

Material Safety Data Sheet



Vantage* Forestry Herbicide Solution

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In case of emergency call CANUTEC at 613 996 6666

1. Product Identification:

Product name: Vantage* Forestry Herbicide Solution

Product use: Controls certain undesirable vegetation species for release of certain established coniferous or deciduous species in silviculture.

Product code number: 38464

GMID numbers: 183134, 210287

MSDS number: DASCI-154

Effective date: April 7, 2005

Supplier:

Dow AgroSciences Canada Inc.
Suite 2100, 450 - 1st Street SW,
Calgary, Alberta,
Canada, T2P 5H1

www.dowagro.ca

Date printed: February 5, 2006

This product is regulated under authority of the Pest Control Products Act

2. Composition:

Component	CAS Number	% (w/w)
Glyphosate isopropylamine (IPA) salt	038641-94-0	41.0
Inert ingredients	not available	59.0

3. Hazard Identification:

Emergency Overview:

This product is a clear amber liquid with a slight amine-type odor. This product may cause eye irritation.

Potential Health Effects:

Eyes: This product may cause slight eye irritation. Corneal injury is unlikely.

Skin contact: This product is essentially non-irritating to skin.

Skin absorption: Prolonged skin contact is not likely to result in the material being absorbed through the skin in harmful amounts.

Ingestion: Harmful effects are not anticipated from swallowing small amounts of this product.

Inhalation: A brief exposure (minutes) is not likely to cause adverse effects.

4. First Aid Measures:

Eyes: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial one to two minutes and continue flushing for several additional minutes. If effects occur, get specialist medical attention.

Skin: Wash skin with plenty of water

Ingestion: No emergency medical treatment is necessary.

Inhalation: Remove individual to fresh air. If effects occur, get medical attention.

Note to physician:

There is no specific antidote. Employ supportive care. Treatment of exposure should be directed

at the control of symptoms and the clinical condition of the patient.

5. Fire-fighting Measures:

Flash point: >112°C (Setaflash)

Flammable limits: Not applicable

Auto-ignition temperature: Not available

Extinguishing media: Foam, CO₂, dry chemical

Sensitivity to mechanical impact/static discharge: Not available

Unusual fire and explosion hazards: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions. Contain fire-fighting water for future disposal.

Fire-fighting equipment: Wear full turnout gear and use positive-pressure self-contained breathing apparatus.

6. Accidental Release Measures:

Soak up small spills with absorbent material. Do not allow spilled material to contaminate water supplies. For large spills, dike and barricade the affected area and contact CANUTEC at 613 996 6666 and local authorities.

7. Handling and Storage:

Handling: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle the concentrate in ventilated area. Wash

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thoroughly with soap and water after handling and before eating, chewing gum, using tobacco or the toilet.

Storage: Do not ship or store this product with foodstuffs, feed, seed, drugs or clothing. Keep containers closed when not in use. Store only in original container(s). Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fiberglass, plastic and plastic-lined steel containers. DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

8. Exposure Controls, Personal Protection and Exposure Limits:

Exposure limits:

Glyphosate: Not available

Inert ingredients: Not available

Engineering controls: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

Breathing: For most conditions, no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

Protective clothing: For brief contact during manufacture, warehousing and transport, wear clean body-covering clothing. Applicators and other field handlers, including persons repairing or cleaning application equipment, must wear clean body-covering clothing, impervious gloves and boots. In addition, persons making and/or transferring field dilutions of this product must wear an impervious apron.

Eyes: Use safety glasses.

Other protection: None specified

9. Physical and Chemical Properties:

Boiling point: Not available

Vapor pressure: Not available

Volatility: Not available

pH: 4.8 to 5.0

Appearance: Clear amber liquid

Odor: Slight, amine-type

Coefficient of water/oil distribution: Not available

Specific gravity: 1.17 g/mL

Evaporation rate: Not available

Solubility in water: Miscible

Freezing point: -25° to -26°C

Odor threshold: Not available

Melting point: Not applicable

10. Stability and Reactivity:

Stability: This product is stable under normal storage conditions.

Incompatibility: Spray solutions of this product should be mixed, stored or applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers. Glyphosate will react with galvanized metal or mild steel (except stainless steel) to produce hydrogen gas that could form a highly combustible gas mixture. This product may react with such containers and tanks to produce hydrogen gas, which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Hazardous decomposition products: Toxic oxides of carbon, nitrogen and phosphorus are released when this product decomposes upon heating. Hydrogen is released in the presence of galvanized metal or non-stainless steel.

Hazardous polymerization: Not known to occur

11. Toxicological Information:

Skin absorption: Acute dermal LD50 (rabbit) is >5000 mg/kg.

Ingestion: Acute oral LD50 (rat) is >5000 mg/kg.

Inhalation: The maximum attainable concentration in the tests (5.0 mg/L for four hours) produced no ill effects in the test animals.

Sensitization: This product did not cause allergic skin reactions when tested in guinea pigs.

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Chronic effects: When tested in animals, glyphosate was reported to cause effects on the liver.

Cancer: Glyphosate did not cause cancer in long-term animal studies.

Birth defects: Birth defects are unlikely as a result of exposure to glyphosate. Exposures having no adverse effects on the mother should have not effect on the fetus. Glyphosate did not cause birth defects in animals; other effects were seen in the fetus only at doses that caused toxic effects to the mother.

Reproductive effects: For glyphosate, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals

Mutagenicity: Results of animal mutagenicity studies were negative.

12. Ecological Information:

Glyphosate is considered not toxic to bees. Glyphosate is practically non-toxic to aquatic organisms on an acute basis. Glyphosate is practically non-toxic to birds on an acute basis. Bio-concentration potential is low. For more complete eco-toxicological information contact Dow AgroSciences at 800 667 3852.

Degradation and Metabolism:

In soil: Under field conditions, the degradation half-life of glyphosate ranges from three to 174 days depending on edaphic and climatic conditions. No substantial photo-degradation in soil was recorded over 31 days. The major metabolite in soil and water is aminomethylphosphoric acid.

In water: In water, the degradation half-life varies from a few to 91 days. Photo-degradation in water occurs under natural conditions. Photo-degradation half-lives in water were about 28 days. In a laboratory whole system with water and sediment, degradation half-life of glyphosate was about 14 days (aerobic) and 14 to 22 days (anaerobic).

In plants: Glyphosate slowly metabolizes to aminomethylphosphoric acid, which is the major plant metabolite.

In animals: In mammals, following oral administration, glyphosate is very rapidly

excreted unchanged, and does not bio-accumulate.

13. Disposal Considerations:

Unused unwanted product: Contact Dow AgroSciences or your provincial regulatory agency for disposal information.

Container disposal: Refer to the product label for instructions regarding cleaning and disposal of empty pesticide containers. If these instructions are missing or not understood, contact Dow AgroSciences at 800 667 3852 or your provincial regulatory agency for direction.

14. Transport Information:

This product is classified as "**Not Regulated**" under regulations of the Transportation of Dangerous Goods Act.

15. Regulatory Information:

Pest Control Products Act registration number: 26884

For information phone: 800 667 3852

Master reference: 006692

MSDS status: Revised sections:

1. Product Identification

Replaces MSDS dated: April 6, 2005

16. Other Information:

National Fire Code classification: Not regulated

NFPA ratings: Health: 1; Flammability: 1; Reactivity: 0.

Notice: The information contained in this Material Safety Data Sheet ("MSDS") is current as of the effective date shown in Section 1 of this MSDS and may be subject to amendment by Dow AgroSciences Canada Inc. ("DASCI") at any time. DASCI accepts no liability whatsoever which results in any way from the use of MSDS that are not published by DASCI, or have been amended without DASCI express written authorization. Users of this MSDS must satisfy themselves that they have the most recent and authorized version of this MSDS and shall bear all responsibility and liability with respect thereto. Any conflict or inconsistencies as to the contents of this MSDS shall be resolved in favor of DASCI by the most recent version of the MSDS published by DASCI.

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