

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-424-9300
Repar Corporation
Silver Spring, MD 20914

Effective Date: September 2014

GLYPHOSATE 2% READY TO USE

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Glyphosate 2% Ready to Use

PRODUCT DESCRIPTION: Herbicide

COMPANY IDENTIFICATION:

Repar Corporation
PO Box 4321
Silver Spring, MD 20914

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY PHONE NUMBER: (800) 424-9300
(CHEMTREC, transportation and spills)

EMERGENCY OVERVIEW:

PHYSICAL APPEARANCE: Yellow or off-white hazy liquid.

IMMEDIATE CONCERNES: CAUSES EYE IRRITATION.
AVOID CONTACT WITH EYES OR CLOTHING
WASH THOROUGHLY WITH SOAP AND WATER AFTER
HANDLING.
KEEP OUT OF REACH OF CHILDREN

3. COMPOSITION/INFORMATION ON INGREDIENTS:

COMPONENT	CAS #	W/W%
Glyphosate, isopropylamine salt	3641-94-0	2.00

4. FIRST AID

EYES: Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Call a physician if irritation persists.

SKIN: No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.

INGESTION: If swallowed, immediately telephone a poison control center, emergency treatment center or a physician for advice. DO NOT make person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained,

then immediately take person and product container, with label, to an emergency treatment center.

INHALATION: Since this material is not expected to be an immediate inhalation problem, no first aid procedures are required. If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

ADDITIONAL INFORMATION: For Medical Emergency Information, call the National Pesticide Information Center 1-800-858-7378.

5. FIRE FIGHTING MEASURES:

FLASH POINT: >212°F

METHOD USED: TAG CC

EXTINGUISHING MEDIA: Water spray, foam, CO₂, dry chemical or any class B extinguishing agent.

FIRE & EXPLOSION HAZARDS: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of normal products of combustion or oxygen deficiency. Equipment should be thoroughly cleaned after use. Read the entire document.

6. ACCIDENTAL RELEASE MEASURES:

SMALL SPILL: Soak up spilled material with paper towels and discard in trash.

LARGE SPILL: Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgite, bentonite or other absorbent clays. Collect contaminated absorbent, place in plastic-lined metal drum and dispose of in accordance with instructions provided under Section 13 "Disposal". Thoroughly scrub floor or other impervious surface with a strong industrial type detergent solution and rinse with water.

For liquid spills that soak into the ground, contact the applicable Federal, State and or County Health Department for disposal recommendations. If disposal is required then refer to Section 13 "DISPOSAL" for instructions.

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Leaking containers should be separated from non-leakers and either the container or its contents transferred to a drum or other non-leaking container and disposed of in accordance with instructions provided under Section 13 "DISPOSAL". Any recovered spilled liquid should be similarly collected and disposed of.

Do not contaminate water, foodstuffs or feed by storage or disposal.

GENERAL PROCEDURES: Observe all protection and safety precautions when cleaning up spills ---see Section 8 "EXPOSURE CONTROLS/PERSONAL PROTECTION". For help with any spill, leak, fire or exposure involving this material, call day or night (800) 424-9300 (CHEMTREC, transportation and spills)

7. HANDLING AND STORAGE:

GENERAL PROCEDURES: Keep pesticide in original container. For containers larger than 24 oz.: Place sprayer nozzle under handle on container so the sprayer is not below level of contents of container to prevent leakage. Store in a secure, preferably locked, storage area. Protect container from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

ENGINEERING CONTROLS: No special ventilation is necessary.

PERSONAL PROTECTION:

EYES AND FACE: For application of product in accordance with label instructions, no special eye protection is needed.

Where there is significant potential for eye contact, wear chemical goggles and have eye flushing equipment available.

SKIN: Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

RESPIRATORY: Avoid breathing vapor or mist.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL STATE: Liquid
APPEARANCE: Clear liquid
pH: ~7.1 to 7.5
SOLUBILITY IN WATER: Soluble
SPECIFIC GRAVITY: 1.01 Water = 1.00 at 20°C
VISCOSITY: Same as water.

10. STABILITY AND REACTIVITY:

STABLE: YES
HAZARDOUS POLYMERIZATION: NO
HAZARDOUS DECOMPOSITION: None

11. TOXICOLOGICAL INFORMATION

ACUTE:

EYES: rabbit – moderately irritating, irritation cleared by test day 7.
EPA FIFRA toxicity category – III

DERMAL LD₅₀ Practically non-toxic, (Rat) LD₅₀>5.0 gm/Kg; EPA FIFRA toxicity category – IV.
Nonirritating to skin (Rabbit);
EPA FIFRA toxicity category – IV.

ORAL LD₅₀: Rat = >5.0 g/kg.
EPA FIFRA toxicity category – IV.

INHALATION LC₅₀: Practically non-toxic, (Rat 4-hr LC₅₀>10mg/L. EPA FIFRA toxicity category – IV.

SENSITIZATION: Guinea pig – no evidence of allergic skin reactions.

CHRONIC: Toxicology studies were conducted with a formulation comprised of 62% isopropylamine salt of Glyphosate.

Rabbits – 3 week dermal: Repeated daily primarily resulted in slight skin irritation.

Dogs – 6 month feeding: Only slight body weight changes noted.

Rats – 90 day feeding: No treatment related effects.

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Mice – 90 day feeding: Decreased weight gains at the high dose level group animals.

CARCINOGENICITY:

CARCINOGENICITY COMMENTS:

GLYPHOSATE: Glyphosate is not considered to be a carcinogen. Glyphosate did not produce tumors in any of the long-term toxicology studies. EPA has classified glyphosate in category "E" (Evidence of noncarcinogenicity for humans).

Mice: 2-year feeding study. Reduced body weight gain and effects on liver tissues were observed at high dose levels.

Rats: 2-year feeding study. Reduced body weight gain and eye changes were observed at the high dose level in one study, while no treatment related effects occurred in a second study conducted at lower dose levels.

Dogs: No adverse effects were observed in feeding studies with dogs.

TERATOGENICITY: GLYPHOSATE: No evidence of teratogenic effects. Results of rat and rabbit teratology studies indicate that no birth defects were noted. This included dose levels of glyphosate that were maternally toxic.

REPRODUCTIVE TOXIN: GLYPHOSATE: No evidence of adverse reproductive effects. Glyphosate was fed continuously to rats at very high dose levels for 2 successive generations. Toxicity was reported in offspring from the high dose, a level which also produced adverse effects on the mothers. In a 3 generation study conducted at lower dose levels, no effects were seen on the ability of male or female rats to reproduce.

MUTAGENICITY: GLYPHOSATE: Glyphosate has not produced any genetic changes in various mutagenicity tests involving animals and animal or bacterial cells.

COMMENTS: See Section 16 for definition of EPA FIFRA toxicity categories.

12. ECOLOGICAL INFORMATION:

ECOTOXICOLOGICAL INFORMATION:

Aquatic Invertebrates: 4-hr EC₅₀ Daphnia magna: 1,634 mg/L; Practically Non-toxic.

Warmwater Fish: 96-hr LC₅₀ Silver orfe: 491 mg/L; Practically Nontoxic.

Coldwater Fish: 96-hr LC₅₀ Rainbow trout: 322 mg/L; Practically Nontoxic.

Algal Species: 72-hr EC₅₀ Selenastrum: 15 mg/L; Slightly Toxic

Studies with the active ingredient indicate that this product would be practically nontoxic to avian species and honeybees. The results of degradation and bioconcentration studies with the active ingredient in this product indicate that it is rapidly adsorbed to soil, readily biodegrades in soil and water, and does not bioaccumulate.

13. DISPOSAL CONSIDERATIONS:

FOR LARGE SPILLS: Material collected that cannot be reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures.

PRODUCT DISPOSAL: Securely wrap partially filled or empty container in several layers of newspaper and discard in trash. Never pour product down any drain.

EMPTY CONTAINER: Do not reuse container except for refill in accordance with product label directions. If not used for refill, rinse thoroughly before discarding in trash.

14. TRANSPORT INFORMATION;

DOT (U.S. DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME : Not Regulated

PRIMARY HAZARD CLASS/DIVISION : None

UN/NA NUMBER : None

PACKING GROUP : No

U.S. SURFACE FREIGHT CLASS : Weed killing compounds, NOBIN

AIR (ICAO/IATA)

PROPER SHIPPING NAME : Not Regulated

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SPECIAL SHIPPING NOTES : The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and more-specific or quantity-specific shipping requirements.

DISCLAIMER: The information presented herein is based on available data from reliable sources and is correct to the best of Repar's knowledge. Repar Corporation makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.

15. REGULATORY INFORMATION:

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

PRODUCT CLASSIFICATION UNDER SECTION 311 SARA

ACUTE: YES

CHRONIC: NO

FIRE: NO

REACTIVITY: NO

PRESSURE GENERATING: NO

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All non FIFRA regulated components are on the US EPA's TSCA Inventory List.

DATE PREPARED: September 2014

16. OTHER INFORMATION:

HMIS CODES

FIRE: 0 **HEALTH:** 1 **REACTIVITY:** 0 **PROTECTION:**

NFPA CODES

FIRE: 0 **HEALTH:** 1 **REACTIVITY:** 0 **SPECIAL:**

APPROVAL DATE: 10/2009

MANUFACTURER SUPPLEMENTAL NOTES: EPA FIFRA (Federal Insecticide, Fungicide and Rodenticide Act) Toxicity Categories: The EPA toxicity categories are based on the results of the acute toxicology studies. The toxicology findings are compared to the FIFRA criteria to determine the product label signal word, precautionary and first aid statements. The EPA FIFRA toxicity category summary:

WPA FIFRA Product Label Toxicity Rating
Toxicity Category Signal Word

I DANGER Most toxic and irritating

II WARNING

III CAUTION

IV CAUTION Least toxic and irritating