



BlackHawk Herbicide Safety Data Sheet

Issue Date: 2016-01-11

Supersedes Date: NA

1. Identification

Product Name: BlackHawk Herbicide
PCP Registration No.: 32111
Product Type: Herbicide

Supplier: Nufarm Agriculture Inc.
5507 1st Street SE
Calgary, Alberta, T2H 1H9, Canada
(+1) 403-253-8471

Telephone Numbers: 24 Hour Emergency Response Number, Chemtrec, 1-800-424-9300.
For medical emergencies, ProSAR, 1-877-325-1840.
For product and use information, Nufarm Agriculture Inc.,
1-800-868-5444.

2. Hazard Identification

Physical Hazards:

Flammable liquid Category 4

Health Hazards:

Acute toxicity (Oral) Category 4
Skin irritation Category 3
Skin sensitizer Category 1B

Environmental Hazards:

Hazardous to aquatic environment, acute Category 1

Signal Word:

WARNING

Hazard Statements:

Combustible liquid. Harmful if swallowed. Causes mild skin irritation. May cause an allergic skin reaction. Very toxic to aquatic life.



Precautionary Statements:

Keep away from flames and hot surfaces.

Avoid contact with skin, eyes and clothing. After use, wash hands and other exposed skin. Wear coveralls over a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. Remove and wash contaminated clothing before reuse. Avoid breathing spray mist. Harmful if swallowed.

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This product contains an active ingredient and aromatic petroleum distillates which are toxic to aquatic organisms.

3. Composition / Information on Ingredients

Hazardous Components	CAS No.	Wt. %
2,4-D-2-ethylhexyl	1928-43-4	65-69
Chemical Synonyms: 2,4-D 2EH; 2-ethylhexyl 2-(2,4-dichlorophenoxy)acetate; 2-ethylhexyl (2,4-dichlorophenoxy)acetate		
Solvent naphtha (petroleum), heavy aromatic, naphthalene depleted	64742-94-5	21-23
1-methyl-2-pyrrolidinone	872-50-4	2.4-2.6
Chemical Synonyms: NMP; N-Methylpyrrolidone; N-Methylpyrrolidinone		
pyraflufen-ethyl	129630-19-9	0.5-0.6
Chemical Synonyms: ethyl [2-chloro-5-(4-chloro-5-difluoromethoxy-1-methylpyrazol-3-yl)-4-fluorophenoxy]acetate; ethyl 2-[2-chloro-5-[4-chloro-5-(difluoromethoxy)-1-methyl-1H-pyrazol-3-yl]-4-fluorophenoxy]acetate		

Other ingredients are not hazardous.

4. First Aid Measures

If swallowed, call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

If on skin or clothing, take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

If in eyes, hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

If inhaled, move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

Note to physician: Treat symptomatically. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. No specific antidote. Employ supportive care. This product may cause mild irritation to the eyes.

Overexposure to 2,4-D may cause coughing, burning, dizziness or temporary loss of muscle coordination. Other possible effects of overexposure include fatigue, muscle weakness or nausea.

5. Fire-fighting Measures

Extinguishing Media: Water fog, alcohol foam, carbon dioxide, dry chemical.

Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires. Minimize and contain water runoff.

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Flash Point:..... 66.8 °C

Conditions of Flammability: Combustible liquid. May burn under fire conditions.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 1 Flammability: 2 Reactivity: 0
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. Accidental Release Measures

Use safety equipment and procedures appropriate to the size of the spill. Keep unnecessary people away. Avoid runoff to natural waters and sewers. Surround and absorb spills with inert material such as perlite, sawdust, clay granules, vermiculite, sand or dirt. Contain all affected material in a closed, labeled container for proper disposal. Isolate from other waste materials. Clean contaminated area such as hard surfaces with detergent and water, collecting cleaning solution for proper disposal. Large spills to soil or similar surfaces may necessitate removal of top soil.

7. Handling and Storage

Handling: Avoid contact with skin, eyes and clothing. Wear goggles or face shield during mixing/loading. Wash concentrate from skin or eyes immediately. After use, wash hands and other exposed skin. Wear coveralls over a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. Remove and wash contaminated clothing before reuse.

Storage: Store the container tightly closed away from seeds, fertilizer, plants and foodstuffs. Storage below 0°C will not impair the effectiveness of the product, however, if frozen, return to original state by allowing product to warm to 10 - 20°C and agitate thoroughly before use.

8. Exposure Controls / Personal Protection

Engineering Controls: Use in a well ventilated area.

Personal Protective Equipment: Goggles or face shield, coveralls, long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal.

Exposure Guidelines:

Component	TWA*	STEL	Reference/Note
2,4-D-2-ethylhexyl	10 mg/m ³	20 mg/m ³	Based on adopted limit for 2,4-D
pyraflufen-ethyl	NE	NE	None found
Hydrocarbon solvent (total)	50 mg/m ³	NE	Supplier recommendation
1-methyl-2-pyrrolidinone	10 ppm,	NE	AIHA recommendation

*8-hour unless otherwise noted

NE = Not Established

9. Physical and Chemical Properties

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.

Appearance (physical state, colour, etc.) clear amber liquid

Odour hydrocarbon-like

Odour threshold not available

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pH	3.9 (1% w/w)
Melting point / Freezing point	not available
Initial boiling point and boiling range	>300°C (decomposition, 2,4-D 2-EHE)
Flash point	66.8 °C
Evaporation rate	not available
Flammability (solids, gases)	not applicable
Upper / Lower flammability or explosive limits	not available
Vapour pressure	3.6 x 10 ⁻⁶ mm Hg @ 25°C (2,4-D 2-EHE)
Vapour density	not available
Relative density	1.098
Solubility(ies)	product is emulsifiable in water
Partition coefficient: n-octanol/water	product is oil soluble
Autoignition temperature	not available
Decomposition temperature	>300°C (2,4-D 2-EHE)
Viscosity	25 mPa(s) @ 20C

10. Stability and Reactivity

Reactivity: Not reactive.

Chemical Stability: Stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Avoid contact with strong acidic, basic or oxidizing agents.

Hazardous Decomposition Products: Under fire conditions, may produce gases such as hydrogen chloride, nitrogen oxides and carbon oxides.

11. Toxicological Information

Likely routes of exposure: Inhalation, ingestion, skin and eye contact.

Overexposure to 2,4-D may cause coughing, burning, dizziness or temporary loss of muscle coordination. Other possible effects of overexposure include fatigue, muscle weakness or nausea.

Eye contact: Causes mild eye irritation. Causes redness and tearing.

Skin contact: May be harmful if absorbed through skin. Causes mild skin irritation. May cause an allergic skin reaction.

Ingestion: Harmful if swallowed. May cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.

Inhalation: Contains materials that may be moderately toxic. Vapours could cause headache, nausea, dizziness and respiratory irritation if inhaled.

Medical Conditions Aggravated by Exposure: Skin exposure may aggravate preexisting skin conditions. Inhalation of mist may aggravate preexisting respiratory conditions.

Toxicological Data:

Acute oral LD₅₀ (mg/kg) 565 (Rat, female)

Acute dermal LD₅₀ (mg/kg) > 2000 (Rat, male & female)

Acute inhalation LC₅₀ (mg/l) > 5.06 mg/L (Rat, male & female, 4-hour, nose-only exp.)

Skin corrosion/irritation Slightly irritating to the skin (Rabbit)

Serious eye damage/irritation Mildly irritating to the eye (Rabbit)

Respiratory or skin sensitization Potential skin sensitizer

Germ cell mutagenicity The weight of evidence is that 2,4-D is not mutagenic.

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Pyraflufen-ethyl has not demonstrated genotoxic potential in *in vitro* and *in vivo* assays.

Carcinogenicity The International Agency for Research on Cancer (IARC) lists exposure to 2,4-D as a class 2B carcinogen, the category for possible carcinogenicity in humans. Rat and mouse lifetime feeding studies did not show carcinogenic potential for 2,4-D. Pyraflufen-ethyl did not demonstrate oncogenicity in rats, but there were equivocal findings in mice. Relevance to humans is not known.

Reproductive toxicity Animal reproduction studies with both 2,4-D and pyraflufen-ethyl indicate there is no increased sensitivity of the young relative to maternal animals.

12. Ecological Information

Ecotoxicity:

Data are from laboratory studies conducted on 2,4-D-2-ethylhexyl technical.

Aquatic Invertebrate: 48-Hour EC₅₀ (mg/L) 5.2 (*Daphnia*)

Fish: 96-Hour LC₅₀ (mg/L) 7.2 (Rainbow Trt), > 5 (Bluegill), 0.24 (Silverside)

Algae: EC₅₀ (mg ae/L) > 30 (*Selenastrum*), 4.1 (*Navicula*), 0.23 (*Skeletonema*)

Birds: Oral LD₅₀ (mg/kg) 663 (Mallard), Dietary LC₅₀ > 5620 (Mallard, Bobwhite)

Bees: Oral and Contact LD₅₀ > 100 µg/bee

Data are from laboratory studies conducted on pyraflufen-ethyl technical.

Aquatic Invertebrate: 48-Hour EC₅₀ (mg/L) > 0.082 (*Daphnia*)

Fish: 96-Hour LC₅₀ (mg ae/L) > 0.1 (Rainbow Trt), > 0.085 (Bluegill), > 0.056 (Sheepshead)

Algae: EC₅₀ (mg/L) 0.00031 (*Selenastrum*), 0.0016 (*Navicula*)

Birds: Oral LD₅₀ (mg/kg) > 2000 (Bobwhite), Dietary LC₅₀ > 5000 (Mallard, Bobwhite)

Bees: Oral and Contact LD₅₀ > 112 µg/bee (oral), > 100 µg/bee (contact)

Environmental Fate: In representative laboratory and field studies, 2,4-D 2-EHE rapidly hydrolyzed to parent acid. The typical half-life of the resultant 2,4-D acid ranged from a few days to a few weeks.

Pyraflufen-ethyl dissipates quickly by biotransformation in both soil and water, having a half-life of less than one day. The major transformation products are persistent but immobile.

13. Disposal Considerations

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Disposal should be made in accordance with federal, provincial and local regulations.

Do not reuse container for any purpose. If applicable, return container in accordance with return program. If a recyclable container, dispose of at a container collection site. Contact local distributor, dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site, triple or pressure rinse the empty container adding rinsings to spray tank, and make container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

14. Transport Information

Canadian TDG Description (Road & Rail): UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (2,4-D Ester, pyraflufen-ethyl), Class 9, PG III, marine pollutant

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Section 1.45.1 of the TDG Regulations provides an exemption from documentation and safety marks only for this product and only when transported by a road or railway vehicle.

15. Regulatory Information

Pest Control Products Act Registration Number: 32111

16. Other Information

This Safety Data Sheet (SDS) is designed to comply with the Globally Harmonized System (GHS) of classification, and the *Hazardous Products Regulations*.

This product is regulated under the *Pest Control Products Act* (PCPA). Some classifications on this SDS may differ from the PCPA registered label.

This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use. The product labeling provides that information specifically for product use as intended.

Company and published information is used in the development of this SDS.

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