

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

Product identifier

Product Name PowerZone® Broadleaf Herbicide for Turf

Other means of identification

Product Code PBI FP 6531076
EPA Pesticide Registration Number 2217-834
Product Size 4/1 U. S. Gal.

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 | Manufacturer | Company Name |
| PBI Gordon Corporation | PBI Gordon Corporation | PBI Gordon Corporation |
| P.O. Box 860350 | P.O. Box 860350 | P.O. Box 860350 |
| Shawnee, KS 66286 | Shawnee, KS 66286 | Shawnee, KS 66286 |

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 Oral Toxicity | Category 4 |
| Acute dermal toxicity | Category 4 |
| Acute Inhalation Toxicity - Gases | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 |
| Skin Corrosion/Irritation Category | Category 2 |
| Serious eye damage/eye irritation | Category 2B |
| Skin Sensitization | Category 1 |
| Aspiration Toxicity | Category 1 |
| Acute Aquatic Toxicity | Category 1 |
| Chronic Aquatic Toxicity | Category 1 |
| Flammable liquids | Category 4 |

Label elements

Emergency Overview

Danger

Hazard statements

Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes skin irritation. Causes eye irritation. May cause an allergic skin reaction. May be fatal if swallowed and enters airways. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
 Combustible liquid.



Appearance Liquid

Physical state Liquid

Odor Esters

Precautionary Statements - Prevention

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Wear protective gloves/protective clothing/eye protection/face protection
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Avoid release to the environment
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking

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 ON SKIN: Wash with plenty of soap and water
- Call a POISON CENTER or doctor/physician if you feel unwell
- 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
- Rinse mouth
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- Do NOT induce vomiting
- In case of fire: Use CO₂, dry chemical, or foam for extinction
- Collect spillage

Precautionary Statements - Storage

- Store locked up
- 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.

Other information

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical name | CAS-No | Weight-% |
|---|-------------|----------|
| MCPA EH Ester | 29450-45-1 | 41.98 |
| Trade Secret | Proprietary | 10-20* |
| Trade Secret | Proprietary | 0-10* |
| R(+)-2(2 Methyl-4-chlorophenoxy)propionic acid (MCPP) | 16484-77-8 | 5.39 |
| 3,6-Dichloro-o-anisic acid (Dicamba) | 1918-00-9 | 2.69 |
| Carfentrazone-ethyl | 128639-02-1 | 0.48 |

* The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

Description of 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 | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician. |
| Inhalation | Move to fresh air in case of accidental inhalation of vapors or decomposition products. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If symptoms persist, call a physician. |
| 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. |

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 Contains petroleum distillate - vomiting may cause aspiration pneumonia.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Foam. Carbon dioxide (CO₂). Dry chemical.

Specific hazards arising from the chemical

No information available.

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 Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

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 | Dam up. Soak up with inert absorbent material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. 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. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. 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. Keep from freezing. |
| Incompatible materials | None known. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

| | |
|--|---|
| Exposure Guidelines 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 | Ensure adequate ventilation, especially in confined areas. |
|-----------------------------|--|

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 | Odor | Esters |
| Appearance | Liquid | Odor threshold | No information available |
| Color | Amber | | |
| Property | <u>Values</u> | <u>Remarks • Method</u> | |
| pH | Not Applicable | | |
| Melting point/freezing point | <35 °F | | |
| Boiling point / boiling range | > 93 °C / 200 °F | | |
| Flash point | > 93 °C / > 200 °F | Pensky-Martens Closed Cup (PMCC) | |

| | |
|------------------------------|--------------------------|
| Evaporation rate | < 1 |
| Flammability (solid, gas) | No information available |
| Flammability Limit in Air | |
| Upper flammability limit: | No information available |
| Lower flammability limit: | No information available |
| Vapor pressure | No information available |
| Vapor density | >1 |
| Specific Gravity | 0.9813 |
| Water solubility | Emulsifiable |
| Solubility in other solvents | No information available |
| Partition coefficient | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available |
| Oxidizing properties | No information available |

Other Information

Density 8.18 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

Keep out of reach of children.

Incompatible materials

None known.

Hazardous decomposition products

May emit toxic fumes under fire conditions. Hydrogen chloride. Nitrogen oxides (NOx). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|--|
| Inhalation | Irritant, moderate respiratory. |
| Eye contact | Moderately irritating to the eyes. |
| Skin Contact | Moderate skin irritation. |
| Ingestion | Ingestion of large amounts can cause abdominal discomfort, nausea, and vomiting. |

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|-----------------------------|----------------------|-------------------------|------------------------|
| MCPA EH Ester 29450-45-1 | = 1300 mg/kg (Rat) | - | - |
| Trade Secret | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 5.2 mg/L (Rat) 4 h |
| Trade Secret | = 1870 µL/kg (Rat) | = 1110 µL/kg (Rabbit) | - |

| | | | |
|--|----------------------|--|-------------------------|
| R(+)/2(2) Methyl-4-chlorophenoxy)propionic acid (MCP) 16484-77-8 | = 1050 mg/kg (Rat) | > 4 g/kg (Rat) | - |
| 3,6-Dichloro-o-anisic acid (Dicamba) 1918-00-9 | = 1039 mg/kg (Rat) | = 1716 mg/kg (Rabbit) > 1 g/kg (Rat) > 2 g/kg (Rabbit) | - |
| Carfentrazone-ethyl 128639-02-1 | = 5143 mg/kg (Rat) | > 4000 mg/kg (Rat) | = 5.09 mg/L (Rat) 4 h |

Information on toxicological effects

Symptoms No information available.

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

Sensitization May cause sensitization by skin contact.
Germ cell mutagenicity No information available.
Carcinogenicity 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, MCP, 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. The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | ACGIH | IARC | NTP | OSHA |
|--|-------|----------|-----|------|
| MCPA EH Ester 29450-45-1 | | Group 2B | | |
| R(+)/2(2) Methyl-4-chlorophenoxy)propionic acid (MCP) 16484-77-8 | | Group 2B | | X |

IARC (International Agency for Research on Cancer)
 Group 2B - Possibly Carcinogenic to Humans
 OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X - Present

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Avoid repeated exposure. Repeated contact may cause allergic reactions in very susceptible persons.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Toxicity 1 % of the mixture consists of ingredient(s) of unknown toxicity
LD50 Oral VALUE (mg/kg) > 2000 mg/kg Rat-male Rat-female
LD50 Dermal VALUE > 2000 mg/kg Rat-female Rat-male
LC50 Inhalation (DUST) VALUE > 2.06 mg/L Rat-male Rat-female

The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (inhalation-gas) 2732 mg/L

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

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|-----------------------------|--|---|----------------------------|--|
| MCPA EH Ester 29450-45-1 | 0.46: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.43: 96 h Pseudokirchneriella subcapitata mg/L EC50 | 3.2 - 4.6: 96 h Lepomis macrochirus mg/L LC50 flow-through 3.2: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.55: 96 h Lepomis macrochirus mg/L LC50 static | | 0.29: 48 h Daphnia magna mg/L EC50 |
| Trade Secret | | 2.2: 96 h Lepomis macrochirus mg/L LC50 static 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through | | 4720: 96 h Den-dronereides heteropoda mg/L LC50 |
| Trade Secret | | 1.8: 96 h Oncorhynchus mykiss mg/L LC50 | | |

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.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

MEX Not regulated

ICAO (air)

UN/ID no. UN3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard class 9
Packing group III
Special Provisions A97, A158, A197
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA EH Ester, Carfentrazone-ethyl), 9, III

IATA

Limited quantity applies with an inner packaging less than 5 L or gross package weight less than 30 kg.
UN number UN3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es) 9
Packing group III
Special Provisions A97, A158, A197

| | |
|-----------------------------------|--|
| Description | UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA EH Ester, Carfentrazone-ethyl), 9, III |
| IMDG | Limited quantity applies with an inner packaging less than 5 L or gross package weight less than 30 kg. |
| UN number | UN3082 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| Transport hazard class(es) | 9 |
| Packing group | III |
| EmS-No. | F-A, S-F |
| Special Provisions | 274, 335, 969 |
| Description | UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA EH Ester, Carfentrazone-ethyl), 9, III, Marine Pollutant |

15. REGULATORY INFORMATION

U.S. EPA Label Information

EPA Pesticide Registration Number 2217-834

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

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Causes moderate eye irritation. Harmful if absorbed through the skin. Avoid contact with skin, eyes, or clothing.

Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Environmental Hazards

This pesticide may adversely affect non-target plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

International Inventories

| | |
|----------------------|------------|
| TSCA | Not Listed |
| DSL/NDSL | Not Listed |
| EINECS/ELINCS | Not Listed |
| ENCS | 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
- 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

| Chemical name | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|---------------|------|-----|------|--------|--------|------|-------|------|-------|------|
| MCPA EH Ester | | | | X | | | X | | | X |

| | | | | | | | | | | |
|--|---|---|--|---|--|---|---|---|---|---|
| Trade Secret | X | X | | X | | | X | X | X | X |
| Trade Secret | X | X | | | | | X | X | X | X |
| R(+)(2) Methyl-4-chlorophenoxy)pro pionic acid (MCP) | | | | X | | | | | | |
| 3,6-Dichloro-o-anisic acid (Dicamba) | | | | X | | X | | X | X | X |
| Carfentrazone-ethyl | | | | | | | 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

| Chemical name | SARA 313 - Threshold Values % |
|--|-------------------------------|
| 3,6-Dichloro-o-anisic acid (Dicamba) - 1918-00-9 | 1.0 |

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)

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|--|-----------------------------|------------------------|---------------------------|----------------------------|
| 3,6-Dichloro-o-anisic acid (Dicamba) 1918-00-9 | 1000 lb | | | X |

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)

| Chemical name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|--|--------------------------|----------------|---|
| 3,6-Dichloro-o-anisic acid (Dicamba) 1918-00-9 | 1000 lb | | RQ 1000 lb final RQ RQ 454 kg final RQ |

US State Regulations

U.S. State Right-to-Know Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|--|------------|---------------|--------------|
| 3,6-Dichloro-o-anisic acid (Dicamba) 1918-00-9 | X | X | X |

International Regulations

Mexico - Grade Moderate risk, Grade 2

16. OTHER INFORMATION

| | | | | |
|-------------|------------------|----------------|--------------------|------------------------------------|
| <u>NFPA</u> | Health hazards 2 | Flammability 1 | Instability 0 | Physical and Chemical Properties - |
| <u>HMIS</u> | Health hazards 2 | 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