

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 23-Apr-09
Product Code: 124190

RAPIDFIRE* HERBICIDE

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Rapidfire* Herbicide

COMPANY IDENTIFICATION:

Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1189

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Yellow liquid. May cause eye and skin irritation.
EMERGENCY PHONE NUMBER: 800-992-5994

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: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

SKIN: Wash skin with plenty of water.

INGESTION: No emergency medical treatment necessary.

INHALATION: Move person to fresh air; if effects occur, consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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 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.

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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, Zorball, or dirt. Wash exposed body areas thoroughly after handling. Report large spills to Dow AgroSciences on 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle concentrate in ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using the toilet or smoking. Keep away from food, feedstuffs, and water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

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

EXPOSURE GUIDELINES:

None established

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Yellow liquid

DENSITY: 1.211 g/mL

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.

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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:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING: No relevant information found.

DEGRADATION & PERSISTENCE: No relevant information found.

ECOTOXICOLOGY: Material is highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1 mg/L in the most sensitive species tested). Material is practically non-toxic to birds on an acute basis (LC₅₀ is >2,000 mg/kg).

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: 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.

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14. TRANSPORT INFORMATION:

DOT Non-Bulk
NOT REGULATED

DOT Bulk
NOT REGULATED

IMDG

Proper Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical Name: Glyphosate

Hazard Class: 9 **ID Number:** UN3082

Packing Group: PG III

EMS Number: F-A,S-F

Marine pollutant.: Yes

ICAO/IATA

NOT REGULATED

Additional Information

MARINE POLLUTANT

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard.

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of

Pennsylvania

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	1
Flammability	0
Reactivity	0

16. OTHER INFORMATION:

MSDS STATUS: New Product Name
Reference: TIME*20834
Document Code: D03-376-001

The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.

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