SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name
SURGE® Broadleaf Herbicide for Turf

Other means of identification
Product Code
PBI FP 655-6
EPA Pesticide Registration Number
2217-867

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
Supplier
PBI Gordon Corporation
1217 West 12th Street
Kansas City, MO 64101

Manufacturer
PBI Gordon Corporation
1217 West 12th Street
Kansas City, MO 64101

Company Name
PBI Gordon Corporation
1217 West 12th Street
Kansas City, MO 64101

Emergency telephone number
Emergency Telephone
Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

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

Acute toxicity - Oral
Category 4
Acute toxicity - Inhalation (Gases)
Category 4
Skin corrosion/irritation
Category 2
Serious eye damage/eye irritation
Category 1
Skin sensitization
Category 1
Specific target organ toxicity (single exposure)
Category 3

The International Agency for Research on Cancer (IARC) lists chlorophenoxy herbicides in its Group 2B (limited evidence for Carcinogenicity in humans.) The US EPA has given the chlorophenoxy Herbicides 2,4-D, 2,4-DP, MCPP, and MCPA a Class D classification (not classifiable as to human carcinogenicity.) More current 2,4-D lifetime feeding studies in rats and mice did not show carcinogenic effects and a recent World Health Organization (WHO) review of 2,4-D toxicology has concluded that 2,4-D is not a carcinogen.

Label elements
Emergency Overview

Danger

Hazard statements
Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary Statements - Prevention
• Wash face, hands and any exposed skin thoroughly after handling
• Do not eat, drink or smoke when using this product
• Avoid breathing dust/fume/gas/mist/vapors/spray
• Use only outdoors or in a well-ventilated area
• Wear protective gloves/protective clothing/eye protection/face protection
• Contaminated work clothing should not be allowed out of the workplace
• Keep away from heat/sparks/open flames/hot surfaces. — No smoking
• Keep container tightly closed
• Keep cool

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 skin irritation or rash occurs: Get medical advice/attention
• IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
• Wash contaminated clothing before reuse
• IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
• Call a POISON CENTER or doctor/physician if you feel unwell
• 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)
Have the product label with you when calling a poison control center or doctor or going in for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice.

The low flash point of this product is due to a minor component in the mixture. Based on independent laboratory testing of similar products, this product would not sustain combustion as specified in DOT Regulation 49 CFR 173 Appendix H; however OSHA HCS 2012 flammable classifications are solely based on tested mixture flash points and boiling points.

Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D, dimethylamine salt</td>
<td>2008-39-1</td>
<td>18.79</td>
</tr>
<tr>
<td>Trade Secret</td>
<td>Proprietary</td>
<td>10-20*</td>
</tr>
<tr>
<td>MCPP DMA Salt</td>
<td>66423-09-4</td>
<td>6.8</td>
</tr>
<tr>
<td>Dimethylamine dicamba</td>
<td>2300-66-5</td>
<td>3.02</td>
</tr>
<tr>
<td>Sulfentrazone</td>
<td>122836-35-5</td>
<td>0.67</td>
</tr>
</tbody>
</table>

* The exact percentage (concentration) of composition has been withheld as a trade secret
4. FIRST AID MEASURES

First aid measures

General advice
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.

Self-protection of the first aider
Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms
No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions
Environmental precautions  
Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

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  
Take up mechanically, placing in appropriate containers for disposal. Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling  
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

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 containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Incompatible materials  
Incompatible with strong acids and bases. Incompatible with 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>2,4-D, dimethylamine salt 2008-39-1</td>
<td>TWA: 10 mg/m³ inhalable fraction S*</td>
<td>TWA: 10 mg/m³</td>
<td>IDLH: 10 mg/m³, TWA: 10 mg/m³</td>
</tr>
</tbody>
</table>
| Trade Secret | STEL: 15 ppm  
TWA: 5 ppm | TWA: 10 ppm  
TWA: 18 mg/m³  
(vacated) TWA: 10 ppm  
(vacated) TWA: 18 mg/m³ | IDLH: 500 ppm  
TWA: 10 ppm  
TWA: 18 mg/m³ |

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information  
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls  
Local and General Ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection  
Tight sealing safety goggles. Face protection shield.

Skin and body protection  
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection  
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. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

### 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>Liquid</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Brown</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Amines</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>7.5-9.0</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>&lt;35 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>100 °C / 212 °F</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>57 °C / 135 °F</td>
<td>Pensky-Martens Closed Cup (PMCC)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>&lt; 1</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>&lt;17 mm Hg</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>&gt;1</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.097</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble in water</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</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>Oxidizing properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

**Other Information**

**Density**

9.13 pounds/gallon

### 10. STABILITY AND REACTIVITY

**Reactivity**

No data available

**Chemical stability**

Stable.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous polymerization**

Will not occur.

**Conditions to avoid**

Exposure to air or moisture over prolonged periods. Keep from freezing.

**Incompatible materials**

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

**Hazardous Decomposition Products**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation  Irritant, moderate respiratory.
Eye接触  Severely irritating to eyes.
Skin Contact  Moderate skin irritation.
Ingestion  May cause irritation.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret</td>
<td>698 mg/kg (Rat)</td>
<td>3900 mg/kg (Rat)</td>
<td>4540 ppm (Rat) 6 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  No information available.
Germ cell mutagenicity  No information available.
Carcinogenicity  No information available.

Reproductive toxicity  No information available.
STOT - single exposure  No information available.
STOT - repeated exposure  No information available.
Chronic toxicity  Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects.

Target Organ Effects  Eyes, Respiratory system, Skin.
Aspiration hazard  No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity  9% of the mixture consists of ingredient(s) of unknown toxicity
Oral LD50  < 2000 mg/kg

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

| ATEmix (dermal) | 30209 mg/kg |
| ATEmix (inhalation-gas) | 5422 mg/L |
| ATEmix (inhalation-dust/mist) | 11.6 mg/L |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

8% 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>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
</table>
Persistence and degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Disposal of wastes**
Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**
Do not reuse container.

**US EPA Waste Number**
U240  See Section 2: Hazards not otherwise classified (HNOC)

### 14. TRANSPORT INFORMATION

#### DOT

**Proper shipping name**
For package sizes less than 70 gallons: product is non-regulated.

For package sizes 70 gallons or greater: UN3082, Eviromentally Hazardous Substances, Liquid, N.O.S., 9, PGIII, RQ (2,4-D)

**Description**
The following guidelines apply for domestic ground transport. If shipping by air or ocean, please contact our Transportation Dept.

PESTICIDES, NOI, INCLUDING DEFOLIANTS, FUNGICIDES, HERBICIDES, OR INSECTICIDES   NMFC 155050-6

If shipped in bulk conatiners (greater than 119 gallons), this product is a Marine Pollutant.

When shipped as a Hazardous Material, label required is Class 9 (Miscellaneous). Placards required on bulk shipments only.

### 15. REGULATORY INFORMATION

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** 2217-867

**Federal Insecticide, Fungicide, Rodenticide Act Regulations**

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:
EPA Pesticide Label
Keep out of the reach of children. Corrosive. Causes irreversible eye damage. Do not get in eyes, on skin or on clothing. Harmful if absorbed through skin or if swallowed.

International Inventories

| 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 |

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D, dimethylamine salt</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade Secret</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethylamine dicamba</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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>CAS No.</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret -</td>
<td></td>
<td>10-20*</td>
<td>1.0</td>
</tr>
<tr>
<td>Dimethylamine dicamba - 2300-66-5</td>
<td>2300-66-5</td>
<td>3.02</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

- Acute health hazard: Yes
- Chronic Health Hazard: Yes
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D, dimethylamine salt - 2008-39-1</td>
<td>100 lb</td>
<td>RQ 100 lb final RQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>RQ 45.4 kg final RQ</td>
<td></td>
</tr>
</tbody>
</table>
US State Regulations

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>Trade Secret</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Dimethylamine dicamba</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2300-66-5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

International Regulations

Mexico - Grade

Moderate risk, Grade 2

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Carcinogenicity</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA

Health hazards 3  Flammability 1  Instability 0

HMIS

Health hazards 3  Flammability 1  Physical hazards 0  Personal protection X

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of PBI Gordon Corporation’s knowledge, information and belief at the date of this publication. The information given is designed only as 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 other process, unless specified in the text. PBI GORDON CORPORATION MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of this product, some of which are uniquely within the user’s knowledge and control, it is essential that the user evaluate the product to determine whether it is fit for a particular purpose and suitable for user’s method of use or application. Each user is also responsible for evaluating the conditions of use and designing the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. PBI Gordon Corporation assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

End of Safety Data Sheet