



Bonide Ground Force Vegetation Killer Concentrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Bonide Ground Force Vegetation Killer Concentrate
Product code : 2287134

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Herbicide

1.3. Details of the supplier of the safety data sheet

Bonide Products, Inc.
6301 Sutliff Road
Oriskany, NY 13424
T (315) 736-8231
www.bonide.com

1.4. Emergency telephone number

Emergency number : CHEMTREC - 1 (800) 424-9300 and/or 1 (703) 527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

None

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) : None
Signal word (GHS-US) : No signal word
Hazard statements (GHS-US) : Not Hazardous
Precautionary statements (GHS-US) : P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read carefully and follow all instructions.
P501 - Dispose of contents/container to in accordance with local/national regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

Mixture

Name	Product identifier	%
Glyphosate, Isopropylamine salt	(CAS No) 38641-94-0	5.03
Imazapyr, isopropylamine salt	(CAS No) 81510-83-0	0.089

Synonyms: Mixture containing Glyphosate IPA; N-(phosphonomethyl) glycine, in the form of its isopropylamine salt; Imazapyr IPA, isopropylamine salt of imazapyr

Ingredients not precisely identified are proprietary or non-hazardous.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation : Move person to fresh air. If symptoms develop, get medical advice.
First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Get medical attention if irritation develops and persists.
First-aid measures after eye contact : Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, then continue rinsing eye. Get medical attention if irritation occurs and persists.
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. If symptoms develop, get medical advice..

4.2. Most important symptoms and effects, both acute and delayed

Eye exposure may cause mild irritation. Suspected of causing cancer.

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4.3. Indication of any immediate medical attention and special treatment needed

Immediate medical attention should not be required. For ingestion there is no specific antidote available. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

May produce gases such as hydrogen chloride and oxides of carbon, nitrogen and phosphorous.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected soil area should be removed and placed in an appropriate container for disposal.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Causes irreversible eye damage. Harmful if swallowed. Do not get in eyes or on clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store product in original container in a safe place and protect from freezing. Do not contaminate water, food, or feed by storage or disposal.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Heat sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Engineering controls

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

8.3. Individual Protection Measures

Personal protective equipment : Avoid all unnecessary exposure.

Skin protection : To avoid contact with skin, wear long pants, long-sleeved shirt, shoes plus socks, and chemical-resistant gloves made of any waterproof material. For overhead exposure, wear chemical-resistant headgear. Washing facilities should be readily accessible to the work area.

Eye protection : To avoid contact with the eyes, wear chemical goggles or safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Respiratory protection : Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides..

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General Hygiene Considerations : Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Amber or light brown liquid.
Color : Amber or light brown.
Odor : Ammoniacal.
Odor threshold : No data available
pH : 4.05 (1% w/w dilution in DIW)
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : Does not flash (aqueous salt based composition)
Self ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : 1.015 g/mL @ 25° C
Solubility : Completely miscible.
Viscosity : 1.14 cPs at 25° C; 0.851 cPs at 40° C

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

SECTION 10: Stability and reactivity

10.1. Reactivity

Not reactive.

10.2. Chemical stability

This material is stable under normal handling and storage condition.

10.3. Possibility of hazardous reactions

Will not occur.

10.4. Conditions to avoid

Excessive heat. Do not store near heat or flame.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under fire conditions may produce gases such as hydrogen chloride and oxides of carbon, nitrogen and phosphorous.

SECTION 11: Toxicological information

11.1. Likely Routes of Exposure

Eye contact, Skin contact

11.2. Symptoms of Exposure

Eye Contact: This substance is a mild eye irritant. Signs and symptoms of overexposure may include discomfort, irritation and redness, and blurred vision.
Skin Contact: This substance is not expected to cause skin irritation.
Ingestion: If swallowed, this substance is considered practically non-toxic.
Inhalation: If inhaled, this substance is considered practically non-toxic.

11.3. Toxicological Data

Data from laboratory studies on this product are summarized below:

Oral: Rat LD50: >5,000 mg/kg

Dermal: Rat LD50: >5,000 mg/kg

Inhalation: Rat 4-hr LC50: >2.07 mg/l

Eye Irritation: Rabbit: Mildly Irritation (MMTS=20.7)

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Skin Irritation: Rabbit: Slightly irritating (PDII=1.4)

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

11.4. Subchronic (Target Organ) Effects

Repeated overexposure to glyphosate may decrease body weight gains and effects to liver. For imazapyr, no adverse effects at approximately 1,700 mg/kg/day (highest dose tested).

Carcinogenicity / Chronic Health Effects:

Prolonged overexposure to glyphosate may cause effects to the liver. EPA has given glyphosate a Group E classification (evidence of non-carcinogenicity in humans). In 2015 IARC classified glyphosate as a probable human carcinogen Group 2A based on limited human evidence and some evidence in animals. Imazapyr did not cause cancer in laboratory animals. EPA has classified imazapyr as a Group E (evidence of non-carcinogenicity for humans) carcinogen.

Reproductive Toxicity:

In laboratory animal studies with glyphosate, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Developmental Toxicity:

In animal studies, glyphosate did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother. The results of animal studies with imazapyr gave no indication of a fertility impairing effect.

Genotoxicity:

Glyphosate has produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells. For imazapyr, no mutagenic effect was found in various tests with microorganisms and mammals.

SECTION 12: Ecological information

12.1. Ecotoxicity

Data on Glyphosate Acid:

96-hour LC50 Bluegill: 120 mg/l

96-hour LC50 Rainbow Trout: 786 mg/l

48-hour EC50 Daphnia: 780 mg/l

96-hour EC50 Diatoms: 1.3 mg/l

14-day EC50 Duckweed: 25.5 mg/l

72-hour EC50 Algae: 450 mg/l

Bobwhite Quail 8-day Dietary LD50: >4,500 ppm

Mallard Duck 8-day Dietary LC50: >4,500 ppm

Data on Imazapyr:

96-hour LC50 Bluegill: >100 mg/l

96-hour LC50 Rainbow Trout: >100 mg/l

48-hour EC50 Daphnia: >100 mg/l

7-day EC50 Green Algae: 71 mg/l

Honey Bee LD50: >100 mg/bee

Bobwhite Quail 8-day Dietary LC50: >5,000 ppm

Bobwhite Quail Oral LD50: >2,150 mg/kg

Mallard Duck 8-day Dietary LC50: >5,000 ppm

Mallard Duck Oral LD50: >2,150 mg/kg

12.2. Environmental Fate

In the environment glyphosate adsorbs strongly to soil and is expected to be immobile in soil. Glyphosate is readily degraded by soil microbes to AMPA (aminomethyl phosphonic acid) that is further degraded to carbon dioxide. Glyphosate and AMPA are unlikely to enter ground water due to their strong adsorptive characteristics. Terrestrially-applied glyphosate has the potential to move into surface waters through soil erosion because it may be adsorbed to soil particles suspended in the runoff. Aquatic applications registered for certain formulations may also result in glyphosate entering surface waters. Complete degradation is slow, but dissipation in water is rapid because glyphosate is bound in sediments and has low biological availability to aquatic organisms. These characteristics suggest a low potential for bioconcentration in aquatic organisms and this has been verified by laboratory investigations of glyphosate bioconcentration in numerous marine and freshwater organisms with and without soil. The maximum whole body bioconcentration factors for fish were observed to be less than 1X. Bioconcentration factors for sediment dwelling mollusks and crayfish tended to be slightly higher, but were always less than 10X. In addition, any residues accumulated in organisms were rapidly eliminated.

Imazapyr is degraded by microbial metabolism and can be relatively persistent in soils. It has an average half-life in soils that ranges from 2 weeks to 5 months. Half-lives tend to be shorter in forest litter and soils. Imazapyr is water-soluble and variably binds to organic materials in the soils. Although the potential to leach is high, leaching is limited under typical field conditions. In water, imazapyr can be rapidly degraded by photolysis with a half-life averaging 2 days. Due to its rapid photodegradation by sunlight, water contamination by imazapyr is generally not of concern.

12.3. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste Disposal Method

Wastes resulting from use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container retains vapors and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Pesticide wastes may be acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

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13.2. Container Handling and Disposal

Nonrefillable container. Do not reuse or refill this container. If empty: Place in trash or offer for recycling if available. If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor (including toilet) or outdoor (including sewer) drain.

SECTION 14: Transport information

Not regulated for transport by DOT

SECTION 15: Regulatory information

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:

CAUTION: Causes moderate eye irritation. 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.

15.1. US Federal regulations

No additional information available

15.2. International regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Other information : None.

SDS US (GHS HazCom 2012) - Pesticides

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.