#13

LUXEMBOURG

SAFETY DATA SHEET

Issue date: 31/05/2015

1. Identification of the substance or mixture and of the supplier

Product:	**MSMA 48.3% SL**
Commercial product name:	**Target® 6 Plus**
Chemical name:	Monosodium acid methanearsonate
EPA registration number:	42519-3
Recommended use:	Herbicide
Supplier:	Luxembourg-Pamol, Inc. 3647 Willowbend Boulevard, Suite 810 Houston, TX 77054, USA Tel: 877-343-4239
Manufacture:	Luxembourg Industries Ltd. 27 Hamered St., Tel Aviv, 6812509 ISRAEL
Emergency phone number:	+972 3 796 4300
For USA Only:	1-800-424-9300

* Target ® is a registered trademark of Luxembourg

2. Hazards identification

Classification of the product (two classifications are presented: a. according to Global Harmonized System of Classification and Labelling of Chemicals (GHS, *fifth revised edition, 2013*) and b. according to OSHA HCS 2012, 29 C.F.R. § 1910.1200

a. ACCORDING TO GHS

Hazard classification:	Acute toxicity, Oral	Category 5
	Acute toxicity, Inhalation (mist)	Category 4
	Hazardous to the aquatic environment	
	Acute hazard	Category 3
	Long term hazard	Category 3

Label elements: Pictogram:  Signal word: Warning

Hazard statement(s):	H303	May be harmful if swallowed.
	H332	Harmful if inhaled.
	H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s):

Prevention:	P261	Avoid breathing mist.

LUXEMBOURG-PAMOL, INC.
3647 Willowbend Boulevard, Suite 810, Houston, TX 77054, U.S.A. PHONE: (713) 661-8800, PHONE: (877) 343-4239, E-mail: main@luxpam.com

	P271	Use only outdoors or in a well-ventilated area.
	P273	Avoid release to the environment.
Response:	P312	Call a POISON CENTER/doctor/physician if you feel unwell.
	P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Storage:	No storage statements required.	
Disposal:	P501	Dispose of contents/container in accordance with national/ international regulations.

b. ACCORDING TO OSHA HCS 2012, 29 C.F.R. § 1910.1200

Hazard(s) identification: Acute toxicity, Inhalation (mist) Category 4

Hazard statement: Harmful if inhaled

Signal word: Warning

Pictogram: Exclamation mark 

Precautionary statements:

Prevention: Avoid breathing mists.
Use only outdoors or in a well-ventilated area.

Response: If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center/doctor/physician if you feel unwell.

Storage: No storage statements.

Disposal: No disposal statements.

Hazards Not Otherwise Classified (HNOC): Not known.

---

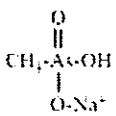
3. Information on ingredients contributing to hazard

Common name: MSMA, Monosodium methanearsonate

Chemical family: Organo-arsenic compounds

Chemical formula: CH_4AsO_3Na

Structural formula:



CAS No.: 2163-80-6

Content: 46.9-49.7%, 720 g/L

---

4. First-aid measures

Ingestion: Call a poison control center or doctor immediately for treatment advice.
Have person sip a glass of water if able to swallow.
Do not induce vomiting unless told to do so by a poison control center or doctor.
Do not give anything by mouth to an unconscious person.

Inhalation: Move person to fresh air.
If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
Call a poison control center or doctor for further treatment advice.

Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes.
Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
Call a poison control center or doctor for treatment advice.

Skin: Take off contaminated clothing.
Rinse skin immediately with plenty of water for 15-20 minutes.
Call a poison control center or doctor for treatment advice.

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.

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 penicillins may suffer an allergic reaction. BAL is recommended for persons allergic to penicillin.

5. Fire-fighting measures

Suitable extinguishing media: Dry chemical or carbon dioxide (CO_2), do not use water or foam, as this may spread product.

Specific hazards arising from the chemical: Reducing agents may release arsine gas.

Special protective equipment and precautions for fire-fighters: Wear chemical protective clothing and self-contained breathing apparatus (SCBA) with positive pressure.

6. Accidental release measures

Personal precautions, protective equipment: Use personal protective equipment. Avoid breathing mist. Ensure adequate ventilation.

Environmental precautions: Do not apply directly to water. Do not discharge into drains/surface waters/groundwater. Do not contaminate water by cleaning of equipment or disposal waste. Do not contaminate waters used for domestic purposes, or by wildlife, including aquatic life, or for irrigation.

Methods and materials for containment and cleaning up: Stop leak if possible. Contain spilled product with an inert diking material, such as sand. Cover the spill area with a 1:1 mixture of vermiculite and solid calcium oxide (the amount of the mixture should be at least double the size of the spill). Place reclaimed product in a closed and properly labeled waste drum. Store drum in separate area until proper disposal. Flush residue with water.

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.

Conditions for safe storage, including any incompatibilities: Store in a cool place. Keep container tightly closed in a dry and well ventilated place. Damaged or leaking containers which cannot be used immediately should be transferred to suitable sound containers and properly marked. Incompatibility: Heavy metal salts may cause precipitation. Mild corrosive to steel. May react with reducing agents such as aluminum, zinc, sodium borohydride, sulfur dioxide.

8. Exposure controls / personal protection

Occupational exposure limits: **Exposure limits for organic arsenic compounds**

OSHA PEL-TWA, (as As):
0.5 mg/m^3

OSHA California/PEL-TWA, (as As):
0.2 mg/m^3

ACGIH (2015) TLV-TWA:
Not established

Appropriate engineering controls:	Provide exhaust ventilation or other engineering controls. Wash hands before breaks and at the end of the workday.
Personal protective equipment:	Long sleeve shirt, long pants, boots, chemical resistant gloves, dust or mist respirator, and protective eyewear.

9. Physical and chemical properties

Appearance:	Clear liquid
Color:	Colourless to yellow
Odor:	Odourless
Odor threshold:	Not relevant
pH:	5-7
Freezing point:	-25 to -15°C
Boiling point:	Not available
Evaporation rate:	Not available
Flash point:	> 100°C
Flammability:	Not flammable
Upper/lower flammability or explosive limits:	Not relevant
Vapour pressure (25°C):	$<1x10^{-5}$ Pa (MAA)
Vapour density:	Not available
Relative density:	Not available
Bulk density (20°C):	1.3-1.7 g/mL
Solubility in water (25°C):	104 g/100 mL (MSMA 100%)
Partition coefficient n-octanol/water (23°C):	Not relevant
Ignition temperature:	Not relevant
Decomposition temperature:	Not available
Viscosity (25°C):	27.7 cps (MSMA 51%)

10. Stability and reactivity

Reactivity:	Heavy metal salts may cause precipitation. Mildly corrosive to steel. May react with reducing agents such as aluminum, zinc, sodium borohydride, sulfur dioxide.
Chemical stability:	Stable under normal temperatures and pressure.
Possibility of hazardous reactions:	Not available.
Conditions to avoid:	Not available.
Incompatible materials:	Reducing agents such as aluminum, zinc, sodium borohydride, sulfur dioxide.
Hazardous decomposition products:	Reducing agents may release arsine gas.

11. Toxicological information

Acute toxicity

Oral LD_{50} (rat):	2833 mg/kg
Dermal LD_{50} (rabbit):	>2000 mg/kg
Inhalation LC_{50} (1h, rat):	10.8 mg/L
Inhalation LC_{50} (4h, rat):	2.2 mg/L

Skin corrosion/irritation

Skin irritation (rabbit): Not a primary irritant

Serious eye damage/irritation

Eye irritation (rabbit): Not a primary irritant

Respiratory or skin sensitization

Dermal sensitization (guinea pig): Not a contact sensitizer

Germ cell mutagenicity: Not mutagenic

Carcinogenicity: MSMA is not a carcinogen. It did not cause tumors in any of the carcinogenicity studies that were conducted.

NTP: Not listed
OSHA: Not listed
IARC: Not listed

Reproductive toxicity: Not available

STOT* single exposure: Not available

STOT repeated exposure: Not available

Aspiration hazard: Not available

*Specific Target Organ Toxicity

12. Ecological information

Ecotoxicity: (MSMA 51%)

Birds:

Northern bobwhite LD_{50}:	834 mg/kg
Northern bobwhite LC_{50} (5d):	3269 mg/L
Mallard LC_{50} (5d):	>5620 mg/L

Fish:

Bluegill sunfish LC_{50} (96 h): > 93 mg/L

Crustacean:

Daphnia pulex LC_{50} (48 h): 82.85 mg/L

Aquatic plants:

Lemna gibba E_rC_{50} (14 days): 145.9 mg /L

Bees:

Apis mellifera LD_{50} (48hr, contact): 68 µg/bee

Persistence and degradability: Not readily biodegradable

Bioaccumulative potential: No bioaccumulative potential (the product is hydrophilic, BCF less than 1X)

Mobility in soil:	Not available
Other adverse effects:	Not available

13. Disposal considerations

According to FIFRA: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

14. Transport information

Not regulated for transportation.

15. Regulatory information

This data sheet complies with the requirements of the Global Harmonized System of Classification and Labelling of chemicals (GHS, *fifth revised edition, 2013*) and the Occupational Safety and Health Standards HCS 2012, 29 C.F.R. § 1910.1200 (OSHA).

According to FIFRA: This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION
Harmful if swallowed.
Harmful if absorbed through skin.
Causes moderate eye irritation.

TSCA Inventory: This product is exempt from TSCA inventory listing requirements as it is solely for FIFRA regulated use.

16. Other information

The information contained herein is applicable solely to the indicated product, and does not relate to any other use of this product as described. Its use is intended by persons having technical skill and at their own discretion and risk. The information has been developed from sources reliable. This information is furnished without warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose is made with respect to the information contained herein.

Issue date: 28/05/2015 (EA, LS,ME)
Version: 4
Replace version: 3 from 15/04/2015