1. IDENTIFICATION

Product identifier
Product Name: Sharda Metribuzin 4SC

Other means of identification
Product Code: 83529-46
Synonyms: Metrixx SC
Registration Number(s): 83529-46

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 not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements
Emergency Overview
Not classified

Appearance: aqueous solution
Physical state: liquid
Odor: Strong Sulfurous

Precautionary Statements - Prevention
Not applicable

Precautionary Statements - Response
Not applicable

Hazards not otherwise classified (HNOC)
Not applicable

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

Unknown acute toxicity
0% 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>Mixture</td>
<td>Other ingredients *</td>
<td>Proprietary</td>
<td>30 - 60</td>
</tr>
<tr>
<td></td>
<td>Metribuzin</td>
<td>21087-64-9</td>
<td>42.7</td>
</tr>
<tr>
<td></td>
<td>Glycerin *</td>
<td>56-81-5</td>
<td>1 - 5</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**
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician if irritation persists. 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. Administer oxygen if breathing is difficult. Call a physician 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**
None known.
Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically. The compound does not cause any definite symptoms that would be diagnostic. Poisoning is accompanied by breathing difficulties and sedation.

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 Do not scatter spilled material with high pressure water streams.

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


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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

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 Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

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

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metribuzin</td>
<td>TWA: 5 mg/m$^3$</td>
<td>-</td>
<td>TWA: 5 mg/m$^3$</td>
</tr>
<tr>
<td>21087-64-9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerin</td>
<td>-</td>
<td>TWA: 15 mg/m$^3$ mist, total particulate</td>
<td>-</td>
</tr>
<tr>
<td>56-81-5</td>
<td></td>
<td>TWA: 5 mg/m$^3$ mist, respirable fraction</td>
<td></td>
</tr>
</tbody>
</table>

NIOSH IDLH  Immediately Dangerous to Life or Health

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). Tight sealing safety 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>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>aqueous solution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Strong Sulfurous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6.21</td>
<td></td>
<td>solution (1 %)</td>
</tr>
</tbody>
</table>
Flammability (solid, gas) No information available
Flammability Limit in Air
   Upper flammability limit: No information available
   Lower flammability limit: No information available
Vapor pressure ~17 mmHg @ 25 °C
Vapor density No information available
Relative density 1.124
Water solubility dispersible
Solubility in other solvents No information available
Partition coefficient No information available
Autoignition temperature No information available
Decomposition temperature No information available
Kinematic viscosity No information available
Dynamic viscosity No information available
Explosive properties Not an explosive
Oxidizing properties Not applicable

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
   Acute Oral LD50 (rat): >5000 mg/kg
   Acute Dermal LD50 (rabbit): > 2000 mg/kg
   Eye Irritation (rabbit): Not an eye irritant.
   Skin Irritation (rabbit): Not a skin irritant.
   Inhalation LC50 (rat): >4.7 mg/L (4 HR)
   Skin Sensitization (guinea pig): Not a sensitizer

   Inhalation Based on available data, the classification criteria are not met.
   Eye contact Based on available data, the classification criteria are not met.
   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>Metribuzin</td>
<td>&gt; 90 mL/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21087-64-9</td>
<td>= 2020 mg/kg</td>
<td>= 5000 mg/kg</td>
<td>&gt; 860 mg/m^3</td>
</tr>
<tr>
<td>Glycerin</td>
<td>= 12600 mg/kg</td>
<td>&gt; 10 g/kg</td>
<td>&gt; 570 mg/m^3</td>
</tr>
<tr>
<td>56-81-5</td>
<td></td>
<td>(Rabbit)</td>
<td>(Rat) 1 h</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms

No information available.

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

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

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) >2000.00 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish (rainbow trout)</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metribuzin 21087-64-9</td>
<td>Green algae 72-hr EC50 = 0.007 mg/L</td>
<td>96-hr LC50 = 74.6 mg/L</td>
<td>Daphnia magna 48-hr EC50 = 98.5 mg/L</td>
</tr>
<tr>
<td>Glycerin 56-81-5</td>
<td>-</td>
<td>51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static</td>
<td>500: 24 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

Persistence and degradability

Not readily biodegradable.

Bioaccumulation

Not likely to bioaccumulate.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin 56-81-5</td>
<td>-1.76</td>
</tr>
</tbody>
</table>

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
14. TRANSPORT INFORMATION

**DOT**
Not regulated

**TDG**
Not regulated

**IATA**

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>Environmentally hazardous substance, liquid, n.o.s.</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>9</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>ERG Code</td>
<td>9L</td>
</tr>
<tr>
<td>Special Provisions</td>
<td>A97, A158, A197</td>
</tr>
<tr>
<td>Description</td>
<td>UN3082, Environmentally hazardous substance, liquid, n.o.s. (Metribuzin), 9, III</td>
</tr>
</tbody>
</table>

**IMDG**

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th>UN3082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>Environmentally hazardous substance, liquid, n.o.s.</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>9</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>EmS-No</td>
<td>F-A, S-F</td>
</tr>
<tr>
<td>Special Provisions</td>
<td>274, 335</td>
</tr>
<tr>
<td>Description</td>
<td>UN3082, Environmentally hazardous substance, liquid, n.o.s. (Metribuzin), 9, III, Marine pollutant</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>International Inventories</th>
<th></th>
</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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metribuzin - 21087-64-9</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories
- Acute health hazard: No
- 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>Metribuzin 21087-64-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Glycerin 56-81-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information

EPA Pesticide Registration Number 83529-46

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
CAUTION: Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

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>0</td>
<td>0</td>
<td>0</td>
<td>-</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>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Issue Date 29-Jul-2016
Revision Date 29-Jul-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

05Aug16