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

Product identifier
Product Description: Shutdown Herbicide

Other means of identification
Item#: 12U-326
Registration number(s) 70506-326

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 215-715-2174
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>Toxicity</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>4</td>
</tr>
<tr>
<td>Acute toxicity - Dermal</td>
<td>4</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Vapors)</td>
<td>1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>1</td>
</tr>
</tbody>
</table>

Label elements

EMERGENCY OVERVIEW

DANGER

Hazard Statements
Fatal if inhaled
May cause an allergic skin reaction
Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace

IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor if you feel unwell
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

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

Hazards Not Otherwise Classified (HNOC)

OTHER INFORMATION

3. Composition/information on Ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfentrazone</td>
<td>122836-35-5</td>
<td>40.7</td>
<td></td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>5.1</td>
<td></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
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a poison control center or doctor for treatment advice.

Skin contact
Wash off immediately with plenty of water for at least 15 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. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.

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

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Treat symptomatically.

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.


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 Do not breathe vapours or spray mist. Use personal protective equipment. Avoid contact with skin and eyes. Wash thoroughly after handling.

Environmental Precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

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 Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Wear personal protective equipment. Wash thoroughly after handling. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.

incompatible materials No materials to be especially mentioned.

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>Ethylene glycol</td>
<td>Ceiling: 100 mg/m$^3$ aerosol</td>
<td>(vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m$^3$</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
Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles.

Skin protection
Wear protective gloves/clothing. Socks and footwear.

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. 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

<table>
<thead>
<tr>
<th>Property</th>
<th>VALUES</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Opaque</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
<td></td>
</tr>
<tr>
<td>color</td>
<td>Tan</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6.49</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>No information available</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>No information available</td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
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<td></td>
</tr>
<tr>
<td>vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
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</tr>
<tr>
<td>Specific gravity</td>
<td>1.2 g/cm3</td>
<td></td>
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<tr>
<td>Water solubility</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>
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<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
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<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>
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<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                     |                  |
density                                 | No information available                     |                  |
Bulk 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 materials to be especially mentioned.

Hazardous decomposition products

11. Toxicological Information

Information on Likely Routes of Exposure

Product information
Shutdown/Boycott
Acute Oral LD50 (rat) = >2000 mg/kg
Acute Dermal LD50 (rat) = >2000 mg/kg
Acute inhalation LC50 (rat) 4 hr = >0.435 mg/L - No mortality

Inhalation
May cause irritation of respiratory tract.

Eye contact
May cause slight irritation.

Skin contact
May cause irritation.

Ingestion
MAY BE 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
There are no known carcinogenic chemicals in this product.

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 - No information available

LD50 Oral
> 2,000 mg/kg (rat)

LD50 Dermal
> 2,000 mg/kg (rat)

LC50 Inhalation
> 1.74 mg/l (rat) (1 hr) No mortality

12. Ecological Information
**Ecotoxicity**

Sulfentrazone
Slightly toxic to fish and aquatic arthropods LC50 ranges from 60.4 - >130 mg/L
Upland game birds Oral LD50 >2,250 mg/kg
Bluegill sunfish LC50 (96 hr) = 30.8 mg/L
Daphnia magna LC50 (48 hr) = 8.31 mg/L
Bee Oral LC50 (48 hr ) = >2006 mg/bee

**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>Ethylene glycol</td>
<td>-1.93</td>
</tr>
<tr>
<td>107-21-1</td>
<td></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. Dispose of contents/container in accordance with local regulation.

**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
In bulk - use IMDG description

**IATA**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>Proper shipping name</th>
<th>Hazard class</th>
<th>Packing group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3082</td>
<td>Environmentally hazardous substances, liquid, n.o.s (sulfentrazone)</td>
<td>9</td>
<td>PG III</td>
<td>Marine Pollutant</td>
</tr>
</tbody>
</table>

**IMDG/IMO**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>Proper shipping name</th>
<th>Hazard class</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3082</td>
<td>Environmentally hazardous substances, liquid, n.o.s (sulfentrazone)</td>
<td>9</td>
</tr>
</tbody>
</table>
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**  WARNING

**Ventilation Control**  PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Keep out of Reach of Children. May be fatal if inhaled. Harmful if swallowed or absorbed through the skin. Toxic to aquatic and estuarine invertebrates.

**International Inventories**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USINV</td>
<td>Does not comply</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>China</td>
<td>Does not comply</td>
</tr>
<tr>
<td>KECL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>AICS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>TSCA</td>
<td>Does not comply</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 and Title 40n of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazardous**

<table>
<thead>
<tr>
<th>Categorization</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic health hazard</td>
<td>NO</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>RQ</th>
<th>CERCLA EHS RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>5000 lb</td>
<td>RQ 5000 lb final RQ RQ 2270 kg final RQ</td>
<td></td>
</tr>
<tr>
<td>107-21-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CERCLA**
Component | RQ
---|---
Ethylene glycol 107-21-1 (5.1) | 5000 lb

**RCRA**

**Pesticide Information**

<table>
<thead>
<tr>
<th>Component</th>
<th>FIFRA - Restricted Use</th>
<th>FIFRA - Pesticide Product Other Ingredients</th>
<th>FIFRA - Listing of Pesticide Chemicals</th>
<th>California Pesticides - Restricted Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol 107-21-1 (5.1)</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**State Regulations**

**State Right-to-Know**

**International regulations**

**U.S. EPA Label information**

**EPA Pesticide registration number** 70506-326

### 16. Other Information

- **NFPA**
  - HEALTH 2
  - flammability 0
  - Instability 0
  - Physical hazard -

**Preparation Date** 01-Sep-2016

**Revision date** 06-Feb-2017

**Revision Summary** Update section 11

**Disclaimer**

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End of MSDS