

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

Product identifier

Product Name Pasture Pro® Herbicide

Other means of identification

Product Code PBI FP 811-2

EPA Pesticide Registration Number 2217-703

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 dermal toxicity | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 |
| Serious eye damage/eye irritation | Category 1 |
| Carcinogenicity | Category 2 |
| Chronic Aquatic Toxicity | Category 2 |
| Flammable liquids | Category 3 |

Label elements

Emergency Overview

Danger

Hazard statements

Harmful in contact with skin. Harmful if inhaled. Causes serious eye damage. Suspected of causing cancer. Toxic to aquatic life with long lasting effects.

Flammable liquid and vapor.



Appearance Liquid

Physical state Liquid

Odor Amines

Precautionary Statements - Prevention

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves
- Avoid release to the environment
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep container tightly closed

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
- Call a POISON CENTER or doctor/physician if you feel unwell
- Wash contaminated clothing before reuse
- If skin irritation or rash occurs: Get medical advice/attention
- 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
- 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.

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**

| Chemical Name | CAS. Number | Weight % |
|---|-------------|----------|
| 2,4-D, dimethylamine salt | 2008-39-1 | 33.2 |
| Bis(2-hydroxyethyl)ammonium 2,4-dichlorophenoxyacetate | 5742-19-8 | 16.3 |
| Trade Secret | Proprietary | 10-20* |
| Trade Secret | Proprietary | 0-1* |

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

4. FIRST AID MEASURES**First aid measures****General advice**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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 contaminated clothing before reuse. If skin irritation persists, call a physician. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

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. Artificial respiration and/or oxygen may be necessary. 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. Rinse mouth. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

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**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use. Foam. Carbon dioxide (CO₂). Dry chemical. Water spray (fog).

Specific hazards arising from the chemical

In the event of fire and/or explosion do not breathe fumes. 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**

Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Environmental precautions**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. 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

Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Take precautionary measures against static discharges. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

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

Incompatible materials Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--|--|---|--|
| 2,4-D, dimethylamine salt 2008-39-1 | TWA: 10 mg/m ³ inhalable fraction S* | TWA: 10 mg/m ³ | IDLH: 10 mg/m ³ , TWA: 10 mg/m ³ |
| Trade Secret | Ceiling: 100 mg/m ³ aerosol only | (vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m ³ | - |
| Trade Secret | TWA: 1 mg/m ³ inhalable fraction and vapor S* | (vacated) TWA: 3 ppm (vacated) TWA: 15 mg/m ³ | TWA: 3 ppm TWA: 15 mg/m ³ |

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 Local and General Ventilation.

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 | Amines |
| Appearance | Liquid | Odor threshold | No information available |
| Color | Amber | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|------------------------------|---------------|-------------------------|
| pH | 7.5-8.5 | |
| Melting point/freezing point | <5 °F | |

| | |
|--------------------------------------|--------------------------|
| Boiling point / boiling range | 110 °C / 230 °F |
| Flash point | 44 °C / 112 °F |
| 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 | <17 mm Hg |
| Vapor density | >1 |
| Specific Gravity | 1.1865 |
| Water solubility | Soluble in water |
| 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 9.881 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

Acids.

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 See "Numerical measures of toxicity-product information" in this section.

Eye contact Corrosive to eyes.

Skin Contact Causes mild skin irritation.

Ingestion See "Numerical measures of toxicity-product information" in this section.

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--|----------------------|------------------------------------|------------------------|
| 2,4-D, dimethylamine salt 2008-39-1 | = 625 mg/kg (Rat) | = 2115 mg/kg (Rabbit) | - |
| Trade Secret | = 4700 mg/kg (Rat) | = 10600 mg/kg (Rat) = 9530 µL/kg | - |

| | | | |
|--------------|--|-------------------------|---|
| | | (Rabbit) | |
| Trade Secret | = 0.62 mL/kg (Rat) = 620 µL/kg (Rat) | = 7640 µL/kg (Rabbit) | - |

Information on toxicological effects

Symptoms No information available.

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

Sensitization Not a skin sensitizer.
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. The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|--|-------|----------|-----|------|
| 2,4-D, dimethylamine salt 2008-39-1 | | Group 2B | | |
| Trade Secret | A3 | Group 2B | | X |

ACGIH (American Conference of Governmental Industrial Hygienists)
 A3 - Animal Carcinogen
 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 Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
Target Organ Effects Central nervous system, Eyes, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity
Oral LD50 2621 mg/kg body weight
Dermal LD50 > 2000 mg/kg body weight
Inhalation LC50 > 1.54 mg/L (4 Hr.)

The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (inhalation-gas) 84873 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---------------|--|---|--|-------------------------------------|
| Trade Secret | 6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50 | 41000: 96 h Oncorhynchus mykiss mg/L LC50 14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h | EC50 = 10000 mg/L 16 h EC50 = 620 mg/L 30 min EC50 = 620.0 mg/L 30 min | 46300: 48 h Daphnia magna mg/L EC50 |

| | | | | |
|--------------|--|--|---|-------------------------------------|
| | | Oncorhynchus mykiss mg/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static | | |
| Trade Secret | 7.8: 72 h Desmodemus subspicatus mg/L EC50 2.1 - 2.3: 96 h Pseudokirchneriella subcapitata mg/L EC50 | 4460 - 4980: 96 h Pimephales promelas mg/L LC50 flow-through 1200 - 1580: 96 h Pimephales promelas mg/L LC50 static 600 - 1000: 96 h Lepomis macrochirus mg/L LC50 static | EC50 = 73 mg/L 5 min EC50 > 16 mg/L 16 h | 55: 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

- Disposal of wastes** This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).
- Contaminated packaging** Do not reuse container, unless specified by the manufacturer.
- US EPA Waste Number** D001 See Section 2: Hazards not otherwise classified (HNOC)

14. TRANSPORT INFORMATION

DOT

- Proper shipping name** For package sizes less than 30.48 gallons: product is non-regulated.
- Description** For package sizes 30.48 gallons or greater: UN3082, Environmentally Hazardous Substances, Liquid, N.O.S., 9, PGIII, RQ (2,4-D)
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 2217-703

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

Danger. Keep out of the reach of children. Corrosive. Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing spray mist or vapor.

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 | 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 |
|---|------|-----|------|--------|--------|------|-------|------|-------|------|
| 2,4-D, dimethylamine salt | | | | X | | | X | | X | X |
| Bis(2-hydroxyethyl)ammonium 2,4-dichlorophenoxyacetate | | | | X | | | | | | X |
| Trade Secret | X | X | | X | | X | X | X | X | X |
| Trade Secret | X | X | | X | | X | X | X | 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 | SARA 313 - Threshold Values % |
|----------------|-------------------------------|
| Trade Secret - | 1.0 |
| Trade Secret - | 1.0 |

SARA 311/312 Hazard Categories

| | |
|--|-----|
| Acute health hazard | Yes |
| Chronic Health Hazard | No |
| Fire hazard | Yes |
| 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)

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) |
|---------------------------|--------------------------|----------------|--------------------------|
| 2,4-D, dimethylamine salt | 100 lb | | RQ 100 lb final RQ |

| | | | |
|--|---------|--|--|
| 2008-39-1 | | | RQ 45.4 kg final RQ |
| Bis(2-hydroxyethyl)ammonium 2,4-dichlorophenoxyacetate 5742-19-8 | 100 lb | | RQ 100 lb final RQ RQ 45.4 kg final RQ |
| Trade Secret | 5000 lb | | RQ 5000 lb final RQ RQ 2270 kg final RQ |
| Trade Secret | 100 lb | | RQ 100 lb final RQ RQ 45.4 kg final RQ |

US State Regulations

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
| Trade Secret | X | X | X |
| Trade Secret | X | X | X |

International Regulations

Mexico - Grade Serious risk, Grade 3

| Chemical Name | Carcinogenicity | Exposure Limits |
|---------------|-----------------|---------------------------------------|
| Trade Secret | | Mexico: Ceiling 100 mg/m ³ |

16. OTHER INFORMATION

| | | | | |
|-------------|------------------|----------------|--------------------|------------------------------------|
| NFPA | Health hazards 3 | Flammability 1 | Instability 0 | Physical and Chemical Properties - |
| HMIS | Health hazards 3 | Flammability 1 | Physical hazards 0 | Personal protection X |

Disclaimer

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End of Safety Data Sheet