

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

Product identifier.

Product Name SpeedZone® Broadleaf Herbicide for Turf

Other means of identification

Product Code PBI FP 6541046

EPA Pesticide Registration Number 2217-833

Product Size 30 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 Address

PBI-Gordon Corporation
P.O. Box 860350
Shawnee, KS 66286

Company Name

PBI-Gordon Corporation
P.O. Box 860350
Shawnee, KS 66286

Manufacturer

PBI-Gordon Corporation
P.O. Box 860350
Shawnee, KS 66286

Emergency telephone number

24 Hour Emergency Phone Number 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
Skin Corrosion/Irritation Category	Category 2
Serious eye damage/eye irritation	Category 2B
Skin Sensitization	Category 1
Germ cell mutagenicity	Category 1B
Aspiration hazard	Category 1
Acute Aquatic Toxicity	Category 1
Chronic Aquatic Toxicity	Category 1

Label elements

Emergency Overview

Signal word

Danger

Hazard statements

- Harmful if swallowed
- Causes eye irritation
- Causes skin irritation
- May cause an allergic skin reaction
- May cause genetic defects
- Very toxic to aquatic life with long lasting effects
- May be fatal if swallowed and enters airways



Appearance Liquid

Physical state Liquid

Odor Esters

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Wear protective gloves/protective clothing/eye protection/face protection
 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
 Contaminated work clothing must not be allowed out of the workplace

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor
 IF ON SKIN: Wash with plenty of water and soap
 Call a POISON CENTER or doctor if you feel unwell
 Take off immediately all contaminated clothing and wash it before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 Wash contaminated clothing before reuse
 IF INHALED: Remove person to fresh air and keep comfortable for breathing
 Call a POISON CENTER or doctor
 IF SWALLOWED: Immediately call a POISON CENTER or doctor
 Do NOT induce vomiting
 Rinse mouth

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

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

Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS-No	Weight-%
2,4-D, 2-ethylhexyl ester	1928-43-4	28.57
Trade Secret	Trade secret	20-30*
R(+)(2 Methyl-4-chlorophenoxy)propionic acid (MCP)	16484-77-8	5.88

3,6-Dichloro-o-anisic acid (Dicamba)	1918-00-9	1.71
Carfentrazone-ethyl	128639-02-1	0.62
Trade Secret	Trade secret	0-10*
Trade Secret	Trade secret	0-10*

* 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 exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.
- Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. 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. May cause an allergic skin reaction. If symptoms persist, call a physician.
- Inhalation** Remove to fresh air. Aspiration into lungs can produce severe lung damage. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Delayed pulmonary edema may occur. If breathing has stopped, give artificial respiration. Get medical attention immediately.
- Ingestion** Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Call a physician.
- Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. 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. May cause sensitization in susceptible persons. Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances. Contains petroleum distillate - vomiting may cause aspiration pneumonia.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Foam. Carbon dioxide (CO2). Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by skin contact.

Explosion data

- Sensitivity to mechanical impact None.
- Sensitivity to static discharge None.

Special protective equipment for As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH

fire-fighters (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. Ensure adequate ventilation. 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 Avoid release to the environment Collect spillage Dispose of contents/container to an approved waste disposal plant

Other information Refer to protective measures listed in Sections 7 and 8.

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 Use personal protective equipment as required. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Take off contaminated clothing and wash before reuse. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers. Keep from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
2,4-D, 2-ethylhexyl ester 1928-43-4	TWA: 10 mg/m ³ inhalable fraction S*	TWA: 10 mg/m ³	IDLH: 100 mg/m ³ , TWA: 10 mg/m ³
Carfentrazone-ethyl 128639-02-1	TWA: 1 mg/m ³ inhalable particulate matter	-	-
Trade Secret	TWA: 20 ppm	TWA: 100 ppm TWA: 300 mg/m ³ (vacated) S* (vacated) Ceiling: 50 ppm (vacated) Ceiling: 150 mg/m ³	IDLH: 1400 ppm Ceiling: 50 ppm Ceiling: 150 mg/m ³

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 Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Chemical resistant gloves.

Skin and body protection Wear long-sleeved shirt, long pants, socks and shoes.

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 Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid
Appearance Liquid
Color Amber
Odor Esters
Odor threshold No information available

<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 / 199 °F	
Flash point	> 94 °C / 201 °F	Pensky-Martens Closed Cup (PMCC)
Evaporation rate	< 1	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	0.9665	
Water solubility	Emulsifiable	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known

Other Information

Liquid Density 8.05 pounds/gallon
Bulk density No information available

10. STABILITY AND REACTIVITY

Reactivity

No information available.

Stability

Stable under recommended storage conditions

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

Will not occur.

Conditions to avoid

Keep out of reach of children.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

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** May cause irritation of respiratory tract. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema.
- Eye contact** Causes eye irritation.
- Skin contact** Causes skin irritation.
- Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2,4-D, 2-ethylhexyl ester 1928-43-4	= 300 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.4 mg/L (Rat) 4 h
Trade Secret	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
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
Trade Secret	= 8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3400 ppm (Rat) 4 h
Trade Secret	= 700 mg/kg (Rat) = 790 mg/kg (Rat)	= 3400 mg/kg (Rabbit) = 3402 mg/kg (Rabbit)	> 8000 ppm (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity - Product Information

Unknown Toxicity

93 % of the mixture consists of ingredient(s) of unknown toxicity
 68 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
 93 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

LD50 Oral > 1000-2000 mg/kg Rat-female
LD50 Dermal > 2000 mg/kg (rat)
LC50 Inhalation (DUST) > 2.06 mg/L Rat-male Rat-female

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

Skin corrosion/irritation Causes skin irritation.
Serious eye damage/eye irritation Causes eye irritation.
Respiratory or skin sensitization May cause sensitization by skin contact.
Germ cell mutagenicity Contains a known or suspected mutagen.

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, 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.

Chemical name	ACGIH	IARC	NTP	OSHA
2,4-D, 2-ethylhexyl ester 1928-43-4	-	Group 2B	-	X
R(+)-2(2-Methyl-4-chlorophenoxy)propionic acid (MCPP) 16484-77-8	-	Group 2B	-	X

Legend
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.
Aspiration hazard May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
2,4-D, 2-ethylhexyl ester 1928-43-4	30: 120 h Pseudokirchneriella subcapitata mg/L EC50 30: 120 h Pseudokirchneriella	7.8: 96 h Oncorhynchus mykiss mg/L LC50 static 11.5: 96 h Lepomis macrochirus mg/L LC50	-	-

	subcapitata mg/L EC50 static	static 6 - 8.7: 96 h Oncorhynchus mykiss mg/L LC50 flow-through		
Trade Secret	-	45: 96 h Pimephales promelas mg/L LC50 flow-through 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 2.2: 96 h Lepomis macrochirus mg/L LC50 static	-	4720: 96 h Den-dronereides heteropoda mg/L LC50
Trade Secret	-	9.22: 96 h Oncorhynchus mykiss mg/L LC50	-	6.14: 48 h Daphnia magna mg/L EC50
Trade Secret	500: 96 h Desmodesmus subspicatus mg/L EC50 500: 72 h Desmodesmus subspicatus mg/L EC50	1740: 96 h Pimephales promelas mg/L LC50 flow-through 1730 - 1910: 96 h Pimephales promelas mg/L LC50 static 100000 - 500000: 96 h Lepomis macrochirus µg/L LC50 static 1910000: 96 h Pimephales promelas µg/L LC50 static	EC50 = 2041.4 mg/L 5 min EC50 = 2186 mg/L 30 min EC50 = 3980 mg/L 24 h EC50 = 4400 mg/L 17 h	1897 - 2072: 48 h Daphnia magna mg/L EC50 Static 1983: 48 h Daphnia magna mg/L EC50

Persistence and degradability No information available.

Bioaccumulation No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number No information available.

14. TRANSPORT INFORMATION

Note: Products under 43 gallons not regulated by DOT. Below are designations for products over 43 gallons. See RQ

DOT

UN/ID no. UN3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard class 9
Packing group III
Reportable Quantity (RQ) 2,4-D, 2-ethylhexyl ester: RQ (lb)= 350.00= 43 gallons
Special Provisions 8, 146, 173, 335, IB3, T4, TP1, TP29
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D, 2-ethylhexyl ester), 9, III, Marine pollutant

TDG

UN/ID no. UN3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard class 9
Packing group III
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D, 2-ethylhexyl ester), 9, III

MEX

UN/ID no. UN3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard class 9
Special Provisions 274, 331, 335
Packing group III
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D, 2-ethylhexyl ester), 9, III

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. (2,4-D, 2-ethylhexyl ester), 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. (2,4-D, 2-ethylhexyl ester), 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. (2,4-D, 2-ETHYLHEXYL ESTER), 9, III, MARINE POLLUTANT

15. REGULATORY INFORMATION

U.S. EPA Label Information

EPA Pesticide Registration Number 2217-833

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 REACH OF CHILDREN

Hazards to Human 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 is toxic to fish and aquatic invertebrates and 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. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or

rinsate. 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

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 %
2,4-D, 2-ethylhexyl ester - 1928-43-4	0.1
3,6-Dichloro-o-anisic acid (Dicamba) - 1918-00-9	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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
2,4-D, 2-ethylhexyl ester 1928-43-4	100 lb	-	-	-
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	Extremely Hazardous Substances RQs
2,4-D, 2-ethylhexyl ester 1928-43-4	100 lb	-
3,6-Dichloro-o-anisic acid (Dicamba) 1918-00-9	1000 lb	-
Trade Secret	5000 lb	-

US State Regulations

U.S. State Right-to-Know Regulations

