1. Identification of the Substance/Preparation and of the Company/Undertaking

**Product identifier**
Product Description: Moccasin MTZ Herbicide

**Other means of identification**
Item#: 12U-335
Registration number(s): 70506-335

**Recommended use of the chemical and restrictions on use**
Recommended use: Herbicide.
Uses advised against: Activities contrary to label recommendation
Non labeled activities

**Details of the Supplier of the Safety Data Sheet**
Supplier Address
United Phosphorus Inc.
630 Freedom Business Center
Suite 402
King of Prussia, PA 19406

Emergency telephone number
Company Phone Number: 610-223-2180
Emergency telephone number: Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 673-6671 (24hrs)

2. Hazards Identification

**Classification**

**OSHA Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>1</td>
</tr>
<tr>
<td>Aspiration toxicity</td>
<td>1</td>
</tr>
</tbody>
</table>

**Label elements**

**EMERGENCY OVERVIEW**

**DANGER**

**Hazard Statements**
Causes serious eye damage
May be fatal if swallowed and enters airways
Precautionary Statements - Prevention
Wear protective gloves/protective clothing/eye protection/face protection

IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)
OTHER INFORMATION
• Causes mild skin irritation
• Very toxic to aquatic life with long lasting effects
• Very toxic to aquatic life

3. Composition/information on Ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metribuzin</td>
<td>21087-64-9</td>
<td>12.98</td>
</tr>
<tr>
<td>S-METOLACHLOR</td>
<td>87392-12-9</td>
<td>38.94</td>
</tr>
<tr>
<td>petroleum distillates</td>
<td>Proprietary</td>
<td>&gt;36</td>
</tr>
</tbody>
</table>

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

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

Skin contact
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.

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

Ingestion
Call a physician or poison control center immediately. Clean mouth with water. Do not give
any liquids. Never give anything by mouth to an unconscious person.

Most Important Symptoms and Effects, Both Acute and Delayed
No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician
Contains a petroleum distillate - vomiting may cause aspiration pneumonia.

5. Fire-fighting measures
Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical
No information available.

Hazardous combustion products Thermal decomposition or combustion may produce irritating and possibly toxic gases in a fire.

Explosion data

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment. Avoid contact with skin and eyes. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Wash thoroughly after handling.

Environmental Precautions

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Methods and material for containment and cleaning up

Methods for Clean-Up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Handling Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling. KEEP OUT OF REACH OF CHILDREN AND PETS.

Conditions for safe storage, including any incompatibilities

Storage Keep in a dry, cool and well-ventilated place. Keep away from food, drink and animal feeding stuffs.

incompatible materials No information available.

8. Exposure Controls/Personal Protection

Exposure guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metribuzin</td>
<td>TWA: 5 mg/m³</td>
<td>(vacated) TWA: 5 mg/m³</td>
</tr>
</tbody>
</table>

Engineering controls Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Personal protective equipment
Eye/Face Protection
Where there is potential for eye contact have eye flushing equipment available. Use eye protection to avoid eye contact. If splashes are likely to occur, wear: Goggles.

Skin Protection
Chemical resistant protective clothing. Chemical resistant footwear plus socks.

Respiratory Protection
Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

General hygiene considerations
Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Keep away from food, drink and animal feeding stuffs. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

**Physical state**
- Liquid

**Appearance**
- Clear

**Odor**
- characteristic

**color**
- light brown

<table>
<thead>
<tr>
<th>Property</th>
<th>VALUES</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>5.70 @20 C (1% solution)</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>102 °C / 215 °F</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability limit in air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.03 g/ml @ 20 C</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Miscible with water</td>
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</tr>
<tr>
<td>Solubility in Other Solvents</td>
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<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

**OTHER INFORMATION**

- Softening point: No information available
- Molecular weight: No information available
- VOC Content: No information available
- Liquid Density: No information available

10. Stability and Reactivity

**Reactivity**
- no data available
Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
No information available.

Hazardous decomposition products
No information available.

11. Toxicological Information

Information on Likely Routes of Exposure

Product information
Moccasin MTZ
Acute oral LD50 = 2615 mg/kg
Acute dermal LD50 = >2000 mg/kg
Acute inhalation LC50 = > 5.323 mg/L

Inhalation
May be harmful if inhaled.

Eye contact
Moderately irritating to the eyes.

Skin contact
Substance may cause slight skin irritation.

Ingestion
HARMFUL IF SWALLOWED.

Information on Toxicological Effects

Symptoms
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
No information available.

Mutagenic effects
No information available.

Carcinogenicity
The information below indicates whether any agency has listed any ingredient as a carcinogen.

Reproductive effects
Not Available.

STOT - Single Exposure
No information available.

STOT - Repeated Exposure
No information available.

Aspiration hazard
No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral 2615 mg/kg (rat)
LD50 Dermal > 2000 mg/kg (rat)

12. Ecological Information

Ecotoxicity
Harmful to aquatic life
S-metolachlor
FISH
Rainbow trout 96 hr = 1.23 mg/L
Brown trout 21 day = 0.25 mg/L
ALGAE
Selenastrum capricornutim = 0.0008 mg/L
Aquatic Invertebrates
Daphnia magna 21 day = 5.9 mg/L
BIRDS
Duck LD50 = >2150 mg/kg

Persistence/Degradability
No information available.

Bioaccumulation/Accumulation
Bioaccumulative potential.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>petroleum distillates</td>
<td>2.9 - 6.1</td>
</tr>
</tbody>
</table>

Other Adverse Effects
No information available

### 13. Disposal Considerations

**Waste Treatment Methods**

**Waste Disposal Method**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or 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.

**Contaminated packaging**

Refer to product label.

### 14. Transport Information

**DOT**

When shipped domestically by highway in non-bulk containers this product can be shipped as not regulated.

When shipped in bulk, by vessel, or internationally use the IMDG shipping description:

**TDG**

When shipped in Canada domestic highway non-bulk this product can be shipped as Not regulated as per TDG 1.45.1

**IATA**

- **UN-No**: UN3082
- **Proper shipping name**: Environmentally hazardous substances, liquid, n.o.s (S-metolachlor)
- **Hazard class**: 9
- **Packing group**: PG III
- **Description**: Marine Pollutant

**IMDG/IMO**

- **UN-No**: UN3082
- **Proper shipping name**: Environmentally hazardous substances, liquid, n.o.s (S-metolachlor)
- **Hazard class**: 9
- **Packing group**: PG III
- **Marine Pollutant**: Marine Pollutant
15. Regulatory Information

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:

signal word  CAUTION

Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation.
Contains petroleum distillates.

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>USINV</td>
<td>Present</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Not present</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Not Present</td>
</tr>
<tr>
<td>ENCS</td>
<td>Not Present</td>
</tr>
<tr>
<td>China</td>
<td>Not Present</td>
</tr>
<tr>
<td>KECL</td>
<td>Not Present</td>
</tr>
<tr>
<td>PICCS</td>
<td>Not Present</td>
</tr>
<tr>
<td>AICS</td>
<td>Not Present</td>
</tr>
<tr>
<td>TSCA</td>
<td>Not Present</td>
</tr>
</tbody>
</table>

Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

- Acute health hazard: yes
- Chronic health hazard: NO
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

CERCLA
Not applicable

RCRA

Pesticide Information

State Regulations
Not applicable

State Right-to-Know
Not applicable

International regulations
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End of SDS