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

Product identifier
Product Name Q4® Plus Turf Herbicide for Grassy & Broadleaf Weeds

Other means of identification
Product Code PBI FP 697-6
EPA Pesticide Registration Number 2217-930

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

<table>
<thead>
<tr>
<th>Acute toxicity - Inhalation (Gases)</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

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 inhaled. Causes eye irritation. May cause an allergic skin reaction.
Appearance: Liquid  
Physical state: Liquid  
Odor: Musty

Precautionary Statements - Prevention
- 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 container tightly closed

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
- Wash contaminated clothing before reuse
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- 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

Precautionary Statements - Storage
- Store in a well-ventilated place. Keep cool

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>11.81</td>
</tr>
<tr>
<td>8-Quinolinecarboxylic acid, 3,7-dichloro-</td>
<td>84087-01-4</td>
<td>8.43</td>
</tr>
<tr>
<td>Trade Secret</td>
<td>Proprietary</td>
<td>0-10*</td>
</tr>
<tr>
<td>Dimethylamine dicamba</td>
<td>2300-66-5</td>
<td>1.49</td>
</tr>
<tr>
<td>Sulfentrazone</td>
<td>122836-35-5</td>
<td>0.69</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  
If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye contact  
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact  
Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is not required. If skin irritation persists, call a physician.

Inhalation  
Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.

Ingestion  
Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician. Rinse mouth. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person.

Self-protection of the first aider  
Use personal protective equipment as required.

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  
May cause sensitization of susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray (fog). Foam. Dry chemical.

Specific hazards arising from the chemical  
In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. 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  
Wear self contained breathing apparatus for fire fighting if necessary.

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  
Prevent entry into waterways, sewers, basements or confined areas. 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  Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up.

7. HANDLING AND STORAGE

Precautions for safe handling

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

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 in properly labeled containers.

Incompatible materials  Acids.

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>
<tr>
<td>Trade Secret</td>
<td>STEL: 15 ppm</td>
<td>TWA: 5 ppm</td>
<td>IDLH: 500 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 ppm</td>
<td>TWA: 18 mg/m³</td>
<td>TWA: 10 ppm</td>
</tr>
<tr>
<td></td>
<td>(vacated) TWA: 10 ppm</td>
<td>(vacated) TWA: 18 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

*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  No information available.

Individual protection measures, such as personal protective equipment

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

Skin and body protection  Wear protective gloves and protective clothing.

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. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Physical state | Liquid
---|---
Appearance | Liquid
Color | Brown
Odor | Musty
Odor threshold | No information available

### 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**
Keep from freezing.

**Incompatible materials**
Acids.

**Hazardous Decomposition Products**

### 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation**
Irritant, moderate respiratory.

**Eye contact**
Mild eye irritation.
**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) 6h</td>
</tr>
</tbody>
</table>

**Chemical Information**

**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**
  Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

**Target Organ Effects**
Eyes, Respiratory system, Skin.

**Aspiration hazard**
No information available.

**Numerical measures of toxicity - Product Information**

**Unknown Acute Toxicity**
2% of the mixture consists of ingredient(s) of unknown toxicity

**Ecotoxicity**
Harmful to aquatic life with long lasting effects

11% 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>
<tbody>
<tr>
<td>Trade Secret</td>
<td>9: 96 h Pseudokirchneriella subcapitata mg/L EC50</td>
<td>111 - 125: 96 h Oncorhynchus mykiss mg/L LC50 120: 96 h Oncorhynchus mykiss mg/L LC50 static 210: 96 h Poecilia reticulata mg/L LC50 static 127 - 349: 96 h Poecilia reticulata mg/L LC50 semi-static 396: 96 h Brachydanio rerio mg/L LC50 static</td>
<td>EC50 = 26.8 mg/L 15 min</td>
<td>88.7: 48 h Daphnia magna Straus mg/L EC50</td>
</tr>
</tbody>
</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, unless specified by the manufacturer.

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 113 gallons: product is non-regulated.

For package sizes 113 gallons or greater: UN3082, Environmentally 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 containers (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 2217-930

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
Caution. Keep out of the reach of children. Causes moderate eye irritation. Avoid contact with eyes or clothing. Harmful if swallowed.

International Inventories

TSCA  Not Listed
DSL/NDSL  Not Listed
EINECS/ELINCS  Not Listed
ENCS  Not Listed
IECS  Not Listed
IECSC  Not Listed
KECL  Not Listed
PICCS  Not Listed
AICS  Not Listed

Legend:
### TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

**Chemical Name** | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
2,4-D, dimethylamine salt | | X | | X | | | | | | |
8-Quinolinecarboxylic acid, 3,7-dichloro- | | X | | X | | | | | | |
Trade Secret | | X | | X | | | | | | |
Dimethylamine dicamba | | X | | X | | | | | | |

### 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>0-10*</td>
<td>1.0</td>
</tr>
<tr>
<td>Dimethylamine dicamba - 2300-66-5</td>
<td>2300-66-5</td>
<td>1.49</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**

- **Acute health hazard**: Yes
- **Chronic Health Hazard**: No
- **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></td>
<td>RQ 100 lb final RQ</td>
</tr>
<tr>
<td>Trade Secret</td>
<td>1000 lb</td>
<td></td>
<td>RQ 1000 lb final RQ</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></td>
<td>X</td>
</tr>
<tr>
<td>Dimethylamine dicamba 2300-66-5</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### International Regulations
Mexico - Grade

<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>Mexico: TWA 10 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: TWA 18 mg/m³</td>
</tr>
</tbody>
</table>

### 16. OTHER INFORMATION

<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>2</td>
<td>1</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>2</td>
<td>1</td>
<td>0</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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