



# SAFETY DATA SHEET

**BCF TURF FERTILIZER WITH PENDIMETHALIN 0.86%**

EMERGENCY NUMBER: 1-800-424-9300  
BONUS CROP FERTILIZER, INC.  
GREENVILLE, TEXAS 75403  
Effective Date: August 1, 2014

## 1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: PENDIMETHALIN  
Molecular formula:  $C(13)H(19)N(3)O(4)$   
Molecular weight: 281.31 g/mol  
Chemical family: aniline derivative

### COMPANY IDENTIFICATION:

Bonus Crop Fertilizer, Inc.  
P O Box 1062  
Greenville, Texas 75403

## 2. HAZARDOUS IDENTIFICATIONS:

### Emergency overview

CAUTION: Causes eye irritation  
HARMFUL IF SWALLOWED  
KEEP OUT OF THE REACH OF CHILDREN.  
KEEP OUT OF THE REACH OF DOMESTIC ANIMALS.

Avoid contact with the skin, eyes and clothing.  
Avoid inhalation of dusts/mists/vapors.  
Wash thoroughly after handling.



### Potential health effects

#### Primary routes of exposure

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

#### Acute toxicity:

Slightly toxic after single ingestion. Relatively non-toxic after short-term inhalation. Slightly toxic after short-term skin contact.

#### Irritation:

May cause slight irritation to the skin. May cause slight but temporary irritation to the eyes.

#### Sensitization:

Caused skin sensitization in animals studies.

### Potential environmental effects

#### Aquatic toxicity:

Very toxic (acute effect) to aquatic organisms.

#### Terrestrial toxicity:

Acutely harmful to terrestrial organisms.

## 3. COMPOSITION/INFORMATION INGREDIENTS:

Chemical Name	CAS-No	Content (W/W)
Pendimethalin	40487-42-1	0.86%
Proprietary ingredients		99.14%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

## 4. FIRST AID:

**GENERAL ADVICE:** First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

#### If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

#### If on skin:

Rinse skin immediately with plenty of water for 15-20 minutes.

#### If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

#### If swallowed:

Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

### Note to physician

Symptoms: orange-red colored urine caused by dye (not Associated with methemoglobinemia)

Antidote: No known specific antidote.

Treatment: Treat symptomatically.



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## 5. FIRE FIGHTING MEASURES

**Flash point:** >97°C (DIN EN 22719; ISO 2719)

**Autoignition:** >200°C The substance/product decomposes therefore not determined.

**Self-ignition temperature:** Not self-igniting.

**Suitable extinguishing media:** Foam, dry extinguishing media, carbon dioxide, water spray.

### **Hazards during fire-fighting:**

Carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, hydrocarbons. The substances/groups of substances mentioned can be released if the product is involved in a fire. If product is heated above decomposition temperature, toxic vapors will be released. Risk of explosion if exposed to fire.

### **Protective equipment for fire-fighting:**

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

### **Further information:**

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

## 6. ACCIDENTAL RELEASE MEASURES:

### **Personal Precautions:**

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

### **Environmental precautions:**

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

### **Cleanup:**

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

**Methods for Containment:** Prevent dust cloud. Prevent further leakage or spillage if safe to do so.

## 7. HANDLING AND STORAGE:

### **Handling:**

#### **General advice:**

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition – No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return to the storage containers. Follow label warnings even after container is emptied. The substance/product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapors. Wear suitable personal clothing and equipment. To avoid risk of injury, do not cut, puncture or weld on or near this container. Do not use air pressure or apply heat with open flame to remove contents of drum.

### **Protection against fire and explosion:**

The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

### **Storage**

#### **General Advice:**

Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

### **Storage incompatibility:**

General: Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.



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Storage stability:  
Avoid prolonged storage at high temperatures.

## Temperature tolerance

Protect from temperatures above: 40°C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

### Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

### Personal protective equipment

#### Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapors. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

#### Hand protection:

Chemical resistant protective gloves. Protective glove selection must be based on the user's assessment of the workplace hazards.

#### Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if spashing hazard exists.

#### Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

#### General safety and hygiene measures:

Wear long-sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye-wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if

necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

**Form:** Waxy to solid  
**Odor:** Faint odor, nutty  
**Color:** Yellow to brown  
**pH value:** Not applicable, of very low solubility  
**Melting range:** 57 – 58°C  
**Boiling point:** Non-volatile solid, not applicable  
**Vapor pressure:** Approx 0.00002 mbar (25°C)  
Approx 0.025 mbar (approx 100°C)  
**Bulk density:** 1,178 kg/m<sup>3</sup>  
**Partitioning coefficient:** Not applicable  
**n-octanol/water (log Pow):**  
**Viscosity, dynamic:** Not applicable  
**Viscosity, kinematic:** Not applicable  
**Solubility in water:** 0.275 mg/l (25°C)

## 10. STABILITY AND REACTIVITY:

### Conditions to avoid:

Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage. This product may form an explosive mixture if: 1. the dust is suspended in the atmosphere as a dust cloud and 2. the concentration of the dust is above the lower explosion limit (LEL) and 3. the limiting oxygen concentration (LOC) is exceeded.

### Substances to avoid:

Oxidizing agents, strong alkalis.

### Hazardous reactions:

The product is chemically stable. Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

### Decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated. Prolonged thermal loading can result in products of degradation being given off.

### Thermal decomposition:

Approx 200°C (DSC (DIN 51007))  
Possible thermal decomposition products:



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Carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, hydrocarbons.

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapors may be released. Risk of exothermic self-accelerating decomposition above the indicated temperature.

**Corrosion to metals:**

Corrosive effects to metal are not anticipated.

**Oxidizing properties:**

Oxidant in the presence of some metals.  
Oxidizing.

## 11. TOXICOLOGICAL INFORMATION:

**Acute toxicity**

**Oral:**

LD50/rat/male/female: >4,500 mg/kg  
(OEDC Guideline 401)

**Inhalation:**

LC50/rat: >6.73 mg/l /4h

**Dermal:**

LD50/rat/male/female: >5,000 mg/kg  
(OEDC Guideline 402)

**Skin irritation:**

Rabbit: non-irritant

**Eye irritation:**

Rabbit: non-irritant

**Sensitization:**

Guinea pig maximization test/guinea pig: Caused skin sensitization in animal studies.

**Chronic toxicity**

**Genetic toxicity:**

Information on: pendimethalin  
No mutagenic effect was found in various tests with microorganisms and mammals.

**Carcinogenicity:**

Information on: pendimethalin  
In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.

In long-term studies in rats the substance induced thyroid tumors.

A marked decrease in body weight gain and an increase in benign thyroid proliferative lesions were observed in the lifetime rat study at the highest dose tested.

The substance is not considered to pose a carcinogenic risk at low human exposure levels.

**Reproductive toxicity:**

Information on: pendimethalin

The results of animal studies gave no indication of a fertility impairing effect.

**Developmental toxicity/teratogenicity:**

Information on: pendimethalin

No indications of a developmental toxic/teratogenic effect were seen in animal studies.

**Experience in humans:**

Pendimethalin is a strongly orange-red compound – virtually an aniline dye. Cases have been described of orange-yellow coloration of urine following heavy exposure of workers to the dust of pendimethalin. Despite its structure as both a nitro-compound and aromatic amine, exposure to pendimethalin is NOT associated with methemoglobinemia.

## 12. ECOLOGICAL INFORMATION:

**Environmental fate and transport**

**Biodegradation:**

Evaluation: Not readily biodegradable (by OECD criteria).

**Environmental toxicity**

**Acute and prolonged toxicity to fish:**

Rainbow trout/LC50 (96h): 0.89 mg/l

**Acute toxicity to aquatic invertebrates:**

Daphnia Magna/EC50 (48h): 0.977 mg/l

**Toxicity to aquatic plants:**

Green algae/EC50 (72h): 0.0081 mg/l

Information on: pendimethalin

Other terrestrial non-mammals:

Mallard duck/LD50: 1,421 mg/kg

Acutely harmful to terrestrial organisms.

Honey bee/LD50: 49.8 ug/bee

Acutely harmful to terrestrial organisms.





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## Other ecotoxicological advice:

Do not release untreated into natural waters.

## 13. DISPOSAL CONSIDERATIONS:

### Waste disposal of substance:

Pesticide wastes are regulated.

Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law.

If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendation. Consult state or local disposal authorities for approved alternative procedures such as container recycling. To avoid risk of injury, do not cut, puncture or weld on or near this container. At elevated temperatures (welding), violent and hazardous decomposition of product.

### RCRA: D028

The waste codes are manufacturer's recommendations based on the designated use of the product. Other use and special waste disposal treatment on customer's location may require difference waste-code assignments.

## 14. TRANSPORT INFORMATION:

### Land transport: USDOT

Not classified as a dangerous good under transport regulations.

### Sea transport: IMDG

Hazard class: 9  
Packing group: III  
ID number: UN3077  
Hazard Label: 9  
Marine pollutant: YES  
Proper shipping name: ENVIRONMENTALLY  
HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains  
PENDIMETHALIN 93%)

Hazard class: 9  
Packing group: III  
ID number: UN3077  
Hazard Label: 9

Proper shipping name: ENVIRONMENTALLY  
HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains  
PENDIMETHALIN 93%)

## 15. REGULATORY INFORMATION:

### Federal Regulations

#### Registration status:

TSCA, US released/exempt

OSHA hazard category: Skin and/or eye irritant.

### SARA hazard categories (EPCRA 311/312):

Acute, Chronic.

### SARA 313:

#### CAS Number

40487-42-1

#### Chemical Name

Pendimethalin

## 16. OTHER INFORMATION:

SDS STATUS: New

Recommended use: Active ingredient, herbicide.

PROWL® HERBICIDE TECHNICAL is a registered trademark of BASF Corporation or BASF SE.

*Bonus Crop Fertilizer, Inc. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the Buyer's/User's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the Buyer's/User's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such manufacturer-specific (M)SDS, we are not and cannot be responsible for (M)SDS obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.*

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Air transport: IATA/ICAO