

SAFETY DATA SHEET



In case of emergency Call
CANUTEC at 613-996-6666

Effective Date: November 13, 2008

Product Code: 113267

VANTAGE™ PLUS MAX II HERBICIDE

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Vantage Plus Max II Herbicide

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

Use: Non-selective weed control in cropland systems and in non-cropland areas

COMPANY/SUPPLIER IDENTIFICATION:

Dow AgroSciences Canada Inc.

Suite 2100, 450 - 1 ST SW

Calgary, Alberta

Canada, T2P 5H1

www.dowagro.ca

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Color: Yellow

Odor: Amine

Appearance: Liquid

Potential Health/Environmental Effects:

May cause eye irritation. May cause slight corneal injury. Brief contact may cause slight skin irritation with local redness.

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Has caused allergic skin reactions when tested in mice.

Toxic to aquatic organisms

EMERGENCY PHONE NUMBER: 613-996-6666

3. COMPOSITION/INFORMATION ON INGREDIENTS:

COMPONENT	CAS NUMBER	W/W%
Glyphosate DMA Salt	34494-04-7	50.0
Balance		50.0

4. FIRST AID:

EYE: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present after the first 5 minutes, and then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, and then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc.). Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the SDS, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES:

FLASH POINT: None (water based formulation)

METHOD USED: Not applicable

FLAMMABLE LIMITS

LFL: Not determined

UFL: Not determined

EXTINGUISHING MEDIA: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

FIRE FIGHTING PROCEDURES: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

SPECIAL PROTECTIVE EQUIPMENT FOR

FIREFIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves.) Avoid contact with this material during fire fighting operations. If contact is likely change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full

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chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This material will not burn until the water has evaporated. Residue can burn. If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes. Dense smoke is produced when product burns.

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and irritating. Combustion products may include and are not limited to: Phosphorus oxides, Nitrogen oxides, Carbon monoxide, and Carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills with materials such as sand, sawdust, Zorbball, or dirt. Wash exposed body areas thoroughly after handling. For large spills, dike and barricade the affected area and contact CANUTEC at 613-996-6666 and local authorities.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Handling: Keep out of reach of children. Do not swallow this product. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle the concentrate in ventilated area. Wash 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 this product in original container(s) only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES:

Naphthalene: ACGIH TLV is 10 ppm TWA, 15 ppm STEL, Skin, A4. OSHA PEL is 10 ppm TWA.

Propylene Glycol: AIHA WEEL is 50 ppm total, 10 mg/M³ aerosol only.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

HAND PROTECTION: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene, polyethylene, ethyl vinyl alcohol laminate (EVAL). Examples of acceptable glove barrier materials include: butyl rubber, natural rubber (latex), neoprene, Nitrile/butadiene rubber (Nitrile or NBR), polyvinyl chloride (PVC or vinyl), Viton.

RESPIRATORY PROTECTION: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: organic vapor cartridge with a particulate pre-filter.

INGESTION: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

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9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Yellow liquid
ODOR: Amine
DENSITY: 1.211 g/mL
BOILING POINT: Not determined
SOLUBILITY IN WATER: Not determined
pH: 4.4 – 4.6

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Thermally stable at typical use temperatures. Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)
Avoid contact with: acids, halogens, oxidizers, peroxides.

HAZARDOUS DECOMPOSITION PRODUCTS:
Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide, carbon dioxide, amines, hydrocarbons, nitrogen oxides, phosphorus oxides. Toxic gasses are released during decomposition.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

EYE: May cause eye irritation. May cause slight corneal injury.

SKIN: Brief contact may cause slight skin irritation with local redness. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Has caused allergic skin reactions when tested in mice. The LD₅₀ for skin absorption is >5,000 mg/kg (female rats).

INGESTION: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. The oral LD₅₀ is >5,000 mg/kg (male and female rats).

INHALATION: No adverse effects are anticipated from single exposure to mist. The aerosol LC₅₀ is >5.63 (male and female rats) for 4 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Based largely or completely on information for glyphosate and

available data, repeated exposures are not anticipated to cause significant adverse effects.

CANCER INFORMATION: Glyphosate did not cause cancer in laboratory animals.

TERATOLOGY (BIRTH DEFECTS): Glyphosate has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

REPRODUCTIVE EFFECTS: Glyphosate, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

MUTAGENICITY: Animal genetic toxicity studies were negative. This material was not mutagenic in an Ames bacterial assay. The following information is based on limited data and/or screening studies. Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

Bio-concentration potential:
Bio-concentration potential for glyphosate is low (BCF is <100 or Log Pow <3).

Aquatic toxicity:
Glyphosate is slightly toxic to fish and crustaceans on an acute basis (96-hour LC₅₀ or EC₅₀ is between 10 and 100 mg/L in the most sensitive species).
Glyphosate is practically non-toxic to aquatic invertebrates on an acute basis (96-hour LC₅₀ or EC₅₀ is >100 mg/L in the most sensitive species).

Glyphosate is moderately toxic to aquatic plants and/or algae on an acute basis (96-hour LC₅₀ or EC₅₀ is between 1 and 10 mg/L in the most sensitive species)

Avian Toxicity:
Glyphosate is practically non-toxic to birds on an acute basis (Acute LD₅₀ is >2000 mg/kg in the most sensitive species).

Bees:
Glyphosate is practically non-toxic to bees. (LD₅₀ is >100 µg/bee contact and oral)
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.

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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:

DISPOSAL METHOD: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION:

TDG Small Container: NOT REGULATED

TDG Large Container: NOT REGULATED

IMDG: NOT REGULATED

15. REGULATORY INFORMATION:

Pest Control Products Act registration number: 28840

For information phone: 800 667 3852

DAS Code: GF-1280

16. OTHER INFORMATION:

National Fire Code classification: Not applicable

NFPA ratings:

Health: 1

Flammability: 0

Reactivity: 0

SDS Revisions: Section 16

Replaces: February 1, 2008

Notice: The information contained in this Safety Data Sheet ("SDS") is current as of the effective date shown in Section 1 of this SDS 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 SDS that are not published by DASCI, or have been amended without DASCI express written authorization. Users of this SDS must satisfy themselves that they have the most recent and authorized version of this SDS and shall bear all responsibility and liability with respect thereto. Any conflict or inconsistencies as to the contents of this SDS shall be resolved in favor of DASCI by the most recent version of the SDS published by DASCI.

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