Eye/Face Protection Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.

Body Protection Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard of use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Respiratory Protection When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridge/canister approved for use against pesticides.

Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.

General Protection These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these

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procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Limits

1,2-Propylene glycol	57-55-6	WEEL	TWA	50 ppm
			Form of Exposure	Total vapor and aerosol.
		WEEL	TWA	10 mg/m3
			Form of Exposure	Aerosol.
		ACGIH	TWA	3 mg/m3
			Form of Exposure	Respirable.
		US CA OEL	TWA PEL	5 mg/m3
			Form of Exposure	Respirable fraction.
		US CA OEL	TWA PEL	10 mg/m3
			Form of Exposure	Total dust.
		US CA OEL	TWA PEL	5 mg/m3
			Form of Exposure	Respirable fraction.
		US CA OEL	TWA PEL	5 mg/m3
			Form of Exposure	Respirable fraction.
US CA OEL	TWA PEL	10 mg/m3		
	Form of Exposure	Total dust.		
US CA OEL	TWA PEL	10 mg/m3		
	Form of Exposure	Total dust.		
ACGIH	TWA	10 mg/m3		
	Form of Exposure	Inhalable particulate.		

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	cream colored
Physical State	liquid
Odor	sulfur-like odor
pH	4 - 5 at 1 wt/wt%.
Vapor Pressure	Not available
Vapor Density (air = 1)	Not available
Specific Gravity	1.13 at 20 °C

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Boiling Point	100 °C at 760 mmHg
Melting/Freezing Point	-4 °C
Solubility (in water)	miscible
Molecular Weight	354.5 g/mol
Other Information	Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	This material is stable under normal handling and storage conditions described in Section 7.
Conditions to Avoid	extreme heat
Incompatibility	rust bases mineral acids brass iron chlorides metal salts cupric chloride
Hazardous Products of Decomposition	Decomposition Type: thermal carbon oxides sulfur acetonitrile dimethyl disulfide methomyl
Hazardous Polymerization (Conditions to avoid)	not applicable

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	Rat: LD50: 166 mg/kg
Acute Dermal Toxicity	Rabbit: LD50: > 2,000 mg/kg
Acute Inhalation Toxicity	Rat: LC50: 1.51 mg/l 4 h Acute Respiratory Irritation: No test data found for product.

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Skin Irritation	Rabbit: Non-irritating.
Eye Irritation	Rabbit: Slightly irritating. Irritation is transient.
Chronic Toxicity	Thiodicarb, the active ingredient, has been shown not to be teratogenic or carcinogenic in animal studies. Two of the nine in vitro mutagenicity studies for this ingredient were positive, while an in vivo mutagenicity study in rats was negative. The weight of evidence suggests that thiodicarb is not a mutagen.

Assessment Carcinogenicity

ACGIH

None

NTP

None

IARC

None

OSHA

None

SECTION 12. ECOLOGICAL INFORMATION

Ecological Information	For ecotoxicological data call the product information phone number listed in Section 1.
Environmental Fate	For chemical fate data call the product information phone number listed in Section 1.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance	Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material. EPA Hazardous Waste - Yes
RCRA Classification	59669-26-0 THIODICARB US. EPA Resource Conservation and Recovery Act (RCRA) U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA]): U410

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SECTION 14. TRANSPORT INFORMATION

For Transportation Regulatory Information call the Product Information phone number in Section 1.

SECTION 15. REGULATORY INFORMATION

US Federal

EPA Registration No.	264-379	
TSCA list		
1,2-Propylene glycol	57-55-6	
TSCA 12b export notification		
None		
SARA Title III - section 302 - notification and information		
None		
SARA Title III - section 313 - toxic chemical release reporting		
THIODICARB	59669-26-0	1.0%

US States Regulatory

CA Prop65		
This product contains a chemical known to the state of California to cause cancer.	THIODICARB	59669-26-0

US State right-to-know ingredients

THIODICARB	59669-26-0	IL, NJ
1,2-Propylene glycol	57-55-6	PA, RI

Canadian Regulations

Canadian Registrat. No.	
Canadian Domestic Substance List	
1,2-Propylene glycol	57-55-6

Environmental

CERCLA		
THIODICARB	59669-26-0	1 lbs
Clean Water Section 307 Priority Pollutants		
None		
Safe Drinking Water Act Maximum Contaminant Levels		
None		

International Regulations

EU Classification	
None	
European Inventory of Existing Commercial Substances (EINECS)	
THIODICARB	59669-26-0

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1,2-Propylene glycol

57-55-6

SECTION 16. OTHER INFORMATION

	Health	Flammability	Reactivity	Others
HMIS	3	0	1	
NFPA	3	0	1	

Reason for Revisions: Company name change.

Print Date: 12/16/2002

Supersedes MSDS, which is older than: 12/16/2002

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