



MATERIAL SAFETY DATA SHEET

Hazardous according to the criteria of NOHSC Australia.

I IDENTIFICATION

Product Name: **Garden King Carbaryl Liquid Insecticide**

Other Names: Proper Shipping Name is CARBAMATE PESTICIDE, LIQUID, TOXIC

Product Code: 49937

UN No: 2992

Hazchem Code: 2X

Dangerous Goods Class: 6.1 Toxic Substances.

Sub Risk Class: None allocated.

Packaging Group: III

Most EPGs may now be substituted by the Initial Emergency Response Guide, available from Standards Australia.

Poison Schedule: S6

Chemical Family: Water solution of carbaryl pesticide.

Uses: Insecticide used against certain pests. See label for details.

Physical Appearance & Properties

Appearance & Odour: Grey-white suspension. No odour.

Melting/softening point: Approximately 0°C.

Boiling point and vapour pressure: Approximately 100°C at 100kPa.

Volatile materials: Water component.

Flashpoint: Does not burn.

Specific gravity: 1.23

Solubility in water: Completely soluble.

Corrosiveness: Not corrosive.

Ingredients

Chemical Entity	CAS No	Proportion, %	Worksafe Exposure Limits	
			TWA, mg/m ³	STEL, mg/m ³
Carbaryl	63-25-2	40	5	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

II HEALTH HAZARD DATA

Health Effects:

Regular exposure may result in the lowering of cholinesterase activity. No other adverse effects have been noted in populations regularly using the product. No data for this formulation. At doses toxic to maternal animals, carbaryl has been shown to produce developmental toxicity in a number of species. No such effects have been observed in the absence of maternal toxicity. The balance of evidence supports the conclusion that carbaryl and its metabolites do not present a quantifiable mutagenic risk to humans. Carcinogenicity studies in animals have been shown to be negative.

Acute Effects:

Symptoms of acute over-exposure to large quantities of product: rapid onset of nausea, vomiting, abdominal pains, diarrhoea, pinpoint pupils, blurred vision, profuse sweating, salivation, muscle twitching and temporary paralysis. More severe poisoning may depress respiration and convulsions may occur. Usually recovery is rapid.

Swallowed: Unlikely route of exposure of the solid product. The product is toxic if swallowed and will present a moderate to severe hazard. Swallowing of large quantities could lead to respiratory depression and possibly convulsions. Depending on quantity swallowed death could occur. The concentrate is considered harmful by swallowing, when classified according to the Worksafe criteria.

Eye: This product may irritate eyes. However, it is unlikely to cause any more than mild transient discomfort. It is also unlikely to cause any significant lasting effects.

Skin: Data suggests that this product may be absorbed through the skin and be harmful by skin absorption. Major skin exposure may lead to health problems.

Inhalation: Data suggests that this product is harmful if inhaled. Minor or short term exposure may lead to short term health problems, although long term exposure may lead to permanent health problems.

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LD₅₀ Oral (Rat) = 850mg/kg (Γ), 500mg/kg (E)

LD₅₀ Dermal (Rat) = 4000mg/kg

LC₅₀ Inhalation (Rat) = 2.5mg/L/4hr

In 2 years feeding trials, rats receiving 200 mg/Kg diet suffered no ill effects. No occupational deaths have been recorded for carbaryl in many years of use, nor have there been any reported accidental deaths. There has been only one reported death to our knowledge - a suicide.

Toxicity to fish: LC₅₀ to fish is 5- 13 mg/L; moderately toxic. Carbaryl is toxic to bees.

First Aid:

Ipecac Syrup APF should be available in the area where product is used, or in a nearby unlocked medicine cabinet. Atropine tablets 0.6mg should be available in the area where this product is used, or in a nearby unlocked medicine cabinet. Safety deluge showers should be provided where this product is being used.

If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone 13 1126 from anywhere in Australia.

If swallowed, give one atropine tablet every 5 minutes until dryness of the mouth occurs - if poisoned by skin absorption or through lungs, remove any contaminated clothing, wash skin thoroughly and give atropine tablets as above. Get to a doctor or hospital quickly.

Eyes: If product gets in eyes, wash material from them with running water. If they begin watering or reddening, take special care in washing thoroughly.

Skin: If product gets on skin, immediately remove contaminated clothing and wash skin thoroughly with soap and water to remove material. If you begin to feel unwell, seek medical attention.

Inhalation: If vapours of dusts have been inhaled, and irritation or unusual symptoms have developed, remove to fresh air and observe until recovered. If irritation or symptoms persists more than 30 minutes, seek medical advice.

Advice to Doctor: The product is a carbamate, a cholinesterase inhibitor. The effects of overexposure are reversible. Treat symptomatically. Atropine treatment may be required, or treat with up to 10 mg diazepam; curare therapy is contra-indicated. Do not give adrenergic amines, aminophylline, succinylcholine, phenothiazines or reserpine alkaloids or oils. Caution should be maintained to prevent over-atropinisation. Persons regularly exposed to this product should have a pre-exposure and periodic red blood cell cholinesterase level check. (Check appropriate State regulations).

III PRECAUTIONS FOR USE

Risk Phrases are: R20, R21, R25. Harmful by inhalation. Harmful in contact with skin. Toxic if swallowed.

Exposure Standards:

A time weighted average (TWA) has been established for Carbaryl, present in significant quantities in this product. This value is 5mg/m³. The corresponding STEL level is "not set". The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. See ingredients section on page 1 of this data sheet. The ADI (Acceptable Daily Intake) for Carbaryl is set at 0.01mg/kg/day. The corresponding NOEL (No-observable-effect-level) is set at 2mg/kg/day. Values taken from Australian ADI List, May 1995.

Engineering Controls:

In industrial situations, concentration values below the TWA value should be maintained. Values may be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify the process or environment to reduce the problem.

Personal Protection:

Avoid exposure by inhalation. Do not swallow product. Avoid getting product on skin, in eyes or on clothing. Wear long sleeved body covering clothing buttoned at the neck and at the wrists. When handling the product, wear elbow length PVC gloves and eye protection. Avoid generating dusts. Wear an approved air purifying dust respirator suitable for pesticides when handling the dry product. If product gets on skin, wash off immediately with water and soap. Remove contaminated clothing. Wash clothing before re-use. After handling and using the product and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves, safety gear and protective clothing.

IV SAFE HANDLING INFORMATION

Safety Phrases are: S20, S24, S38. When using, do not eat or drink. Avoid contact with skin. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage & Transport

This product is classed as UN2992, Dangerous Goods Class 6.1 Toxic Substances. Proper Shipping name is CARBAMATE PESTICIDE, LIQUID, TOXIC. Class 6 Toxic Substances shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 3 (Flammable Liquids where the Flammable Liquid is nitromethane), 5.1 (Oxidising Agents where the Poisonous Substances are Fire Risk Substances), 5.2 (Organic Peroxides where the Poisonous Substances are Fire Risk Substances), 8 (Corrosive Substances where the Poisonous

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Substances are cyanides and the Corrosives are acids), Foodstuffs and foodstuff empties. They may however be loaded in the same vehicle or packed in the same freight container with Classes, 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Poisonous Gases), 3 (Flammable liquids, except where the flammable liquid is nitromethane), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents except where the Poisonous Substances are Fire Risk Substances), 5.2 (Organic Peroxides except where the Poisonous Substances are Fire Risk Substances), 7 (Radioactive Substances), 8 (Corrosive Substances except where the Poisonous Substances are cyanides and the Corrosives are acids), 9 (Miscellaneous Dangerous Goods). This product is a S6 Poison. Observe all relevant regulations regarding sale, transport and storage of this class of product. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames, and make sure that the product does not come into contact with substances listed under "Materials to avoid" below.

Spills & Disposals

In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Wear full protective chemically resistant clothing including face mask, face shield, gauntlets and self contained breathing apparatus. See above under Personal Protection regarding Australian Standards relating to personal protective equipment. Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Dispose of only in accord with all regulations. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Fire & Explosion Hazard

There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Flashpoint: Does not burn.

Flammability limits: Not applicable. This product does not burn.

Extinguishing Media: This product does not burn. Use extinguishing media suited to the materials that are burning. water fog. Water fog or fine spray is the preferred medium for large fires.

Special Fire Fighting procedures: If a significant quantity of this product is involved in a fire, call the fire brigade. When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and self contained breathing apparatus. All skin areas should be covered. Ensure that no spillage enters drains or water courses.

Unusual Fire & Explosion Hazards: Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces. Likely to decompose only after heating to dryness followed by further strong heating.

Stability: This product is unlikely to spontaneously decompose.

Polymerisation: This product is unlikely to spontaneously polymerise.

Decomposition Products: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen, and under some circumstances, oxides of nitrogen. Water.

Materials to avoid: No particular incompatibilities.

V OTHER INFORMATION

This MSDS is prepared in accord with the Worksafe Australia document "National Code of Practice for the Preparation of Material Safety Data Sheets", 1994. File Code: Carbaryl Liquid.doc

Contact Points:

Police and Fire Brigade:

Dial

AUSTRALIA

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If ineffective:

Dial

1100 (Exchange)

National Poisons Information Centre:

Dial 13 1126 (from anywhere in Australia)

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. THE 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.

Please read all labels carefully before using product.

This MSDS prepared November 2002 by Kilford & Kilford Pty Ltd.

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