

Section 1 - Identification of The Material and Supplier**Macspre Pty Ltd**
13 Kennedys Drive Delacombe
Ballarat VIC 3350Phone: (03) 5335 8522
Fax: (03) 5335 8622

Chemical nature: Hexazinone is a 1,2,4-triazinone derivative.

Trade Name: **MACSPRED VELMAC CR CONTROLLED RELEASE HERBICIDE**

APVMA Code: 54613

Product Use: Agricultural herbicide for use as described on the product label.

Creation Date: **July, 2013**

This version issued: **July, 2018** and is valid for 5 years from this date.

Section 2 - Hazards Identification**Statement of Hazardous Nature**

This product is classified as: Xi, Irritating. Hazardous according to the criteria of SWA.

Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

SUSMP Classification: S5

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

UN Number: None allocated

**GHS Signal word: WARNING**

Serious eye irritation Category 2B

Hazardous to aquatic environment Short term/Chronic Category 2

HAZARD STATEMENT:

H320: Causes eye irritation.

H411: Toxic to aquatic life with long lasting effects.

PREVENTION

P264: Wash contacted areas thoroughly after handling.

P273: Avoid release to the environment.

P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

P352: Wash with plenty of soap and water.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P313: If skin irritation occurs: Get medical advice.

P337+P313: If eye irritation persists: Get medical advice.

P391: Collect spillage.

P370+P378: In case of fire, use foam, water fog.

STORAGE

P402+P404: Store in a dry place. Store in a closed container.

P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

Emergency Overview

Physical Description & Colour: Pink to beige granulated solid.

Odour: No odour.

Major Health Hazards: Effects due to acute exposure may include irritation the eyes, nose and throat, as well as nausea and vomiting.

SAFETY DATA SHEET

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m ³)	STEL (mg/m ³)
Hexazinone	51235-04-2	150g/kg	not set	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 slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA 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 SDS with you when you call.

Inhalation: No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

Skin Contact: Gently brush away excess particles. Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

Eye Contact: Quickly and gently brush particles from eyes. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: In case of fire, use foam, water fog.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point: 142°C

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: No data.

Flammability Class: Combustible solid.

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include cotton, rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that dusts are likely to build up in cleanup area, we recommend that you use a suitable Dust Mask. Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Consider vacuuming if appropriate. 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. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting

SAFETY DATA SHEET

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.

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 SDS 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 Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Check packaging - there may be further storage instructions on the label.

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**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits **TWA (mg/m³)** **STEL (mg/m³)**

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Hexazinone is set at 0.1mg/kg/day. The corresponding NOEL is set at 10mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, March 2017.

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: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that dusts are minimised.

Eye Protection: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

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

Respirator: If there is a significant chance that dusts are likely to build up in the area where this product is being used, we recommend that you use a suitable Dust Mask. Otherwise, not normally necessary.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Pink to beige granulated solid.
Odour:	No odour.
Boiling Point:	Decomposes before boiling at 100kPa.
Freezing/Melting Point:	Hexazinone melts 115-117°C
Volatiles:	Nil at 100°C.
Vapour Pressure:	Negligible at normal ambient temperatures.
Vapour Density:	Not applicable.
Specific Gravity:	No data. Bulk density 1.15
Water Solubility:	This product is formulated so as to release the active ingredient slowly - by slowing the rate of dissolution in water.
pH:	No data.
Volatility:	Negligible at normal ambient temperatures.
Odour Threshold:	No data.
Evaporation Rate:	Not applicable.
Coef Oil/water Distribution:	No data

SAFETY DATA SHEET

Viscosity: Not applicable.

Autoignition temp: No data.

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

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

Incompatibilities: strong acids, strong bases, strong oxidising agents.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Toxicity: Acute toxicity: Hexazinone is harmful via the oral route, with a reported LD₅₀ of 1690 mg/kg in rats, and 860 mg/kg in male guinea pigs. Via the dermal route, it is practically nontoxic, with a reported dermal LD₅₀ in rabbits of greater than 5278 mg/kg. Hexazinone does not cause significant skin irritation or sensitization in guinea pigs or rabbits, but it does cause severe eye irritation in rabbits. Hexazinone's inhalation toxicity is very low, its 1-hour inhalation LC₅₀ is greater than 7.48 mg/L in rats. Effects due to acute exposure may include irritation the eyes, nose and throat, as well as nausea and vomiting.

Chronic toxicity: Over a 2-week period, male rats receiving dietary doses of 300 mg/kg/day showed no evidence of cumulative toxicity. Male rats receiving doses of 50 mg/kg/day over 90 days showed no effects, but higher doses caused decreased body weights. Body weight gain was seen in dogs at doses of about 35 mg/kg/day and higher over 1 year. Very high doses for 8 weeks did not affect hamsters and caused only increased liver weights in mice.

Reproductive effects: Female rats, fed moderate to high doses (up to 150 mg/kg) over two generations, showed no effects on reproduction or milk production, but only reduced offspring weight. Available evidence suggests that Hexazinone is unlikely to cause reproductive effects in humans.

Teratogenic effects: Pregnant female rats receiving doses up to 100 mg/kg/day during gestation, and rabbits receiving up to 125 mg/kg/day, evidenced no foetal abnormalities. Teratogenic effects were observed in rats only at maternal doses greater than 400 mg/kg/day during gestation. It is unlikely that Hexazinone would pose a teratogenic effects in humans under normal conditions.

Mutagenic effects: Hexazinone showed no mutagenic activity in the Ames assay and tests using Chinese hamster ovary cell cultures. In living animal tests, no changes in chromosomal structure occurred. In other laboratory analyses of its capacity to induce genetic disruption, results were inconclusive. The evidence suggests Hexazinone is either slightly or nonmutagenic.

Carcinogenic effects: Rats, mice, and dogs have been tested for 1 to 2 years on diets containing up to 500 mg/kg. Hexazinone was not carcinogenic in rats, and was only carcinogenic in mice at dietary levels of over 300 mg/kg. At these levels in mice, liver adenomas were observed. These studies suggest that Hexazinone is unlikely to be carcinogenic to humans under normal circumstances.

Organ toxicity: Target organs affected in lab animals by chronic Hexazinone exposure include the liver.

Fate in humans and animals: Hexazinone is fairly rapidly processed and excreted by animal systems. Rats typically excrete Hexazinone almost completely within 3 to 6 days, the majority in urine. Long-term exposure does not diminish this rapid processing and elimination; rats given prior exposure for 2 weeks excreted almost all of the product within 3 days. Less than 1% of the parent Hexazinone was detected in urine and faeces. There does not appear to be any significant tissue accumulation. Dairy cows given small amounts of Hexazinone in their diets for 30 days had no detectable residues in milk, fat, liver, kidney, or lean muscle, but did have minute amounts of a Hexazinone metabolite in their milk. Lactating goats given small amounts of Hexazinone for 5 days also had small amounts of the compound in their milk and livers.

There is no data to hand indicating any particular target organs.

SAFETY DATA SHEET

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Hexazinone	>=20%Conc<25%: Xi; R36
<ul style="list-style-type: none">• Acute toxicity – category 4• Eye irritation – category 2• Hazardous to the aquatic environment (acute) – category 1• Hazardous to the aquatic environment (chronic) – category 1	

Potential Health Effects**Inhalation:**

Short Term Exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

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

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

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

Section 12 - Ecological Information

This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Effects on birds: Hexazinone is slightly to practically nontoxic to birds. The acute oral LD₅₀ of Hexazinone in bobwhite quail is 2258 mg/kg. The 5- to 8-day dietary LC₅₀ in bobwhite quail and mallard ducklings is greater than 10,000 ppm.

Effects on aquatic organisms: Hexazinone is slightly toxic to fish and other freshwater organisms. Some of the reported 96-hour LC₅₀ values include: rainbow trout, 320 mg/L; bluegill, 370 mg/L; fathead minnow, 274 mg/L. The 48-hour LC₅₀ for Hexazinone in the water flea, Daphnia magna, is 151 mg/L. The bioconcentration factor in bluegill sunfish is only seven times the ambient water concentration, indicating very low bioaccumulation in fish.

Effects on other organisms: Hexazinone is nontoxic to honey bees. The herbicide is toxic to larch trees (Larix spp.), and should not be used for weed control in forested areas.

Environmental Fate:

Breakdown in soil and groundwater: Hexazinone is of moderate to high persistence in the soil environment. Measured field half-lives range from less than 30 to 180 days, with a representative value of about 90 days. Hexazinone is broken down by soil microbes, which release carbon dioxide in the process. Sunlight may also break down the compound via photodegradation. The rate of breakdown under natural field conditions will depend on many site-specific variables, including sunlight, rainfall, soil type, and rate of application. Hexazinone does not evaporate to any appreciable extent from soil. Hexazinone is very poorly adsorbed to soil particles, very soluble in water, and slowly degraded, so it is likely to be mobile in most soils and has the potential to contaminate groundwater.

Breakdown in water: Photodecomposition, biodegradation, and dilution are the prime mechanisms for loss of Hexazinone activity in aquatic systems.

SAFETY DATA SHEET

Breakdown in vegetation: Hexazinone is readily absorbed in the root zone and translocated throughout the plant. It is less mobile following uptake from the foliage. It is converted in non-susceptible plants to less phytotoxic compounds. In susceptible plants, it is more persistent and can result in disruption of photosynthesis and chloroplast damage.

Section 13 - Disposal Considerations

Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

Section 14 - Transport Information

UN Number: This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. 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 following ingredient: Hexazinone, is mentioned in the SUSMP.

Section 16 - Other Information

This SDS 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 (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD STATEMENT: INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS 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 SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (Feb 2016)

Copyright © Kilford & Kilford Pty Ltd, July, 2018.

<http://www.kilford.com.au/> Phone (02)8321 8866

SAFETY DATA SHEET