

MATERIAL SAFETY DATA SHEET

Arena MSMA Herbicide

1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

| | |
|------------------------------------|---|
| Product Name: | Arena MSMA Herbicide |
| Distributor: | Agricrop Pty Ltd |
| ABN: | 84 100 473 309 |
| Street Address: | 255 Port Road Hindmarsh, SA 5007 |
| Telephone: | 07 3348 4113 |
| Facsimile: | 07 3348 2702 |
| Emergency Telephone Number: | 1800 033 111 (all Hours) |
| Substance: | Monosodium Methylarsonate |
| Product Use: | For the Control of Certain Weeds in Cotton, Sugarcane, Turf and Non-crop areas. |

2. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Characterization | Liquid | |
|---|-----------|------------|
| Chemical Entity | CAS No | Proportion |
| MSMA | 2163-80-6 | 72% w/v |
| Other ingredients (considered non-hazardous) | | 28% w/v |

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

3. HAZARDS IDENTIFICATION

SUSDP Classification: S7 DANGEROUS POISON
HAZARDOUS SUBSTANCE - Hazard classification according to the criteria of NOHSC.
NON-DANGEROUS GOODS - Dangerous goods classification according to the Australia Dangerous Goods Code.

Risk Phrase(s) R23/25 Toxic by inhalation and if swallowed.
Safety Phrase(s) S13 Keep away from food, drink and animal feeding stuffs.
S2 Keep out of reach of children.

4. FIRST AID MEASURES

Inhalation Remove affected person to fresh air until recovered. If symptoms develop or persist, seek medical advice.

Ingestion If swallowed and if more than 15 minutes from a hospital induce vomiting, preferably using Ipecac Syrup APF. If unconscious give nothing by mouth and do not induce vomiting.

Skin Wash affected areas thoroughly with soap and water. Remove contaminated clothing and laundry before re-use. Seek medical advice, but only after the exposed skin has been thoroughly washed.

Eye If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice.

First Aid Facilities: If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26. Keep a supply of IPECAC Syrup APF on hand

Advice to Doctor: Do not use BAL as antidote. Suspected ingestion can be confirmed by urine analysis for arsenic residue. A value above 0.6 ppm arsenic is indicative of acute poisoning. If arsenical pesticide has been ingested within a few hours of treatment, empty the stomach by intubation, aspiration and lavage. Administer activated charcoal. Administer intravenous fluids to restore hydration, support urine flow and correct electrolyte imbalances.

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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.

Hazards from Combustion Products

May emit toxic fumes of arsenic oxides if involved in fires or exposed to extreme heat.

Special Protective Equipment for fire fighters

Breathable air apparatus should be worn when fighting a fire in which this product is involved.

Specific Hazards The product will not burn or burns with difficulty. Use an extinguishing media suitable for the surrounding fires.

Other Information

Stop fire water from entering drains or water bodies.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect spilled material and waste in sealable open-top type containers for disposal. On-site disposal of concentrate is not acceptable. Dispose of at a landfill in accordance with local regulations.

Personal Protection For appropriate personal protective equipment (PPE), refer Section 8. If product has dried out and the possibility of dust generation exists, wear a suitable respirator.

Environmental Precautions

Prevent from entering drains, waterways or sewers.

7. HANDLING AND STORAGE

Conditions for Safe Storage

Product should be stored in a cool, dry place and out of direct sunlight. Keep out of reach of children. Store away from food or foodstuffs. Do not store near other pesticides or seed. Keep container tightly closed when not being used.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards

NOHSC has set the following exposure standard for arsenic and soluble compounds (as As) : TLV (TWA) 0.05 mg/m³, STEL -.

Engineering Controls

Handle in well ventilated areas, generally natural ventilation is adequate.

Personal Protective

Use good industrial hygiene. Wear face shield or goggles, elbow length PVC gloves, cotton overalls buttoned to the neck and wrist, washable hat and half face respirator with dust cartridge or canister. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------|---|
| Appearance: | Brown, slightly viscous liquid |
| Odour: | Pleasant fruity odour |
| Boiling point: | Approximately 100°C at 100kPa |
| Volatile materials: | Water component. Active ingredient is considered non-volatile |
| Vapour pressure: | n/a |
| Flashpoint: | Does not burn |
| Specific gravity: | 1.4 approx |
| Solubility in water: | Completely soluble |
| Flammability: | Non combustible material |

10. STABILITY AND REACTIVITY

Incompatible Materials

Avoid contact of the concentrate with strong acids and bases.

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11. TOXICOLOGICAL INFORMATION

Inhalation: Breathing in high concentrations of mists or aerosols of this material may cause nausea and irritation of the nose, throat and respiratory tract.

Ingestion: Ingestion of the concentrate in relatively large amounts may result in nausea, vomiting, abdominal pain, diarrhoea and headache followed by dizziness, stupor, convulsions, paralysis and death.

Skin: Prolonged contact with the concentrate may cause irritation.

Eye: May irritate the eyes.

Chronic Effects

Chronic feeding studies in animals do not indicate any cumulative toxicity and show that the compound is neither a carcinogen nor a teratogen.

Carcinogenicity: Data indicates no carcinogenic effects.

Acute Toxicity – Oral

LD50 (rat) 900 mg/kg for monosodium methylarsenate (MSMA)

Acute Toxicity - Inhalation

LC50 (rat) (4hr) >20 mg/L

Eye Irritation: Mild eye irritant.

Skin Irritation: Mild skin irritant.

Other Information: The Australian Acceptable Daily Intake (ADI) for MSMA for a human is 0.0005 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.5 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, September 2006).

12. ECOLOGICAL INFORMATION

Persistence / Degradability

Soil half-life for MSMA is 55 days, soil half-life for the primary metabolite is 88 days.

Other Precautions: Do not contaminate dams, waterways or sewers with this product or the containers, which have held this product.

Environ. Protection: Spray drift should be avoided, read the label for more information.

Acute Toxicity – Fish

The following is data for the active ingredient, MSMA.

LC50 (96 hr) for rainbow trout is >167 mg/L.

LC50 (96 hr) for bluegill sunfish is >51 mg/L.

Acute Toxicity - Daphnia

LC50 (48hr) for daphnia is 77.5 mg/L.

Acute Toxicity - Algae

EC50 (5d) for Selenastrum is 7.6 mg/L.

Acute Toxicity - Other Organisms

Birds: Not toxic to birds. LD50 for quail is 425 mg/kg

Bees: Not toxic to bees. LD50 68 µg/bee.

13. DISPOSAL CONSIDERATIONS

Product Disposal

On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities that hold periodic collections of unwanted chemicals (ChemClear®).

Container Disposal Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non-returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, puncture or shred and bury containers in local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

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14. TRANSPORT INFORMATION

Storage and Transport

Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. REGULATORY INFORMATION

Poisons Schedule S7

Packaging & Labelling

DANGEROUS POISON

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Hazard Category Toxic

AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

All due care and skill, so far as practicable, has been applied in the preparation and collation of the information in this MSDS. Each user of the Product named in this MSDS should read and consider the information contained in this MSDS in the context of how the Product will be stored, handled, used or applied in the workplace. In all circumstances, it is the responsibility of the user of the Product to ensure that they have sought out the relevant safety data appropriate to their particular situation. Nothing contained in this MSDS shall be construed as a representation or recommendation to the user about the suitability or otherwise of the Product named in this MSDS for the user's particular situation. If the user requires any clarification or further information, the user should contact Agricrop.

**CONTACT POINT: Agricrop Pty Ltd
255 Port Road, Hindmarsh, SA 5007**

Telephone: 07 3348 4113 - Facsimile: 07 3348 2702

National Poisons Information Centre: Dial 13 11 26 (from anywhere in Australia)

Please read all labels carefully before using product.