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Version 1

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

Product identifier.

Product Name SpeedZone® EW Broadleaf Herbicide for Turf

Other means of identification

Product Code PBI FP 658

EPA Pesticide Registration Number 2217-1053

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
Serious eye damage/eye irritation	Category 2B
Skin Sensitization	Category 1
Acute Aquatic Toxicity	Category 1
Chronic Aquatic Toxicity	Category 1

Label elements

Emergency Overview

Signal word

Warning

Hazard statements

- Harmful if swallowed
- Causes eye irritation
- May cause an allergic skin reaction
- Very toxic to aquatic life with long lasting effects



Appearance Liquid

Physical state Liquid

Odor Sweet

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
Contaminated work clothing must not be allowed out of the workplace
Wear protective gloves

Precautionary Statements - Response

IF ON SKIN: Wash with plenty of soap and water
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
Rinse mouth

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	25.86
MCP-P Dimethylamine Salt	66423-09-4	6.84
Dimethylamine dicamba	2300-66-5	1.91
Carfentrazone-ethyl	128639-02-1	0.57
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 symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. If symptoms persist, call a physician.
Skin contact	Wash with soap and water. In the case of skin irritation or allergic reactions see a physician.
Inhalation	Remove to fresh air.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Most important symptoms and effects, both acute and delayed

Symptoms	No information available
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Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

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 fire-fighters 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. 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 See Section 12 for additional ecological information Avoid release to the environment Collect spillage Dispose of contents/container to an approved waste disposal plant

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. Pick up and transfer to properly labeled containers. 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. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
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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	STEL: 15 ppm TWA: 5 ppm	TWA: 10 ppm TWA: 18 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 18 mg/m ³	IDLH: 500 ppm TWA: 10 ppm TWA: 18 mg/m ³

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or 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 Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid

Appearance Liquid

Color White

Odor Sweet

Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6-8	
Melting point/freezing point		None known
Boiling point / boiling range		None known
Flash point	> 96 °C / 205 °F	
Evaporation rate	No data available	None known
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	1.051	
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 8.75 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.

Conditions to avoid

Keep out of reach of children.

Incompatible materials

None known based on information supplied.

Hazardous decomposition products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Causes eye irritation.
Skin contact	May be harmful in contact with skin.
Ingestion	Harmful if swallowed.

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
Dimethylamine dicamba 2300-66-5	= 1267 mg/kg (Rat) = 2629 mg/kg (Rat)	> 2 g/kg (Rabbit) > 2000 mg/kg (Rabbit)	-
Carfentrazone-ethyl 128639-02-1	= 5143 mg/kg (Rat)	> 4000 mg/kg (Rat)	= 5.09 mg/L (Rat) 4 h
Trade Secret	= 698 mg/kg (Rat)	= 3900 mg/kg (Rat)	= 4540 ppm (Rat) 6 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	No information available.
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Acute toxicity

Numerical measures of toxicity - Product Information

Unknown Toxicity

42 % of the mixture consists of ingredient(s) of unknown toxicity

LD50 Oral	= 1750 mg/kg (female rats)
LD50 Dermal	> 5000 mg/kg (rat)
LC50 Inhalation (DUST)	> 2.17 mg/L (rat)

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

Skin corrosion/irritation Slightly irritating to the skin.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory or skin 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, 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
MCPP-p Dimethylamine Salt 66423-09-4	-	Group 2B	-	-

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.

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 subcapitata mg/L EC50 static	7.8: 96 h Oncorhynchus mykiss mg/L LC50 static 11.5: 96 h Lepomis macrochirus mg/L LC50 static 6 - 8.7: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	-	-
Trade Secret	9: 96 h Pseudokirchneriella subcapitata mg/L EC50	210: 96 h Poecilia reticulata mg/L LC50 static 111 - 125: 96 h Oncorhynchus mykiss mg/L LC50 120: 96 h Oncorhynchus mykiss mg/L LC50 static 127 - 349: 96 h Poecilia reticulata mg/L LC50 semi-static 396: 96 h Brachydanio rerio mg/L LC50 static	EC50 = 26.8 mg/L 15 min	88.7: 48 h Daphnia magna Straus 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.

14. TRANSPORT INFORMATION

Note: Products under 44 gallons not regulated by DOT. Below are designations for products over 44 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)= 387.00=44 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 2217-1053

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 Humans and Domestic Animals. CAUTION: Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. 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. 2,4-D and Mecoprop-p have properties and characteristics associated with chemicals detected in groundwater. The use of these chemicals 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. Fish Advisory Statement: This product may be hazardous to aquatic organisms, particularly in clear, shallow water bodies that are adjacent to treated areas. Transport to water by runoff or spray drift of this product in areas where surface water is present, or intertidal areas below the mean high water mark, should be avoided. Do not contaminate water when disposing of equipment wash water or rinsate. Non-target Organism Advisory Statement: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by minimizing spray drift.

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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

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	-	-	-
Trade Secret	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	-
Trade Secret	1000 lb	-

US State Regulations

U.S. State Right-to-Know Regulations

US State Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
2,4-D, 2-ethylhexyl ester 1928-43-4	X	-	-
Trade Secret	X	-	X
Dimethylamine dicamba 2300-66-5	X	-	-
Trade Secret	X	X	X

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