HEXTAR GROUP OF COMPANIES

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Material Safety Data Sheet

SECTION 1: IDENTIFICATION OF THE CHEMICAL PRODUCT

Product Name: **ARMADA 720 SL HERBICIDE**

Product Type: Group Z Herbicide/ Organoarsenic derivative.

Product Use: For the control of certain weeds in Cotton, Sugarcane, Turf and non-crop areas as per the Directions for Use.

SECTION 2: HAZARD IDENTIFICATION

Statement of Hazardous Nature

This product is classified as: Hazardous according to the criteria of SWA.
Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.
Risk Phrases: R23/25 Toxic by inhalation and if swallowed.
Safety Phrases: S1/2 & S20/21. Keep locked up and out of reach of children. When using do not eat, drink or smoke.

SUSDP Classification: S7 Dangerous Poison. **ADG Classification:** None allocated. Not a Dangerous Good.

UN Number: None allocated

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS	Proportion
MSMA (Monosodium methyl arsonate)	2163-80-6	720g/L
Other non-hazardous ingredients	-	to 100%

SECTION 4: FIRST AID MEASURES

Inhalation: Remove affected person to fresh air until recovered. If symptoms develop or persist, seek medical advice.
Skin Contact: Wash affected areas thoroughly with soap and water. Remove contaminated clothing and launder before re-use. Seek medical advice, but only after the exposed skin has been thoroughly washed.
Eye Contact: If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice.

Ingestion: Perform gastric lavage with water followed by a saline cathartic such as sodium sulphate.
Advice to Doctor: This compound binds of sulfhydryl groups in tissue. BAL (Dimercarpol) has been recommended in the literature as antidote for poisonings, however, this use is highly controversial. If ingested, gastric lavage may be required.

SECTION 5: FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Might liberate noxious fumes under fire conditions.
Extinguishing Media: Dry chemical or carbon dioxide.
Fire Fighting: Use self-contained breathing apparatus in building or confined areas where the product is stored. Use water spray to keep fire-exposed containers cool.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Reclaim spillage and put in labeled containers for reuse later, if possible. Residual material and the washings of the contaminated areas may be soaked up with absorbents like sawdust, sand or earth which should be placed in closed, labeled containers for disposal.

SECTION 7: HANDLING AND STORAGE

Avoid contact with skin or eyes. Do not drink, ear or smoking when handling. Always wash hands with soap and water after handling. Avoid contamination of watercourse or ground.

Store in secure, cool and dry in closed, original container away from food, feeds, fertilizers, seeds, insecticide or fungicides and water.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits established by ASCC for Arsenic & soluble compounds (as As) is 0.05 TWA (mg/m^3). No biological limits applicable.

The ADI for MSMA is set at 0.0005mg/kg/day. The corresponding NOEL is set at 0.5mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Sept 2010.

Personal Protective Equipment:
Australian Standards 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**
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: Provide adequate local exhaust ventilation or other controls to maintain the air concentration of arsenic in work areas below $0.5mg/m^3$.
Eye Protection: Use chemical splash goggles resistant to acid corrosion.
Skin Protection: Wear face shield, protective clothing including long pants and shirts, plastic apron and impermeable boots.
Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC.
Respirator: Standard respirator should be used in work areas.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical Description & colour: Light amber to brownish liquid.
Odour: Odourless.
Boiling Point: ~110-113^{o}C (Omm Hg vacuum).
Freezing/Melting Point: Below 0 ^{o}C.
Vapour Pressure: No data.
Vapour Density: No data.
Water Solubility: 100% soluble in water.
pH: 5.7-6.5 (5% v/v)
Density: 1.50-1.60 kg/L (25 ^{o}C).
Volatility: No data.
Odour Threshold: No data.
Evaporation Rate: No data.
Coeff Oil/water distribution: No data

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures
Reactivity: This product is unlikely to react or decompose under normal storage conditions.
Conditions to Avoid: Avoid contact of the concentrate with strong acids and bases.
Incompatibilities: Water high in calcium, magnesium and iron tends to precipitate the water insoluble methanearsonate salts of these ions.

Arsenic in the presence of acids and metals such as aluminium, zinc, tin and copper can combine with nascent hydrogen to form arsine gas, which is highly poisonous, non-irritating gas with a slight garlic odour.

SECTION 11: TOXICOLOGICAL INFORMATION

Inhalation: Prolonged exposure might induce mild irritation of lungs in man, but recovery following exposure should be rapid.
Ingestion: Slightly toxic. Probable lethal dose in man is between 1 ounce and 1 pint of liquid.
Skin: Prolonged exposure might produce mild irritation to intact skin.
Eye: Although MSMA is non-irritant to cornea, mild conjunctival irritation may persist for several days in unwashed eyes. Washing eyes immediately following exposure should prevent eye irritation.
Chronic Effects: Symptoms of poisoning are headache, dizziness, stupor vomiting, diarrhea, convulsions, paralysis or death.
Acute Toxicity – Oral: LD50 (Wistar rat) -1264 mg/kg, (Japanese quail) -569 mg/kg
Acute Toxicity – Dermal: LD50 >2000 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

Medium to low mobility in sandy soil and is largely immobile in other soils.

Some breakdown by soil microbes. Primarily degraded to arsenite with small amounts of cacodylic acid produced under aerobic laboratory conditions with a Hanford sandy loam.

Fish acute toxicity – LC_{50} (96h) common carp >100 mg/L, EC_{50} daphnia magna (48h) 335 mg/L.

SECTION 13: DISPOSAL CONSIDERATIONS

Instructions for the disposal of this product and its containers are listed on the product label.

For collection of unwanted rural chemicals, contact ChemClear ®1800 008 182 www.chemclear.com.au and for help with the disposal of empty drums, contact DrumMuster® www.drummuster.com.au for local and State contacts.

SECTION 14: TRANSPORT INFORMATION

UN Number: None allocated
Proper Shipping Name: None allocated
SUSDP Classification: S7 Dangerous Poison.
ADG Class: None allocated. Not a dangerous good.
Hazchem Code: None allocated
Packaging Group: None allocated

SECTION 15: REGULATORY INFORMATION

SUSDP: S7 Dangerous Poison.
AICS (Australia): All of the components in this product are listed on the Australian Inventory of Chemical Substances.
APVMA Registration Number: 65558

SECTION 16: OTHER INFORMATION

This MSDS contains only safety-related information sourced from the public domain and analytical results on this product:

Acronyms:
ADG Code Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition
AICS Australian Inventory of Chemical Substances
CAS number Chemical Abstracts Service Registry Number
Hazchem Number Emergency action code of numbers and letters that provide information firefighters
IARC International Agency for Research on Cancer
ASCC Office of the Australian Safety and Compensation Council
NTP National Toxicology Program (USA)
R-Phrase Risk Phrase
SUSDP Standard for the Uniform Scheduling of Drugs & Poisons
UN Number United Nations Number

Police and Fire Brigade: Dial 000 **Poisons Information Centre (13 1126)**
Emergency contact: 04 0214 9346 (24 hours)