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Version 1

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

**Product identifier**

**Product Name** POWER ZONE® Broadleaf Herbicide for Turf

**Other means of identification**

**Product Code** PBI FP 653-6

**EPA Pesticide Registration Number** 2217-834

**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 - Dermal	Category 4
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 1
Flammable liquids	Category 4

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 in contact with skin. Harmful if inhaled. Causes serious eye damage.  
Combustible liquid.

		
<b>Appearance</b> Liquid	<b>Physical state</b> Liquid	<b>Odor</b> 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
- 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
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth
- In case of fire: Use CO2, dry chemical, or foam for extinction

**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.

**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*
R(+)-2(2 Methyl-4-chlorophenoxy)propionic acid (MCPA)	16484-77-8	5.39
3,6-Dichloro-o-anisic acid (Dicamba)	1918-00-9	2.69
carfentrazone-ethyl (ISO) ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate	128639-02-1	0.48

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

#### 4. FIRST AID MEASURES

##### First aid measures

<b>General advice</b>	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.
<b>Eye contact</b>	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. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
<b>Inhalation</b>	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. Move to fresh air in case of accidental inhalation of vapors or decomposition products. Consult a physician if necessary.
<b>Ingestion</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.
<b>Self-protection of the first aider</b>	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** 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

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

**Incompatible materials** None known.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

**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**

<b>Physical state</b>	Liquid	<b>Odor</b>	Esters
<b>Appearance</b>	Liquid	<b>Odor threshold</b>	No information available
<b>Color</b>	Amber		

<u>Property</u>	<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 from freezing.

**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

**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** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
R(+)-2(2-Methyl-4-chlorophenoxy)propionic acid (MCPA) 16484-77-8		-		X

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.  
**Aspiration hazard** No information available.

**Numerical measures of toxicity - Product Information**

**Unknown Acute Toxicity** 26% of the mixture consists of ingredient(s) of unknown toxicity  
**Oral LD50** > 2000 mg/kg Rat-male Rat-female  
**Dermal LD50** > 2000 mg/kg (rabbit)  
**Inhalation LC50** > 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

26% 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		45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static		4720: 96 h Den-dronereides heteropoda 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**

**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

In our current available sizes, this product does not qualify as a Hazardous Material.

**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. 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.

**International Inventories**

<b>TSCA</b>	Not Listed
<b>DSL/NDSL</b>	Not Listed
<b>EINECS/ELINCS</b>	Not Listed
<b>ENCS</b>	Not Listed
<b>IECSC</b>	Not Listed
<b>KECL</b>	Not Listed
<b>PICCS</b>	Not Listed
<b>AICS</b>	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	X
R(+)/2(2) Methyl-4-chlorophenoxy)propionic acid (MCPA)				X						
3,6-Dichloro-o-anisic acid (Dicamba)				X		X		X	X	X
carfentrazone-ethyl (ISO) ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate							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

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
3,6-Dichloro-o-anisic acid (Dicamba) - 1918-00-9	1918-00-9	2.69	1.0

**SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	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**

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