

Infosafe No™ NU03W	Issue Date : February 2018	ISSUED by NUFARM
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 Product Name **METHAM Soil Fumigant**

Classified as hazardous

## 1. Identification

<b>GHS Product Identifier</b>	METHAM Soil Fumigant
<b>Product Code</b>	0633
<b>Company Name</b>	NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
<b>Address</b>	103-105 Pipe Road Laverton North Victoria 3026 Australia
<b>Telephone/Fax Number</b>	Tel: +61 3 9282-1000 Fax: +61 3 9282-1001
<b>Emergency phone number</b>	1800 033 498 (24hr Australia)
<b>Recommended use of the chemical and restrictions on use</b>	Pre-planting treatment for control of soil-borne pests as per the Directions for Use table on the label.
<b>Other Information</b>	

## 2. Hazard Identification

<b>GHS classification of the substance/mixture</b>	OT4 Acute Toxicity - Oral: Category 4 SC-1B Skin Corrosion/Irritation: Category 1B SS-1 Sensitization - Skin: Category 1 CM1 Corrosive to Metals: Category 1 AC1 Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1
<b>Signal Word (s)</b>	DANGER
<b>Hazard Statement (s)</b>	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. AUH031 Contact with acids liberates toxic gas H290 May be corrosive to metals. H410 Very toxic to aquatic life with long lasting effects.
<b>General Precautionary Statement (s)</b>	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use.
<b>Pictogram (s)</b>	Corrosion, Exclamation mark, Environment, The below pictograms are GHS Hazard symbols for workplace use only. See SECTION 14 for Dangerous Goods information.



<b>Precautionary statement – Prevention</b>	P264 Wash hands and exposed skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P260 Do not breathe dust or mist. P280 Wear protective gloves, clothing, eye and face protection. P272 Contaminated work clothing should not be allowed out of the workplace.
<b>Precautionary statement – Response</b>	P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 Immediately call a POISON CENTER or doctor/physician. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Other Information</b>	Poisons Schedule S6

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### 3. Composition/information on ingredients

<b>Chemical Characterization</b>	Liquid		
<b>Ingredients</b>	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Metham (sodium methylthiocarbamate)	137-42-8	423 g/L
	Water		to 100%

### 4. First-aid measures

<b>Inhalation</b>	Remove affected person to fresh air until recovered. Obtain medical advice.
<b>Ingestion</b>	If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.
<b>Skin</b>	Remove contaminated clothing and launder before re-use. Wash affected areas thoroughly with soap and water. If irritation persists, seek medical advice.
<b>Eye contact</b>	If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice.
<b>First Aid Facilities</b>	If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26.
<b>Advice to Doctor</b>	Treat symptomatically. Avoid giving alcohol - may cause vomiting and shock.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog, foam, carbon dioxide or dry chemical.
<b>Special Protective Equipment for fire fighters</b>	Breathable air apparatus must be worn if material is involved in fires especially in confined spaces.
<b>Specific hazards arising from the chemical</b>	Avoid contact with oxidants. Keep upwind.
<b>Hazchem Code</b>	2X
<b>Other Information</b>	STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

### 6. Accidental release measures

<b>Spills &amp; Disposal</b>	If possible, ring 1800 033 498 for specialist advice. Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect in sealed open top containers for disposal. On-site disposal of concentrate is not acceptable. Keep upwind. If material has spilled onto soil, approach the task of collecting soil with care. Any signs of eye irritation should be taken as a warning and the remainder of the operation should be carried out wearing breathable air apparatus and impermeable footwear and clothing.
<b>Personal Protection</b>	For appropriate personal protective equipment (PPE), refer Section 8.

### 7. Handling and storage

<b>Precautions for Safe Handling</b>	For personal protective equipment (PPE) and hygiene advice, refer Section 8.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in the closed, original container in a dry, well ventilated area, as cool as possible. Do not store for prolonged periods in direct sunlight. Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.

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**Other Information** Always read the label and any attached leaflet before use.

## 8. Exposure controls/personal protection

<b>Occupational exposure limit values</b>	No exposure standards have been set for the active ingredient of the product or its decomposition product methylisothiocyanate. The product on decomposition can release carbon disulphide. A limit has been set for carbon disulphide; TLV (TWA) 10ppm (31mg/m <sup>3</sup> ), skin.
<b>Appropriate engineering controls</b>	Natural ventilation only is required when handling the concentrate, although a local exhaust should be provided if material is handled in other than a well ventilated situation. On dilution, the product reacts to form methyl isothiocyanate, which is volatile and toxic. Forced ventilation and/or breathing protection is required (see personal protection section). Once diluted, the product should be used immediately. Dilute solutions (spray solutions or rinsings) must not be kept.
<b>Personal Protective Equipment</b>	Harmful if absorbed by skin contact or swallowed. Poisonous if inhaled. Will damage the eyes, nose and throat and skin. Repeated exposure may cause allergic disorders. Interacts with alcohol - avoid alcohol on day(s) of use. Do not inhale vapour or spray mist. The fumes first cause smarting, then watering of eyes. This should be taken as a warning sign. The liquid can cause burns. Use and store in well ventilated areas. When opening the container and preparing product for use, wear cotton overalls buttoned to the neck and wrist, a washable hat, apron (chemical resistant), elbow-length (nitrile, neoprene) gloves, chemical resistant footwear, a full facepiece respirator with organic vapour/gas cartridge or canister [or goggles and half facepiece respirator with organic vapour cartridge or canister]. When using the prepared product (spray)(foam), wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length (nitrile, neoprene) gloves chemical resistant footwear, a full facepiece respirator with organic vapour/gas cartridge or canister [or goggles and half facepiece respirator with organic vapour cartridge or canister]. If clothing becomes contaminated with product or wet with spray, remove clothing immediately. If product or vapour on skin, immediately wash area with water. Do not re-use footwear until thoroughly aired. Do not wear leather articles, as they will absorb metham and cannot be effectively cleaned. Do not use by hand directed spraying, including sprinkler can. Do not treat potting soil by loose mixed method or via shredder. Do not use by flood irrigation or overhead sprinkler systems. Do not apply to waterlogged soil, or while water remains in furrows. Do not treat soil in enclosed areas. Ensure run-off does not get into dams, sewers or waterways and keep away from lawns or gardens. Re-entry periods apply for this product.
<b>Hygiene Measures</b>	Please read the label for information specific to different use patterns. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing and safety equipment.
<b>Requirements Concerning Special Training</b>	Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

## 9. Physical and chemical properties

<b>Form</b>	Liquid
<b>Appearance</b>	Amber to yellow-greenish liquid
<b>Odour</b>	Pungent odour
<b>Melting Point</b>	<-5°C
<b>Boiling Point</b>	Approx 100°C
<b>Solubility in Water</b>	Solubility of metham in water is 720 g/L @ 20°C

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<b>Specific Gravity</b>	1.209
<b>pH</b>	7.5 - 10.5 (42% solution)
<b>Vapour Pressure</b>	Unknown
<b>Vapour Density (Air=1)</b>	>1
<b>Volatile Component</b>	39%
<b>Flammability</b>	If a metham solution is acidified, it will release carbon disulphide, a toxic, volatile liquid, FP<-30°C, which will catch fire if the vapours come in contact with any surface at 100°C or higher. The flammable range for carbon disulphide vapour is 1 to 50%v/v in air.

## 10. Stability and reactivity

<b>Possibility of hazardous reactions</b>	<p>Avoid oxidising agents, acids and heavy metal salts.</p> <p>Metham sodium is stable in concentrated solution, but unstable when diluted, decomposition being promoted by soil, acids and heavy metal salts. The solution is corrosive to brass, copper and zinc. The activity of metham sodium is due to the formation of methyl isothiocyanate in contact with soil.</p> <p>Methyl isothiocyanate is a volatile, highly toxic material, its presence is detected by its extremely irritating effects on eyes, causing copious tear formation.</p> <p>May emit toxic fumes of cyanide and nitrogen oxides if material is involved in fires or subjected to extreme heat.</p> <p>Also decomposes in acids with release of carbon disulphide.</p> <p>Carbon disulphide is toxic and highly flammable.</p> <p>CARBON DISULPHIDE WILL CATCH FIRE IF IN CONTACT WITH ANYTHING HOTTER THAN 100°C.</p>
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## 11. Toxicological Information

<b>Acute Toxicity - Oral</b>	LD50 (male rats) 896 mg/kg for metham sodium
<b>Acute Toxicity - Dermal</b>	LD50 (rabbits) >2000 mg/kg
<b>Acute Toxicity - Inhalation</b>	LC50 (rat) (4hr) 2.57 mg/l for pure ingredient.
<b>Ingestion</b>	The concentrate is harmful if swallowed. A serious hazard if accidentally swallowed.
<b>Inhalation</b>	As the concentrated product, it is relatively stable and non-volatile. A serious hazard - irritant to mucous membranes. In dilution and in use in soil, the product forms methyl isothiocyanate, which is volatile and toxic by inhalation and skin absorption. Its presence is detected by eye irritation (tear formation) rather than by odour. Effects are headaches, dizziness, irritation of eyes, throat and lungs. Skin effects may also occur. Some affected persons have been recorded as progressing to irritant-induced asthma.
<b>Skin</b>	Prolonged contact with the concentrate may cause burns. A serious hazard - may cause irritation, burns, dermatitis. Persons who have had dermatitic effects from contact with the product should avoid working with the product in future.
<b>Eye</b>	A serious hazard leading to crying, inflammation of the eye and conjunctivitis. Prolonged contact with the product can result in serious damage to eyes.
<b>Chronic Effects</b>	Somnolence, cardiac and respiratory disorders. Repeated exposures may cause allergic disorders.
<b>Human Effects</b>	Acute Over Exposure: Gastro-enteritis with possibility of shock and renal lesions.

## 12. Ecological information

<b>Persistence and degradability</b>	In soil, rapidly decomposes to methyl isothiocyanate, which is volatile and quickly evaporates. Methyl isothiocyanate is a lachrimator, causing stinging and watering of the eyes.
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<b>Known Harmful Effects on the Environment</b>	The product is a marine pollutant for sea transport.
<b>Other Precautions</b>	Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
<b>Environmental Protection</b>	Spray drift should be avoided, read the label for more information.
<b>Acute Toxicity - Fish</b>	The following is data for the active ingredient, metham sodium. LC50 (96hr) for bluegill sunfish is >0.175 mg/l.
<b>Acute Toxicity - Daphnia</b>	EC50 (48hr) for daphnia magna is 0.99 mg/l for metham sodium.
<b>Acute Toxicity - Algae</b>	EC50 (72hr) for Pseudokirchneriella subcapitata is 1.08 mg/l.
<b>Acute Toxicity - Other Organisms</b>	Dietary LC50 (5 days) mallard duck and japanese quail is >5000 mg/kg Not toxic to bees.

### 13. Disposal considerations

<b>Product Disposal</b>	On site disposal of the concentrated product is not acceptable.
<b>Container Disposal</b>	Do not use this container for any other purpose. Triple or preferably pressure rinse containers before disposal. Add rinsings to the spray tank.

### 14. Transport information

<b>U.N. Number</b>	3267
<b>UN proper shipping name</b>	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. - (contains Metham as Sodium Salt)
<b>Transport hazard class(es)</b>	8
<b>Hazchem Code</b>	2X
<b>Packaging Method</b>	3.8.6
<b>Packing Group</b>	II
<b>Storage and Transport</b>	Considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.
<b>EPG Number</b>	8A1
<b>IERG Number</b>	36
<b>UN Number (Sea Transport)</b>	3267
<b>IMO Marine Pollutant</b>	Marine Pollutant

### 15. Regulatory information

<b>Regulatory Information</b>	WHS Schedule 11: item 38 - skin corrosion category 1B.
<b>Poisons Schedule</b>	S6
<b>Packaging &amp; Labelling</b>	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
<b>Other Information</b>	This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). APVMA product number: 34049.

### 16. Other Information

<b>Date of preparation or last revision of SDS</b>	Revised 20/02/2018. This SDS replaces document dated October 2017.
<b>Contact Person/Point</b>	Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000 After Hours: Shift Supervisor Phone: 1800 033 498



# Safety Data Sheet

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**Revisions  
Highlighted**

The SDS was reviewed. Minor changes were made to the information.  
Packing Group in section 14 changed to group II.  
...End Of MSDS...

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