

MATERIAL SAFETY DATA SHEET



Date of Issue: September 26, 2003

1. IDENTIFICATION OF MATERIAL AND SUPPLIER

Product name **Temik® 150G Insecticide/Nematicide**

Other names None

Product code and pack sizes 4207954 (20 kg)

Chemical group Oxime carbamate

Recommended use Agricultural insecticide and nematicide

Formulation Granule

Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022

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2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HAZARDOUS SUBSTANCE (see Risk phrases below) - DANGEROUS GOOD
Very poisonous. Cholinesterase inhibitor. Toxic to aquatic organisms and wildlife.

Hazard classification Hazardous (National Occupational Health and Safety Commission - NOHSC)

Risk phrases R27/28 – Very toxic in contact with skin and if swallowed.

Safety phrases See Sections 4, 5, 6, 7, 8, 9, 13

ADG classification “Dangerous good” for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail – CARBAMATE PESTICIDE, SOLID, TOXIC (contains aldicarb), Class 6.1, Packing Group II, UN 2757.

SUSDP classification Schedule 7 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/kg)
Aldicarb	[116-06-3]	150
Other ingredients, non hazardous	----	850

MATERIAL SAFETY DATA SHEET



Date of Issue: September 26, 2003

4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to the doctor.

Inhalation If inhaled, remove to fresh air and keep at rest. . If signs of poisoning occur, obtain **urgent** medical advice, as above. If breathing stops or shows signs of failing, start artificial respiration. Do not use the direct mouth-to-mouth method. Administer oxygen if necessary. Get to a doctor or hospital quickly. If advised by doctor or Poisons Information Centre, atropine tablets may be administered.

Skin contact If poisoned by skin absorption, remove any contaminated clothing and shoes immediately. Wash skin thoroughly with soap and water. Seek immediate medical assistance - get to doctor or hospital quickly. Persons assisting the patient should protect themselves from contamination. If advised by doctor or Poisons Information Centre, atropine tablets may be administered.

Eye contact Rinse eyes immediately with clean water for at least 15 minutes and obtain **urgent** medical aid, preferably from an eye specialist.

Ingestion Wash out mouth with water. Keep patient at rest and seek **urgent** medical advice as above. **Transport patient to doctor or hospital quickly.** If advised by doctor or Poisons Information Centre, atropine tablets may be administered. DO NOT attempt to give anything by mouth to a semi-conscious or unconscious person.

First Aid Facilities Provide eyewash and safety shower facilities in the workplace. Obtain an emergency supply of atropine tablets 0.6 mg.

Medical attention This product is a carbamate pesticide, and as such is a reversible cholinesterase inhibitor. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Symptoms include headache, nausea, vomiting, diarrhoea, abdominal pain, pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, respiratory depression, and convulsions. Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced signs and symptoms. Symptoms of toxicity should be treated with parenteral atropine sulphate. Improve tissue oxygenation as much as possible before administering atropine to minimise the risk of ventricular fibrillation. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinisation has been achieved and repeated whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinised, and 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. Monitor blood count, cholinesterase activity and electrocardiogram (ECG). Endotracheal intubation should be done followed by charcoal administration. Artificial respiration and/or oxygen may be necessary. Diazepam i.v. and calcium gluconate 10% may be given for cramps. Complete recovery from overexposure can be expected within 24 hours. Narcotics and other sedatives should not be used. Pralidoximes or other oximes should **not** be given.

5. FIRE FIGHTING MEASURES

Extinguishing media	Carbon dioxide, dry agent, foam, water fog
Hazards from combustion products	Hazardous decomposition products produced in a fire may include oxides of carbon, nitrogen and sulphur, aldicarb nitrile, aldicarb oxime and methylamine.
Precautions for fire fighters	Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. Isolate hazard area and deny entry. Evacuate residents who are downwind of the fire. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later. Persons who may have been exposed to contaminated smoke should have immediate medical attention. Symptoms of poisoning should not be mistaken for heat exhaustion or smoke inhalation. Do not get water inside containers.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with the spilled material or contaminated surfaces. Do not smoke, eat or drink during the cleanup process. Personnel involved in cleanup should wear full body protective clothing and equipment as described in Section 8 – PERSONAL PROTECTION. Keep people and animals away. Consider evacuation and obtain assistance from emergency services if needed. Prevent spilled material from entering drains or watercourses. Contain spill and sweep up carefully. Avoid creating dust. Collect and store in recovery drums. Clean floor with detergent and water, absorbing wash water with clay granules and transfer this to the drum. Seal and label drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority. Decontaminate tools, equipment and clothing used in the cleanup. Dispose of any heavily soiled clothing, placing it in disposal drum.

7. HANDLING AND STORAGE

Handling	Keep out of reach of children. Very dangerous. Poisonous if absorbed by skin contact, inhaled or swallowed. Avoid contact with eyes and skin. Do not touch or rub eyes, nose or mouth with hand when handling granules. Wear protective clothing and equipment as above. Keep away from volatile chemicals and sources of ignition. Avoid creating dust. Do not inhale dust. If product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, respirator and contaminated clothing with detergent and warm water.
Storage	Store in the closed, original container in a dry, cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilisers. DO NOT store in or around the home. Store below 45°C. Avoid extreme heat. Keep dry – moisture can increase handling hazards.
Flammability	Non flammable. However, dust / air mixtures can build up static electrical charges and fine dust may form explosive mixtures in air.

MATERIAL SAFETY DATA SHEET



Date of Issue: September 26, 2003

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	Exposure standard for aldicarb: TWA: 0.07 mg/m ³ . (Bayer CropScience) <u>Definitions:</u> <i>Exposure standard – Time Weighted Average (TWA)</i> means the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.
Biological limit values	Production workers and agricultural workers handling this product should be monitored for cholinesterase levels. A baseline level should be established prior to any potential exposure.
Engineering controls	Control process conditions to avoid contact. Use local exhaust ventilation during manufacture. Use this product in a well-ventilated area only.
Personal Protective Equipment	Product is very dangerous – poisonous if absorbed by skin contact, inhaled or swallowed. <ul style="list-style-type: none">▪ Wear full-face respirator with combined dust and gas cartridge - AS/NZS 1715/1716 approved. If high concentrations of aldicarb may be present or in enclosed spaces, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or an air supplied hood or a self-contained breathing apparatus unit.▪ Wear cotton overalls buttoned to the neck and wrist, a washable hat and impervious footwear.▪ Wear elbow-length PVC gloves.▪ Keep working clothes separate. Remove soiled clothing immediately and wash separately from other laundry. Badly soiled clothing or footwear should be disposed of.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark brown to black granules
Odour:	Sulphurous
pH:	6 - 7 (1% w/w solution)
Vapour pressure:	Not available
Vapour density:	Not available
Boiling point:	Not applicable
Freezing/melting point:	Not available
Solubility:	Slightly soluble
Bulk Density:	Not available
Flash Point:	Non flammable, but will burn
Flammability (explosive) limits:	Not available
Auto-ignition temperature:	Not available
Partition coefficient (octanol/water):	Not available

MATERIAL SAFETY DATA SHEET



Date of Issue: September 26, 2003

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Extreme heat and fire and dust inducing conditions can lead to instability. Under alkaline conditions, aldicarb will hydrolyse to give aldicarb oxime, methylamine and carbon dioxide. Moisture can increase handling hazards.
Incompatible materials	Strong bases
Hazardous decomposition products	Hazardous decomposition products produced in a fire may include oxides of carbon, nitrogen and sulphur, aldicarb nitrile, aldicarb oxime and methylamine.
Hazardous reactions	None

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Aldicarb, the active ingredient in Temik 150G, is a carbamate pesticide, and a reversible cholinesterase inhibitor.

Symptoms typical of cholinesterase inhibition (for all routes of entry):

Headache, nausea, vomiting, abdominal pain, diarrhoea, pinpoint pupils, blurred vision, profuse sweating and temporary paralysis. In severe cases respiratory depression and convulsions may occur. Repeated overexposure may cause more severe symptoms.

May aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin diseases.

Inhalation	Very dangerous. Product is poisonous if inhaled.
Skin contact	Very dangerous. Product is very poisonous if absorbed by skin contact. Absorption will be increased with moisture. Studies indicate this product is not a skin irritant or a sensitiser.
Eye contact	May be absorbed through the eye and produce symptoms similar to those above. May be a slight eye irritant, causing redness and weeping.
Ingestion	Very dangerous. Product is very poisonous and may be fatal if swallowed.

ANIMAL TOXICITY DATA - Product

Acute:

Oral toxicity	LD ₅₀ rabbit: 5.3 mg/kg
Dermal toxicity	LD ₅₀ rat: 283 mg/kg
Inhalation toxicity	Not available
Skin irritation	Non irritating (rabbit)

MATERIAL SAFETY DATA SHEET



Date of Issue: September 26, 2003

11. TOXICOLOGICAL INFORMATION - continued

Irritation to mucous membranes Slightly irritating (rabbit)

Sensitisation Not a skin sensitiser.

Chronic:

The main health effects from repeated exposure would be toxic symptoms of cholinesterase inhibition as described above. In 2-year feeding trials with aldicarb rats receiving 0.3 mg/kg daily were unaffected. The no observable effect level listed by the Therapeutic Goods Administration for aldicarb is 0.01 mg/kg bw/day.

12. ECOLOGICAL INFORMATION

Dangerous to fish and aquatic invertebrates. Dangerous to birds and wildlife. Dangerous to livestock. Toxic to bees. DO NOT contaminate streams, rivers or waterways with Temik or the used containers.

Ecotoxicity

Aldicarb:
Fish toxicity:
LC₅₀: 1.5 mg/L (96 h); bluegill sunfish (*Lepomis macrochirus*)
LC₅₀: 0.88 mg/L (96 h); rainbow trout (*Oncorhynchus mykiss*)
Aquatic invertebrate toxicity:
EC₅₀: 0.41 mg/L (48 h); *Daphnia magna*
Bird toxicity:
Eight day dietary LC₅₀: 71 mg/kg diet; bobwhite quail

Environmental fate, persistence, degradability, mobility Aldicarb is rapidly degraded in acid soils (pH > 7.0), less so at pH ≤ 5.5.

13. DISPOSAL CONSIDERATIONS

Fully empty contents of the container into application equipment. Close all valves and return container to Bayer CropScience Pty Ltd. Dispose of waste product as hazardous waste via a licensed disposal contractor to an approved landfill. Do not discharge into drains or sewers.

14. TRANSPORT INFORMATION

UN number 2757
Proper shipping name CARBAMATE PESTICIDE, SOLID, TOXIC (contains aldicarb)
Class and Subsidiary Risk 6.1
No subsidiary risk
Packing Group II
EPG Guide 34 – Dangerous Goods - Initial Emergency Response Guide
Hazchem code 2X
Marine Pollutant Yes (Aldicarb is a Marine Pollutant Class "P")

MATERIAL SAFETY DATA SHEET



Date of Issue: September 26, 2003

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988
National Registration Authority approval number: 48937

See also Section 2.

16. OTHER INFORMATION

Special Precautions All users of Temik 150G must have attended a training program and be issued with a Bayer CropScience Certificate of Temik Accreditation prior to purchase and use of this product.

Trademark information Temik® is a Registered Trademark of Bayer.

Preparation information Replaces August 1, 2002 MSDS.
Reasons for revision: 16 heading format, Disposal, First Aid

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

END OF MSDS