

# Safety Data Sheet

## Prowl H2O Herbicide

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### 1. Identification

#### Product identifier used on the label

## Prowl H2O Herbicide

#### Recommended use of the chemical and restriction on use

Recommended use\*: crop protection product, herbicide  
Unsuitable for use: Uses other than recommended

\* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

#### Details of the supplier of the safety data sheet

Company:  
BASF Agricultural Solutions US LLC  
2 TW Alexander Drive  
Research Triangle Park, NC 27713  
USA

Telephone: +1 973 245-6000

#### Emergency telephone number

##### 24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300  
BASF HOTLINE: 1-800-832-HELP (4357)

#### Other means of identification

Substance number:	171005
Registration number:	EPA Registration number: 241-418
Molecular formula:	C13 H19 N3 O4
Synonyms:	pendimethalin

### 2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

#### Classification of the product

Repr.	2 (unborn child)	Reproductive toxicity
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Aquatic Acute	2	Hazardous to the aquatic environment - acute
Aquatic Chronic	2	Hazardous to the aquatic environment - chronic
Skin Sens.	1	Skin sensitization

### Label elements

Pictogram:



Signal Word:  
Warning

Hazard Statement:

H317	May cause an allergic skin reaction.
H361	Suspected of damaging the unborn child.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P261	Avoid breathing mist or vapour or spray.
P273	Avoid release to the environment.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P308 + P313	IF exposed or concerned: Get medical attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Precautionary Statements (Storage):

P405	Store locked up.
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Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.
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### Hazards not otherwise classified

Labeling of special preparations (GHS):

CONTAINS ISOCYANATES. INHALATION OF ISOCYANATE MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST DISCOMFORT AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH

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AND DIFFICULTY BREATHING. ANIMAL TESTS INDICATE THAT SKIN CONTACT MAY PLAY A ROLE IN CAUSING RESPIRATORY SENSITIZATION.

### 3. Composition / Information on Ingredients

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

pendimethalin

CAS Number: 40487-42-1

Content (W/W): 38.7 %

Synonym: N-(1-Ethylpropyl)-2,6-dinitro-3,4-xylidine; Pendimethalin

### 4. First-Aid Measures

#### Description of first aid measures

##### 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. In case of intoxication, call a poison control center or physician for treatment advice, taking the packaging or the label of the product.

##### If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

##### If on skin:

Wash thoroughly with soap and water

##### If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

##### If swallowed:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

#### Most important symptoms and effects, both acute and delayed

Symptoms: orange-red coloured urine caused by dye (not associated with methemoglobinemia) Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

#### Indication of any immediate medical attention and special treatment needed

##### Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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### 5. Fire-Fighting Measures

#### Extinguishing media

Suitable extinguishing media:  
foam, dry powder, carbon dioxide, water spray

#### Special hazards arising from the substance or mixture

Hazards during fire-fighting:  
carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide,  
If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released in case of fire.

#### Advice for fire-fighters

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.

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### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

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.

#### Methods and material for containment and cleaning up

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.

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### 7. Handling and Storage

#### Precautions for safe handling

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 residues to the storage containers. Follow label warnings even after container is emptied. The

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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/vapours. Wear suitable personal protective clothing and equipment.

### 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.

### Conditions for safe storage, including any incompatibilities

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

Further information on storage conditions: 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.

Protect from temperatures below: -5 °C

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

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.

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## 8. Exposure Controls/Personal Protection

**Users of a pesticidal product should refer to the product label for personal protective equipment requirements.**

No substance specific occupational exposure limits known.

### Advice on system design:

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

### Personal protective equipment

**RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:**

### 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 vapours. 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.

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### Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing 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:	liquid	
Odour:	faint odour, nutty	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
Colour:	yellow to brown	
pH value:	approx. 7 - 9 ( 21 °C) (measured with the undiluted substance)	
Melting point:	approx. 0 °C Information applies to the solvent.	
Flash point:	> 230 °F	
Flammability:	not applicable	
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Autoignition:	354 °C	(DIN EN 14522)
SADT:	> 75 °C	
Density:	approx. 9.79 lb/USg ( 68 °F)	
Vapour density:	not applicable	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Thermal decomposition:	235 °C, 900 kJ/kg (DSC (OECD 113)) (onset temperature) Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.	

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Viscosity, dynamic:	128 mPa.s ( 20 °C)	(OECD 114)
Solubility in water:	dispersible	
Molar mass:	281.31 g/mol	
Evaporation rate:	not applicable	
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.	

## 10. Stability and Reactivity

### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:  
not fire-propagating

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions

The product is chemically stable.

Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

### Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged storage. Avoid electro-static discharge. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.

### Incompatible materials

strong acids, strong bases, strong oxidizing agents

### Hazardous decomposition products

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:

235 °C, 2.5 K/min (DSC (OECD 113))  
(onset temperature)

Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.

## 11. Toxicological information

### Primary routes of exposure

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

### Acute Toxicity/Effects

Acute toxicity

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Assessment of acute toxicity: Relatively nontoxic after single ingestion. Relatively nontoxic after short-term inhalation. Relatively nontoxic after short-term skin contact.

### Oral

Type of value: LD50  
Species: rat (female)  
Value: > 2,000 mg/kg (OECD Guideline 423)  
No mortality was observed.

### Inhalation

Type of value: LC50  
Species: rat  
Value: > 5.2 mg/l (OECD Guideline 403)  
Exposure time: 4 h  
An aerosol was tested.  
No mortality was observed.

### Dermal

Type of value: LD50  
Species: rat  
Value: > 5,000 mg/kg (OECD Guideline 402)

### Assessment other acute effects

Assessment of STOT single:  
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

The product has not been tested. The statement has been derived from the properties of the individual components.

### Irritation / corrosion

Assessment of irritating effects: Not irritating to the eyes. May cause slight irritation to the skin.

### Skin

Species: rabbit  
Result: Slightly irritating.

### Eye

Species: rabbit  
Result: non-irritant  
Method: OECD Guideline 405

### Sensitization

Assessment of sensitization: Sensitization after skin contact possible.

### Mouse Local Lymph Node Assay (LLNA)

Species: mouse  
Result: sensitizing  
Method: OECD Guideline 406

### Aspiration Hazard

The product has not been tested. The statement has been derived from the properties of the individual components. No aspiration hazard expected.

## Chronic Toxicity/Effects

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### Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

### *Information on: pendimethalin*

*Assessment of repeated dose toxicity: No substance-specific organotoxicity was observed after repeated administration to animals. Adaptive effects were observed after repeated exposure in animal studies.*

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### Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

### Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

### *Information on: pendimethalin*

*Assessment of carcinogenicity: In long-term studies in rats the substance induced thyroid tumors. The effect is caused by an animal specific mechanism that has no human counter part. In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.*

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### Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

### Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

### *Information on: pendimethalin*

*Assessment of teratogenicity: Indications of possible developmental toxicity/teratogenicity were seen in animal studies.*

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### Experiences in humans

Pendimethalin is a strongly orange-red compound - virtually an aniline dye. Cases have been described of orange-yellow colouration 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.

### Other Information

Misuse can be harmful to health.

### Medical conditions aggravated by overexposure

Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

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## 12. Ecological Information

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### Toxicity

Aquatic toxicity  
Assessment of aquatic toxicity:  
Toxic to aquatic life with long lasting effects.

Very toxic (acute effect) to aquatic organisms.

#### Toxicity to fish

LC50 (96 h) 20.36 mg/l, Oncorhynchus mykiss (OECD Guideline 203, static)

#### Aquatic invertebrates

EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

#### Aquatic plants

EC50 (72 h) 1.49 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201)

EC10 (72 h) 0.14 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201)

EC50 (7 d) 19.25 mg/l (growth rate), Lemna gibba (OECD guideline 221)

No observed effect concentration (7 d) 1.0 mg/l (growth rate), Lemna gibba (OECD guideline 221)

#### Assessment of terrestrial toxicity

Acutely harmful to terrestrial organisms.

### Persistence and degradability

#### Assessment biodegradation and elimination (H2O)

*Information on: pendimethalin*

*Not readily biodegradable (by OECD criteria).*  
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### Mobility in soil

#### Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: pendimethalin*

*The substance will slowly evaporate into the atmosphere from the water surface.*

*Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.*  
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### Additional information

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

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### 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 recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

#### 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 different waste-code assignments.

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### 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: UN 3082

Hazard label: 9, EHSM

Marine pollutant: YES

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

#### Air transport

IATA/ICAO

Hazard class: 9

Packing group: III

ID number: UN 3082

Hazard label: 9, EHSM

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

#### Further information

DOT: This product is regulated if the amount in a single receptacle exceeds the Reportable Quantity (RQ). Please refer to Section 15 of this SDS for the RQ for this product.

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### 15. Regulatory Information

#### Federal Regulations

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### Registration status:

Crop Protection TSCA, US released / exempt

**EPCRA 311/312 (Hazard categories):** Refer to SDS section 2 for GHS hazard classes applicable for this product.

### State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
PA	107-06-2	1,2-dichloroethane
NJ	40487-42-1	pendimethalin

### Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

### BASF Risk Assessment, CA Prop. 65:

Based on an evaluation of the product's composition and the use(s), this product does not require a California Proposition 65 Warning.

### NFPA Hazard codes:

Health: 2 Fire: 1 Reactivity: 1 Special:

### Labeling requirements under FIFRA

This chemical is a pesticide product regulated 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 workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

#### CAUTION:

KEEP OUT OF REACH OF CHILDREN.

Hazards to humans and domestic animals.

Causes moderate eye irritation.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

Avoid contact with the skin, eyes and clothing.

## 16. Other Information

### SDS Prepared by:

BASF Agricultural Solutions US NA Product Regulations

SDS Prepared on: 2023/04/15

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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