1. IDENTIFICATION

Product identifier
Product Name
Sharda Glyphosate IPA + Imazethapyr

Other means of identification
Product Code
83529-47
Synonyms
Praxis Plus
Registration Number(s)
83529-47

Recommended use of the chemical and restrictions on use
Recommended Use
Herbicide
Uses advised against
No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Sharda USA LLC
P.O. Box 640
Hockessin, DE 19707
Website: www.shardausa.com

Emergency telephone number
Company Phone Number
610-350-6930 (US)
+91 22 5678 2800 (India)
Emergency Telephone
CHEMTREC: 800-424-9300
CHEMTREC: 703-527-3887
POISON CONTROL CENTER: 800-222-1222

2. HAZARDS IDENTIFICATION

Classification

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

| Serious eye damage/eye irritation | Category 2A |

Label elements

Warning

Emergency Overview

Hazard statements
Causes serious eye irritation
Appearance: clear liquid aqueous solution
Physical state: liquid
Odor: Slight sweet

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Harmful to aquatic life with long lasting effects. May be harmful in contact with skin.

Unknown acute toxicity
16.8% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other ingredients *</td>
<td>Proprietary</td>
<td></td>
<td>40-70</td>
</tr>
<tr>
<td>Glyphosate, isopropanolamine salt</td>
<td>38641-94-0</td>
<td>22.0</td>
<td></td>
</tr>
<tr>
<td>Surfactant blend *</td>
<td>Proprietary</td>
<td></td>
<td>10-30</td>
</tr>
<tr>
<td>Imazethapyr</td>
<td>81335-77-5</td>
<td>1.8</td>
<td></td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret. If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice
Call a poison control center or doctor for treatment advice. Have the product containers or label with you when calling a poison control center or doctor, or going for treatment.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Call a poison control center or doctor for treatment advice.

Inhalation
Move victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician or poison control center immediately. Call a poison control center or doctor for treatment advice.

Ingestion
Call a physician or poison control center immediately. Drink 1 or 2 glasses of water. Do not
induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**
May cause redness and tearing of the eyes.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**
Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

---

**5. FIRE-FIGHTING MEASURES**

**Suitable extinguishing media**
Dry chemical, CO2, water spray or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. Water spray, fog or regular foam.

**Unsuitable extinguishing media** None.

**Specific hazards arising from the chemical**
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Hazardous combustion products** Carbon oxides. Nitrogen oxides (NOx).

**Explosion data**

- **Sensitivity to Mechanical Impact** None.
- **Sensitivity to Static Discharge** None.

**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. Cool containers / tanks with water spray.

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**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**
Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

**For emergency responders**
Use personal protection recommended in Section 8. Ventilate the area.

**Environmental precautions**

**Environmental precautions**
Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

**Methods for containment**
Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Cover liquid spill with sand, earth or other non-combustible absorbent material. Sweep up and shovel into suitable containers for disposal.

---

**7. HANDLING AND STORAGE**
# Precautions for safe handling

**Advice on safe handling**  
Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**  
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs. Keep in properly labeled containers.

**Packaging materials**  
Do not reuse container.

**Incompatible materials**  
Strong oxidizing agents.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines**  
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls**

**Engineering Controls**  
Ensure adequate ventilation, especially in confined areas. And. Showers. Eyewash stations. Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**  
Wear safety glasses with side shields (or goggles).

**Skin and body protection**  
Wear suitable protective clothing. Wear protective butyl rubber gloves. Protective shoes or boots.

**Respiratory protection**  
Ensure adequate ventilation, especially in confined areas. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations**  
When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs. Wash contaminated clothing before reuse.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>clear liquid aqueous solution</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>orange</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Slight sweet</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>5.85</td>
<td>solution (1 %)</td>
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<tr>
<td>Melting point / freezing point</td>
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</tr>
<tr>
<td>Boiling point / boiling range</td>
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<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 100 °C / &gt; 212 °F</td>
<td>Seta Closed Cup</td>
</tr>
<tr>
<td>Property</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------------------</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>
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<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
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<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>~17 mmHg @ 25 °C</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
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<td></td>
</tr>
<tr>
<td>Relative density</td>
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<tr>
<td>Water solubility</td>
<td>Soluble in water</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
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<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
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<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No information available</td>
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<tr>
<td>Dynamic viscosity</td>
<td>~9 mPa s @ 25 °C</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not an explosive</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
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</tr>
<tr>
<td>Softening point</td>
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<td></td>
</tr>
<tr>
<td>Molecular weight</td>
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<td></td>
</tr>
<tr>
<td>VOC Content (%)</td>
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<td></td>
</tr>
<tr>
<td>Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

**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**
  - Elevated Temperature. Storage near to reactive materials.

- **Incompatible materials**
  - Strong oxidizing agents.

- **Hazardous Decomposition Products**
  - Thermal decomposition can lead to release of irritating and toxic gases and vapors. Nitrogen oxides (NOx). Carbon oxides.

**11. TOXICOLOGICAL INFORMATION**

- **Information on likely routes of exposure**

  **Product Information**

  - **Inhalation**
    - Based on available data, the classification criteria are not met.

  - **Eye contact**
    - Irritating to eyes.

  - **Skin contact**
    - Based on available data, the classification criteria are not met.

  - **Ingestion**
    - Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other ingredients</td>
<td>&gt; 90 mL/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Glyphosate, isopropanolamine salt 38641-94-0 = 4873 mg/kg (Rat) = 7940 mg/kg (Rabbit) > 4.98 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms

May cause redness and tearing of the eyes.

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

Sensitization

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

The U.S. EPA classified glyphosate as Group E, evidence of non-carcinogenicity in humans. The U.S. EPA does not consider glyphosate to be a human carcinogen based on studies of laboratory animals that did not produce compelling evidence of carcinogenicity. The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate, isopropanolamine salt 38641-94-0</td>
<td>-</td>
<td>Group 2A</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT - single exposure

Based on available data, the classification criteria are not met.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document:

- ATEmix (oral) 18,429.00 mg/kg
- ATEmix (dermal) 30,028.00 mg/kg
- ATEmix (inhalation-dust/mist) 18.85 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

78% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate, isopropanolamine salt 38641-94-0</td>
<td>485: 72 h Pseudokirchneriella subcapitata mg/L EC50 5.5554: 96 h Pseudokirchneriella subcapitata mg/L EC50 static</td>
<td>1.3 - 2.5: 96 h Lepomis macrochirus mg/L LC50 static 1.1 - 1.6: 96 h Oncorhynchus mykiss mg/L LC50 static 9.9 - 12: 96 h Cyprinus carpio mg/L LC50 607 - 638: 96 h Cyprinus carpio mg/L LC50 semi-static 1.7 - 5: 96 h Pimephales promelas mg/L LC50 static 5.19 - 5.83: 96 h Lepomis macrochirus mg/L LC50 flow-through</td>
<td>2.6 - 3.4: 48 h Daphnia magna mg/L EC50 Static</td>
</tr>
</tbody>
</table>

Persistence and degradability

Not readily biodegradable.

Bioaccumulation

Not likely to bioaccumulate.
Other adverse effects
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)

13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Disposal of wastes
Pesticide wastes may be acutely hazardous. Improper disposal is a violation of federal law. Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance on proper disposal of waste product.

Contaminated packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations. Consult product label for additional information. Do not reuse container.

14. TRANSPORT INFORMATION

DOT
Not regulated

TDG
Not regulated

IATA
Not regulated

IMDG
Not regulated

15. REGULATORY INFORMATION

International Inventories

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

Legend:
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

US 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

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Category</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Chronic Health Hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other ingredients</td>
<td>-</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Glyphosate, isopropanolamine salt 38641-94-0</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number 83529-47
EPA Statement
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:

Difference between SDS and EPA Pesticide label
WARNING: Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if absorbed through skin. Avoid contact with skin.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>Personal protection X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
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<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Issue Date 06-Aug-2016
Revision Date 06-Aug-2016
Revision Note No information available
Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

10Aug2016