Bonide KleenUp Weed & Grass Killer Ready to Use
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product name : Bonide KleenUp Weed & Grass Killer Ready to Use
Product code : 4483

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture : Herbicide

1.3. Details of the supplier of the safety data sheet
Bonide Products, Inc.
6301 Sutliff Road
Oriskany, NY 13424
T (315) 736-8231
www.bonide.com

1.4. Emergency telephone number
Emergency number : CHEMTREC - 1 (800) 424-9300 and/or 1 (703) 527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (GHS-US)
Eye Irrit. 2A H319

2.2. Label elements
GHS-US labeling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : H319 - Causes serious eye irritation
Precautionary statements (GHS-US) :
P264 - Wash hands thoroughly after handling
P280 - Wear gloves/eye protection/protective clothing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 - If eye irritation persists: Get medical advice/attention

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS-US)
No data available

SECTION 3: Composition/information on ingredients

Mixture

Name | Product identifier | % | Classification (GHS-US)
--- | --- | --- | ---
Glyphosate | (CAS No) 1071-83-6 | 1.92 | Eye Dam. 1, H318 Aquatic Chronic 2, H411

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation : Assure fresh air breathing. Allow the person to rest.
**First-aid measures after skin contact**: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

**First-aid measures after eye contact**: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

**First-aid measures after ingestion**: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms/injuries after eye contact**: Causes serious eye irritation.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

**5.1. Extinguishing media**

| Suitable extinguishing media | Dry powder. Water spray. |
| Unsuitable extinguishing media | Do not use a heavy water stream. |

**5.2. Special hazards arising from the substance or mixture**

No additional information available

**5.3. Advice for firefighters**

**Firefighting instructions**: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

**Protection during firefighting**: Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

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

**6.1.1. For non-emergency personnel**

**Emergency procedures**: Evacuate unnecessary personnel.

**6.1.2. For emergency responders**

**Protective equipment**: Equip cleanup crew with proper protection.

**Emergency procedures**: Ventilate area.

**6.2. Environmental precautions**

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

**Methods for cleaning up**: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

**Precautions for safe handling**: Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

**Hygiene measures**: Wash hands thoroughly after handling.

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

**Storage conditions**: Store in original container. Keep container closed when not in use.

**Incompatible products**: Strong bases. Strong acids.

**Incompatible materials**: Sources of ignition.

### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

No additional information available
### Exposure controls

<table>
<thead>
<tr>
<th>Personal protective equipment</th>
<th>Avoid all unnecessary exposure.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand protection</td>
<td>Wear protective gloves.</td>
</tr>
<tr>
<td>Eye protection</td>
<td>Chemical goggles or safety glasses.</td>
</tr>
<tr>
<td>Respiratory protection</td>
<td>Wear approved mask.</td>
</tr>
<tr>
<td>Other information</td>
<td>When using, do not eat, drink or smoke.</td>
</tr>
</tbody>
</table>

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Yellow or off-white liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow or off-white.</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>7.0 - 8.0</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Self ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.01</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

Not established.

#### 10.4. Conditions to avoid

Extremely high or low temperatures.

#### 10.5. Incompatible materials

Strong acids. Strong bases.

#### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.
### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate (1071-83-6)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**LD50 oral rat**

- 4873 mg/kg (Rat)

**LD50 dermal rabbit**

- > 5000 mg/kg (Rabbit)

**LC50 inhalation rat (mg/l)**

- > 12.2 mg/l/4h (Rat)

**Skin corrosion/irritation**

- Not classified

**Serious eye damage/irritation**

- Causes serious eye irritation.

**Respiratory or skin sensitization**

- Not classified

**Germ cell mutagenicity**

- Not classified

**Carcinogenicity**

- Not classified

**Reproductive toxicity**

- Not classified

**Specific target organ toxicity (single exposure)**

- Not classified

**Aspiration hazard**

- Not classified

**Potential Adverse human health effects and symptoms**

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

**Symptoms/injuries after eye contact**

- Causes serious eye irritation.

### SECTION 12: Ecological information

#### 12.1 Toxicity

**Glyphosate (1071-83-6)**

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>52 - 240 mg/l (96 h; Oncorhynchus mykiss; Soft water)</td>
</tr>
<tr>
<td>EC50 other aquatic organisms 1</td>
<td>3.32 mg/l (Algae)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>97 mg/l (96 h; Pimephales promelas)</td>
</tr>
<tr>
<td>TLM other aquatic organisms 1</td>
<td>281 mg/l (96 h; Palaemonetes sp.)</td>
</tr>
<tr>
<td>Threshold limit other aquatic organisms 1</td>
<td>50 mg/l (504 h; Daphnia magna)</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
<td>45 mg/l (72 h; Selenastrum capricornutum)</td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradability

**Bonide KleenUp Weed & Grass Killer Ready to Use**

Persistence and degradability

- Not established.

**Glyphosate (1071-83-6)**

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>&lt; 0.0057 g O²/g substance</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>0.53 g O²/g substance</td>
</tr>
</tbody>
</table>

#### 12.3 Bioaccumulative potential

**Bonide KleenUp Weed & Grass Killer Ready to Use**

Bioaccumulative potential

- Not established.

**Glyphosate (1071-83-6)**

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>0.03 (336 h; Oncorhynchus mykiss)</td>
</tr>
<tr>
<td>BCF fish 2</td>
<td>0.63 (840 h; Lepomis macrochirus)</td>
</tr>
<tr>
<td>BCF other aquatic organisms 1</td>
<td>9.6 (840 h; Lamellibranchiata; GLP)</td>
</tr>
<tr>
<td>BCF other aquatic organisms 2</td>
<td>8 (672 h; Procambarus sp.)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-3.4 - -1.7</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Bioaccumulation: not applicable.</td>
</tr>
</tbody>
</table>
12.4. Mobility in soil

| Glyphosate (1071-83-6) | Ecology - soil | May be harmful to plant growth, blooming and fruit formation. |

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

No dangerous good in sense of transport regulations

Additional information

Other information : No supplementary information available.

SECTION 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:

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling. People and pets may enter treated areas after spray has dried.

15.1. US Federal regulations

No additional information available

15.2. International regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>Aquatic Chronic 2</th>
<th>Hazardous to the aquatic environment - Chronic Hazard Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012) - Pesticides

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.