

MATERIAL SAFETY DATA SHEET



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

Effective Date: October, 2009

GLYPHOSATE TECHNICAL

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Glyphosate Technical

COMPANY IDENTIFICATION:

Repar Corporation
PO Box 4321
Silver Spring, MD 20914

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Effects of Overexposure: NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HUMAN HEALTH EFFECTS. MAY CAUSE EYE IRRITATION.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS:

COMPONENT	CAS #	W/W%
N-(Phosphonomethyl) glycine	1071-83-6	97.3%

4. FIRST AID

EYES: Flush with plenty of water. Call a Physician if irritation persists.

5. FIRE FIGHTING MEASURES:

EXTINGUISHING MEDIA: Water Spray, Foam, Dry Chemical, CO₂.

FIRE-FIGHTING PROCEDURES: Firefighters should wear SCBA & full protective clothing.

FIRE & EXPLOSION HAZARDS: None

6. ACCIDENTAL RELEASE MEASURES:

SPILL RELEASE PROCEDURES: Shovel or sweep up spilled or leaked material and any contaminated ground. Place in a plastic-lined metal drum and dispose of in an

approved landfill. Thoroughly rub floor or other impervious surface involved in spill with a strong detergent. Report large spills to: (800) 424-9300 (CHEMTREC, transportation and spills)

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid contact with eyes. Wash thoroughly after handling. Avoid contamination of seed, feed, and foodstuffs.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

RESPIRATORY PROTECTION:

Use NIOSH/MSHA approved equipment when airborne exposure is excessive.

VENTILATION:

Provide ventilation to minimize exposure.

SUPPLEMENTAL SAFETY AND HEALTH:

PH: 2.5 (1% solution in water)

9. PHYSICAL AND CHEMICAL PROPERTIES:

SOLUBILITY IN WATER: 1.5%

APPEARANCE: White

ODOR: Odorless solid

10. STABILITY AND REACTIVITY:

STABILITY INDICATOR/MATERIALS TO AVOID: YES

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)
Galvanized steel or unlined steel, may produce hydrogen gas.

STABILITY CONDITION TO AVOID:

Don't mix. Store or apply in galvanized or unlined steel.

HAZARDOUS DECOMPOSITION PRODUCTS: None.

HAZARDOUS POLYMERIZATION: Product can react with caustic (Basic) materials to give heat.

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11. TOXICOLOGICAL INFORMATION

Oral LD50 (Rat): 5600 mg/kg, practically non-toxic
Dermal LD50 (Rabbit): >5000 mg/kg, practically non-toxic
Eye Irritation (Rabbit): (FHSA) Score = 6.9/110, slightly irritating
Skin Irritation (Rabbit): (FHSA) Score = 0.1/8.0, practically non-irritating

Three different types of microbial mutagenicity tests were performed using glyphosate. A total of 8 strains (7 bacterial and 1 yeast) including 5 *S. typhimurium* strains and one strain each of *B. subtilis*, *E. coli* and *S. cereveciae* (yeast) were treated. No mutagenic effect was observed in any strain

Male mice were given 200, 800 or 2000 mg glyphosate per kg body weight and subsequently mated with untreated females. No evidence of mutagenicity was observed in this dominant lethal mutation assay.

Glyphosate was fed to rats and beagle dogs for 2 years at dietary concentrations of 30, 100 and 300 ppm. No evidence of carcinogenicity was detected in these animals. Similarly, mice fed 300 ppm glyphosate for 1.5 years showed no evidence of carcinogenicity.

A 3-generation rat reproduction study was conducted with glyphosate fed at dosages of 3, 10 and 30 mg glyphosate per kg body weight. No treatment-related effects were observed in parental or pup body weight gain, behavior, survival or reproductive performance.

Glyphosate was administered to pregnant rabbits at dosages of 75, 175 and 350 mg/kg/day on days 6 through 27 of gestation. No evidence of fetal toxicity or birth defects in the offspring (teratogenic response) was observed.

Pregnant rats were treated with glyphosate at dosages of 300, 1000 and 3500 mg/kg/day on days 6 through 19 of gestation. No evidence of birth defects in the offspring was observed.

A neurotoxicity study was conducted with glyphosate in chickens. Ten adult hens were dosed orally with 1.25 g/kg, 2-times daily, for 3 consecutive days. This regimen was repeated to give a cumulative dose of 15.0 g/kg of glyphosate. No behavioral or microscopic treatment-related changes were observed.

12. ECOLOGICAL INFORMATION:

Environmental Toxicity information:

96-hr LC50 Bluegill:	120 ppm, practically non-toxic
96-hr LC50 Trout:	86 ppm, slightly toxic
96-hr TL50 Carp:	115 ppm, practically non-toxic
96-hr TL50 Atlantic Oyster:	> 10 mg/kg, no more than slightly toxic
96-hr TL50 Shrimp:	281ppm, practically non-toxic
96-hr TL50 Fiddler Crab:	934 mg/l, practically non-toxic
96-hr LC50 Harlequin Fish:	168 ppm, practically non-toxic
48-hr LC50 Daphnia:	780 mg/l, practically non-toxic
5-day LC50 Ducks:	> 4640 ppm, practically non-toxic
5-day LC50 Quail:	> 4640 ppm, practically non-toxic

A series of residue and metabolism studies have shown that glyphosate is very slowly absorbed across the gastro-intestinal membrane and that there is minimal tissue retention and rapid elimination of residues in several animal species, including mammals, birds and fish. Thus, it is concluded that glyphosate will not bioaccumulate in the food chain.

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: Disposal should be carried out in accordance with local, state and national legislation.

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14. TRANSPORT INFORMATION;

DOT Hazard Class/I.D. No.: Not Applicable
DOT Label (s): Not Applicable
Hazardous Substance (s)/RQ(s): Not Applicable
U.S. Surface Freight: Weed Killing Compound, N.O.I. B.N.
Classification

15. REGULATORY INFORMATION:

Labeling information: R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Avoid release to the environment. Refer to special instructions.

16. OTHER INFORMATION:

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.

DATE PREPARED: October 2009