Safety Data Sheet (SDS) MSMA 720 SL

According to UN GHS 8th Ed
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Version: 1.1

SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

Product identifier:

Identification as on the label/Trade name: MSMA 720 SL

Common name: MSMA (organic arsenical) 720 g/L SL

Relevant identification uses of the substance and uses advised against:

Identified uses: Herbicide

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:

Enviro Bio-Chem (Pty) Ltd, 44 Kerk Street,
Lichtenburg, North West, South Africa, 2740

Details of the Registration Holder:

Erintrade t/a RT Chemicals, 44 Kerk Street,
Lichtenburg, North West, South Africa, 2740

Contact Details:

Telephone: +27 87 231 7261
Fax: 086 541 7948
Website: www.envirobiochem.co.za

Emergency telephone numbers:

24 Hour Emergency Number: Bateleur: +27 83 123 3911
Griffon Poison Information Centre: +27 82 446 8946
Poisons Information Helpline: 0861 555 777
Tygerberg Hospital: +27 21 931 6129

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture

The mixture is classified according to Regulation (EC) No 1272/2008 EU-GHS/CLP

Hazard classes/Hazard categories	Hazard statement
Acute toxicity (Category 3)	H301
Acute toxicity (Category 2)	H330
Aquatic Toxicity Acute (Category 1)	H400
Aquatic Toxicity Chronic (Category 1)	H410

For full text of H statements see section 16

The most important adverse effects

The most important adverse physiochemical effects: None known

The most important adverse human health effects: Toxic if swallowed. Fatal if inhaled

Label elements

Hazard pictograms:
Signal Word: Danger

Hazard Statements:

H301	Toxic if swallowed
H330	Fatal if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P102	Keep out of reach of children
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash hands, forearms, and face thoroughly after handling
P270	Do not eat, drink, or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe dust/fumes/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up
P391	Collect spillage
P501	Dispose of contents/container in accordance with local/regional/ national regulations

Other hazards: None known

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: **Mixture**

Ingredients:

Substance name (IUPAC)	CAS Number.	Concentration % by weight	Classification EC1272/2008
MSMA	2163-80-6	47.7%	Acute Toxicity (Category 3) H301 Acute toxicity (Category3) H331 Acute roxicity (Category 4) H302 Aquatic Acute (Category 1) H400 Aquatic Chronic (Category 1) H410

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

SECTION 4. FIRST AID MEASURES

Description of first aid measures:

In case of inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.

In case of skin contact: In case of contact, Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Seek medical advice if necessary. Persons who become sensitized may require specialized
medical management with anti-inflammatory agents

In case of eye contact: Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention immediately.
In case of ingestion: Seek medical advice immediately and make the container or label or Data Sheet available. Do not induce vomiting without medical advice. Rinse mouth with water, only if the person is conscious. Never give anything by mouth to a semi-conscious or unconscious person. If vomiting occurs, take care to prevent vomit from being inhaled. Establish and maintain airway. Treat respiratory difficulty with artificial respiration. Administration of gastric lavage or oxygen should be performed by qualified medical personnel.

Most important symptoms and effects, both acute and delayed:

Although the organic (methylated) pentavalent compounds (arsonates) incur the least hazard of the arsenicals, it is prudent to manage cases of arsenical pesticide ingestion as though all are highly toxic.

Effects associated with acute MSMA exposure:

Gastrointestinal (GI) adverse effects predominate, with vomiting, abdominal pain and rice-water or bloody diarrhea being the most common. Other GI effects include inflammation, vesicle formation and eventual sloughing of the mucosa in the mouth, pharynx and esophagus. Symptoms related to the central nervous system may begin with headache, dizziness, drowsiness and confusion.

Effects associated with chronic exposure to MSMA:

Chronic exposure to MSMA is unlikely when handling according to label directions.

Indication of any immediate medical attention and special treatment needed:

This product contains monosodium methane arsonate (MSMA). This compound binds to sulfhydryl groups in tissues. If ingested, gastric lavage may be indicated. Literature recommendations for arsenic poisoning calls for chelation therapy with BAL or d-penicillamine. Persons with sensitivity to penicillin's may suffer an allergic reaction. BAL is recommended for persons allergic to penicillin.

SECTION 5. FIRE FIGHTING MEASURES

Extinguisher media:

Suitable extinguisher media: Foam. Dry powder. Carbon dioxide. Water spray.
Unsuitable extinguishing media**:** Do not use high volume water jet, due to contamination risk.

Specific hazards arising from the mixture:

This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous decomposition products in case of fire: Refer to Section 10: Stability and Reactivity.

Advice for fire-fighters:

Avoid inhaling hazardous vapours. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Use an approved/certified respirator or equivalent.
Contain fire control agents for later disposal according to Section 13.
Water can be used to cool unaffected containers.

SECTION 6. ACCIDENTAL RELEASE

Personal precautions, protective equipment, and emergency procedures:

For non-emergency personnel: Keep all personal away may be harmful by inhalation. Avoid contact with eyes and skin.
For emergency responders: Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Use an approved/certified respirator or equivalent Avoid contact with eyes and skin. Do not breathe in fumes. Refer to section 8 for recommended personal protective equipment. Evacuate unnecessary personnel.

Environmental precautions:

Stop leak if without risk. Do not touch spilled material. Use a light water spray to reduce vapours.
Prevent entry into drains, watercourses, or confined areas; dike if needed.

If the product contaminates public water, inform appropriate authorities immediately in accordance with local regulations. Dispose in a safe manner in accordance with local/national regulations.

Methods for containment and cleaning up:

For small spills Contain spilled material if possible. Collect in suitable and properly labelled containers. Absorb with materials such as: sand, earth, vermiculite, or diatomaceous earth

For large spills Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections:

see Section 1 for emergency contact information

See section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See section 13 for information on disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Wear suitable protective clothing. Avoid contact with skin and eyes. Do not breathe mist. Avoid formation of aerosols. Provide appropriate exhaust ventilation. Wash hands and exposed skin thoroughly after handling

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas

Conditions for safe storage, including incompatibilities:

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up.. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Specific end uses:

Use as directed. Use original container.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Exposure Limits: Exposure limits for organic arsenic compounds
OSHA PEL-TWA, (as As): 0.5 mg/m3

Exposure control:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. A Risk Assessment should be conducted before handling is to commence to determine specific exposure control.

Appropriate engineering controls: Provide exhaust ventilation or other engineering controls. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Hygiene measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to

remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stationsand safety showers are close to the workstation location.

Eye/face protection: Avoid contact with eyes. Wear a full-face shield when handling the product or spraying. The use of safety glasses with side shields (or goggles) are recommended if a face shield is not used.

Hand protection: Use chemical resistant gloves. Examples of preferred glove barrier materials include Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Body protection: Appropriate impervious clothing is required to prevent skin contact with the product.

Respiratory protection: Work only in a well-ventilated area. Respiratory protection is required; Use a respirator with an organic vapor-removing cartridge with a prefilter/canister approved for pesticides or a NIOSH approved respirator with an organic vapor cartridge.

Environmental exposure controls: Prevent product from entry into sewers and water courses

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid
Colour	Light yellow
Odour	Slight odour
Odour threshold	No data available
pH	6-7
Melting point / freezing point (° C)	No data available
Boiling point (° C)	104
Flash point (° C)	No data available
Evaporation rate	No data available
Flammability	Non flammable
Upper /lower flammability limits	No data available
Vapour pressure	15 mmHg
Vapour density	0.6
Specific gravity (20°C)	1.49~1.51 g/mℓ
Water solubility	Dispersible
Partition coefficient : n-octanol/water	No data available
Auto-ignition temperature (° C)	No data available
Decomposition temperature (° C)	No data available
Viscosity, dynamic (mPa s)	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

SECTION 10. STABILTY AND REACTIVITY

Reactivity:

The product is stable under normal conditions.

Chemical stability:

Stable under normal storage conditions for 2 years. Avoid excessive heat sources.

Possibility of hazardous reactions:

No information available.

Conditions to avoid:

Avoid all possible sources of heat and ignition (spark or flame).

Incompatible materials:

Spray solutions containing this product should be mixed stored or applied using aluminium, fiberglass or plastic-lined

containers and equipment. The product is corrosive to mild steel. The product is compatible with many herbicides when used at normal rates. However, a compatibility test is required before using with other products. Do not physically mix concentrate directly with other herbicides or pesticide concentrates; always dilute first.

Hazardous decomposition products:
Toxic fumes of arsenic oxides and toxic oxides of sodium are released when the product decomposes on heating.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution: No data available

Information on toxicological effects:

Assessment of acute toxicity:

The product has not been tested. The data reported is for the main ingredients in the mixture.

MSMA tech CAS No. 2163-80-6	
Acute toxicity:	
Acute Oral LD50 (rabbit)	102 mg/kg
Acute Dermal LD50 (rabbit):	2500 mg/kg
Acute Inhalation LC50 - 4 h (rat)	0.51 mg/l
Skin irritation/ corrosion (rabbits)	Mild skin irritant
Eye damage / irritation (rabbits)	Mild eye irritant
Respiratory or skin sensitization	Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
Germ cell mutagenicity Test Type: Mouse Test system: lymphocyte Remarks: Cytogenetic analysis Test Type: Mouse Test system: lymphocyte Remarks: Mutation in mammalian somatic cells.	
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific Target Organ Toxicity STOT single exposure	No data available
Specific Target Organ Toxicity STOT repeated exposure	No data available
Aspiration hazard	No data available

Additional information:

Exposure to arsenic compounds can cause:, exfoliative dermatitis, pigmentation of the skin, herpes, inflammation of nerves, nasal septum ulceration, convulsions, nausea, headache, vomiting.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

SECTION 12. ECOLOGICAL INFORMATION

MSMA tech CAS No. 2163-80-6	
Toxicity	
Aquatic Toxicity Fish LC_{50} (96 hr) Aquatic Toxicity Daphnia EC_{50} (96 hr) Avian Toxicity LD50 (oral) Bees LD_{50}	448 mg/l Pimephales promelas (fathead minnow) 77.5 mg/l Daphnia pulex (Water flea) 425 g/kg (quail). 68 µg/bee
Persistence and degradability	Results of studies indicate the product is readily metabolized by micro-organisms. DT50 is 55 days and 88 days for the primary metabolite, cacodylic acid.

Bioaccumulation potential	No data available
Mobility in soil	Koc is 250 (sandy soil) to 2850 (silty loam).

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Product:

Keep out of drains, sewers, ditches, and waterways. Refer to container label for disposal information. Treat as hazardous waste and dispose of in accordance with local/ regional/ national/ international regulations.

Container:

Refer to container label for disposal information. Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is cleaned, reconditioned, or destroyed. Rinse empty container three times with a volume of water equal to at least one tenth of that of the container. Pour rinse water into spray tank Dispose of as hazardous waste. Do not contaminate water when disposing of rinse water. Dispose of using an approved waste disposal service provider.

Follow all local/ regional/ national/ international regulations.

SECTION 14. TRANSPORT INFORMATION

UN Number	2994
UN proper shipping name	Arsenical Pesticides; Liquid; Toxic (Organic arsenical 720 g/l).
Transport hazard class	6.1
Packaging group	II
Marine pollutant	Yes

SECTION 15. REGULATORY INFORMATION

Safety, health, and environmental regulations/legislation for the mixture:

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021.UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 8, 2019.

Relevant information regarding restrictions:

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP]

Other National regulations:

National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes.

National Environmental Management Waste Act 59 of 2008.

Act 36 of 1947 of the Republic of South Africa. This product is registered under it is a violation of South African law to use this product in any manner inconsistent with its approved labelling. Read and follow all label directions

Chemical Safety Assessment carried out? No

SECTION 16. OTHER INFORMATION

Indication of changes:

Classification according to SANS 10234:2019, Regulation EC 1272/2008 [EU-GHS/CLP]
GHS aligned – all sections

Relevant H statements (number and full text) Section 3:

H331-Toxic if inhaled

Training instructions:

Use as indicated on the label, special training may be required for application.

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product, nor where instructions or recommendations are not followed.