

Garden King Bindii-Clover Selective LawnWeeder

Section 1 - Identification of Chemical Product and Company

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Substance: Water solution of herbicides
Trade Name: Bindii-Clover Selective Lawn Weeder
Product Use: Selective herbicide to control bindii, clover and other broadleaf weeds in lawns
Revision Date: March 2008

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified Hazardous Xi Irritant, according to the criteria of ASCC.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R41 Risk of serious eye damage, R22 Harmful if swallowed

Safety Phrases: S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

SUSDP Classification: S5

ADG Classification: None allocated. Not a Dangerous Good under the ADG Code.

UN Number: None allocated

Emergency Overview

Physical Description & colour: Yellow liquid

Odour: Characteristic amine odour.

Major Health Hazards: Contact with the concentrate, spray solution or vapour may cause irritation of the skin, eyes or throat. This irritation is reversible. Failure to observe reasonable precautions and careless handling can result in the measurable uptake of phenoxy herbicides, but these are rapidly eliminated following cessation of contact. Excessive exposure may cause liver, kidney, gastrointestinal and muscular effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting with abdominal cramps and/or diarrhoea.

Potential Health Effects

Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, and gastrointestinal irritation. Further symptoms may include muscular spasms, urinary incontinence and dyspnea cyanosis.

Eye contact: A severe eye irritant. Contamination of eyes can result in permanent injury.

Skin contact: Contact with skin may result in irritation.

Inhalation: Breathing in mists or aerosols may produce respiratory irritation.

Carcinogen Status:

ASCC: No significant ingredient is classified as carcinogenic by ASCC.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m3)	STEL (mg/m3)
MCPA (as dimethylamine salt)	94-74-6	15	not set	not set
Dicamba (as dimethylamine salt)	1918-00-9	2.5	not set	not set
Non hazardous surfactant	secret	<10	not set	not set
Water	7732-18-5	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

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The ASCC TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

Inhalation: If vapour or mists have been inhaled and irritation or unusual symptoms have developed, remove to fresh air and observe til recovered. Seek medical advice if symptoms persist.

Skin Contact: Remove contaminated clothing and wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed. If irritation persists, get medical advice

Eye Contact: Flush contaminated eye(s) with lukewarm, gently flowing water for 15 minutes or until the product is removed. Obtain medical advice immediately.

Ingestion: Rinse mouth with water. If swallowed, give a glass of water to drink. If vomiting occurs give further water. Seek immediate medical assistance.

Advice to Doctor: Treat symptomatically. Note the nature of this product.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: There is no risk of an explosion from this product if it is involved in a fire.

Extinguishing Media: This product does not burn. Use extinguishing media suited to the materials that are burning.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. Immediately evacuate the area of unnecessary personnel. When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and respirator. All skin areas should be covered

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.

Decomposition Products: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Hydrogen chloride gas, chlorides, and in some circumstances, phosgene. Water.

Flash point: Does not burn

Upper Flammability Limit: n/a

Lower Flammability Limit: n/a

Auto ignition temperature: No data.

Section 6 - Accidental Release Measures

Accidental release: 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. Immediately call the Fire Brigade. Wear full protective chemically resistant clothing including Face mask, face shield, gauntlets and self contained breathing apparatus. All skin areas should be covered. See below 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. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

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Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: This product is a S5 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 away from extreme heat and open flames and ensure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)	ADI (mg/Kg/day)	NOEL (mg/Kg/day)
MCPA	not set	not set	0.01	1.1
Dicamba	not set	not set	0.03	3

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. A TWA has not been established by Worksafe Australia for any of the major ingredients in this product. There is a blanket limit of 10mg/m³ for dusts or mists when limits have not otherwise been established. The nature of this product makes it unlikely that this level will be approached in normal use. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2003.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: If there is a significant chance vapours or mists accumulating in the area where this product is being used, a local exhaust system should be used.

Eye Protection: Eye protection such as protective glasses or goggles is necessary when this product is being used due to possible serious damage to eyes.

Skin Protection: You should prevent skin contact by wearing impervious gloves, protective clothing and, preferably, an apron. Make sure that all skin areas are covered

Protective Material Types: We suggest that protective clothing be made from the following materials: PVC, nitrile.

Respirator: If there is a significant chance vapours or mists accumulating in the area where this product is being used, a mask or respirator should be used.

Always wash hands before eating, drinking or smoking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Yellow liquid.
Odour:	Characteristic amine odour.
Boiling Point:	Approximately 100°C at 100kPa.
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	Water component
Vapour Pressure:	No data.
Vapour Density:	>1
Specific Gravity:	1.22 -1.23
Water Solubility:	Completely soluble
Corrosiveness:	Not corrosive.
pH:	No data.
Flashpoint:	does not burn
Evaporation Rate:	No data.
Coeff Oil/water distribution:	No data
Autoignition temp:	No data.

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Section 10 – Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions.

Conditions to Avoid: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: Oxidising agents.

Decomposition Products: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Hydrogen chloride gas, chlorides, and in some circumstances, phosgene. Water.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Information below applies to constituents as no data available for actual product

Acute toxicity:

MCPA is slightly toxic via ingestion, LD₅₀ Oral (Rat) = 1160mg/kg; LD₅₀ Oral (Mouse) = 550 to 800 mg/kg. It is slightly toxic via the dermal route as well, with reported dermal LD50 values ranging from greater than 1000 mg/kg in rats to greater than 4000 mg/kg in rabbits.

For Dicamba: LD₅₀ Oral (Rat) 1707mg/kg LD₅₀ Dermal (Rabbit) >2000mg/kg

Chronic toxicity:

MCPA - Dietary levels of approximately 50 mg/kg/day and 125 mg/kg/day over 7 months caused reduced feeding rates and retarded growth rates in rats. Very high dermal doses of 500 mg/kg/day caused reduced body weight, and even higher dermal doses of 1000 and 2000 mg/kg/day resulted in increased mortality and observable changes in liver, kidney, spleen, and thymus tissue.

Dicamba - Myotoxic muscular spasms, urinary incontinence and if excessive, dyspnea, cyanosis and exhaustion.

Reproductive effects:

MCPA - A two-generation rat study at doses of up to 15 mg/kg/day affected reproductive function. Dogs receiving relatively small amounts of MCPA (8 and 16 mg/kg) for 13 weeks showed adverse sperm and testes changes. It is unlikely that humans will experience these effects under normal exposure conditions.

Dicamba - Data indicates no reproductive effects.

Teratogenic effects: When MCPA was fed to pregnant rats (2 to 100 mg/kg/day on days 8 to 15 of gestation), cleft palate, heart defect, and kidney anomalies were observed in the offspring. Mice fed 5 to 100 mg/kg/day of MCPA on days 6 to 15 showed significantly reduced foetal weight and delayed bone development at the highest dose. Teratogenic effects in humans are unlikely at expected exposure levels.

Dicamba - Data indicates no teratogenic effects.

Mutagenic effects: MCPA - It appears that the compound poses little or no mutagenic risk. Dicamba - Data indicates no mutagenic effects.

Carcinogenic effects: All of the available evidence on MCPA indicates that the compound does not cause cancer. Dicamba - Data indicates no carcinogenic effects.

Organ toxicity:

MCPA - Target organs identified in animal studies include the liver, kidneys, spleen and thymus. Farm worker exposure has resulted in reversible anemia, muscular weakness, digestive problems, and slight liver damage.

Section 12 - Ecological Information

Ecological Effects

Effects on birds: MCPA is moderately toxic to wildfowl; the LD50 of MCPA in bobwhite quail is 377 mg/kg. Dicamba products do not appear to pose any threat to birds.

Effects on aquatic organisms: MCPA is only slightly toxic to freshwater fish, with reported LC50 values ranging from 117 to 232 mg/L in rainbow trout. MCPA is practically nontoxic to freshwater invertebrates, and estuarine and marine organisms. Dicamba products do not appear to pose any threat to fish or other aquatic organisms other than in very high concentrations. LC50 (96 hr) for rainbow trout and bluegill sunfish is 135 mg/l LC50 (48 hr) for daphnia is 110 mg/l

Effects on other organisms: MCPA and Dicamba are not toxic to bees.

Environmental Fate:

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Breakdown in soil and groundwater: MCPA and its formulations are rapidly degraded by soil microorganisms and it has low persistence, with a reported field half-life of 14 days to 1 month, depending on soil moisture and soil organic matter. MCPA readily leaches in most soils, but its mobility decreases with increasing organic matter. MCPA and its formulations show little affinity for soil. Dicamba -Loss from soil is principally by microbial degradation. Average field half life of dicamba is 14 days.

Breakdown in water: MCPA - It is relatively stable to light breakdown, but can be rapidly broken down by microorganisms.

Breakdown in vegetation:

MCPA is readily absorbed and translocated in most plants. It works by concentrating in the actively growing regions of a plant (meristematic tissue), where it interferes with protein synthesis, cell division, and ultimately the growth of non-resistant plants. It is actively broken down in plants.

Section 13 - Disposal Considerations

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.

Section 14 - Transport Information

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The ingredients are mentioned in the SUSDP.

Section 16 - Other Information

This MSDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail
AICS	Australian Inventory of Chemical Substances
ASCC	Office Of The Australian Safety & Compensation Council
CAS number	Chemical Abstracts Service Registry Number
Hazchem Number	Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
UN Number	United Nations Number

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 MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. 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.

Please read all labels carefully before using product. This MSDS is prepared in accord with the ASCC document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

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MATERIAL SAFETY DATA SHEET