



Material Safety Data Sheet

FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:
CHEMTREC 1-800-424-9300

Section 1—Chemical Product and Company Identification

Product Name:	AgriSolutions™ Cornerstone® 5 Plus Herbicide	EPA Reg. No. 1381-241
Common Name:	Isopropylamine salt of glyphosate	
Chemical Description:	Herbicide	
Manufacturer's Name: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589	Medical Emergency Telephone Number: 1-877-424-7452	
MSDS Preparation Date:	01/11/2010	

Section 2—Hazards Identification

Emergency Overview: CAUTION! Keep out of reach of children.
Appearance and odor: Colorless, odorless amber liquid
Route(s) of Entry: Eyes, Inhalation, Skin, and Ingestion.
Health Hazards (Acute and Chronic): Inhalation: Not expected to produce significant adverse effects when recommended use instructions are followed. Eyes: Causes substantial but temporary eye injury. Skin: Not expected to produce significant adverse effects when recommended use instructions are followed. Ingestion: Harmful if swallowed.
Medical Conditions Generally Aggravated by Exposure: None known.

Section 3—Composition Information on Ingredients

Ingredient	% (wt)	CAS reg. #
Isopropylamine salt of glyphosate	53.8%	38641-94-0

HMIS HAZARD RATING:

0	Least		
1	Slight	2	Health
2	Moderate	1	Flammability
3	High	1	Reactivity
4	Severe		

Section 4—First Aid Measures

Inhalation:	Remove person to fresh air and support breathing as needed. Seek medical attention if irritation persists.
Ingestion:	Seek medical attention or call a poison control center immediately.
Eyes:	Flush with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. Seek medical attention if eye irritation persists.
Skin:	Remove contaminated clothing and wash before re-using. Flush skin with water, and then wash with soap and water. Seek medical attention if skin becomes irritated.
Advice to doctors:	This product is not an inhibitor of cholinesterase. Treatment with atropine and oximes is not indicated.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5—Fire and Explosion Hazard Data

Extinguishing Media: Water spray, foam, carbon dioxide or dry chemical.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full bunker gear. Equipment should be thoroughly decontaminated after use.

Hazardous Combustion Products: Carbon monoxide, nitrogen oxides, and phosphorous oxides may occur in a fire situation.

Unusual Fire and Explosion Hazards: None. Contain run-off by diking to prevent contamination of water supplies.

Section 6—Accidental Release Measures

Small Spills: Clean-up personnel should protect against mist inhalation and skin contact. Spills when handling should be cleaned up immediately to prevent spreading. Flush spill area with water but make sure it is contained. Low environmental hazard.

Large Spills: Clean-up personnel should protect against eye contact. Dig up heavily contaminated soil and collect in containers for disposal. Minimize use of water to prevent environmental contamination.

Containment: Do not release into sewers or waterways. Dike spills to prevent contamination to water supplies. Contain spills and absorb liquids by covering with clay or other absorbent material. Vacuum, scoop, or sweep up waste and place in a container for disposal.

Section 7—Precautions for Safe Handling and Use

Precautions to Be Taken in Handling and Storage: Avoid contact with skin and eyes. When using, do not eat, drink or smoke. Wash hands thoroughly after handling or contact. Immediately clean up spills that occur during handling or storage. Thoroughly clean equipment after use. Store in cool, dry areas specifically designated for pesticides away from children, feed and food products. Protect from freezing. Minimum storage temperature 10°F. Keep containers closed when not in use. Do not store in galvanized steel or unlined mild steel containers.

Other Precautions: Consult local, state, and federal regulations pertaining to storage and disposal.

Section 8—Control Measures/Personal Protection

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear an OSHA/NIOSH-approved respirator.

Ventilation: **Local Exhaust:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred.

Protective Gloves: Wear chemically protective gloves.

Eye Protection: Wear protective eyeglasses or chemical safety goggles. Contact lenses are not eye protective devices.

Other Protective Clothing or Equipment: Wear chemically protective boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

Work/Hygienic Practices: Never eat, drink, nor smoke in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9—Physical/Chemical Characteristics

Physical State:	Liquid	Specific Gravity (H₂O=1):	1.23
Vapor Pressure (mm Hg):	Not determined	Freezing Point:	Not determined
Vapor Density (Air=1):	Not determined	Boiling Point:	Not determined
Solubility in Water (wt %):	Completely miscible	pH (1% solution):	5.06
Appearance and odor:	Translucent pale/light yellow, odorless liquid	Flash Point:	Not determined

Section 10—Reactivity Data

Stability: Product stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Reacts with galvanized steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

Hazardous Decomposition Products: Oxides of sulfur, nitrogen, and other chemicals may be formed in a fire situation. Carbon monoxide and other asphyxiates may form as well.

Hazardous Polymerization: Will not occur.

Section 11—Toxicological Information

Eye Effects:	Minimally irritating. In an acute eye irritation study on rabbits, all irritation cleared within 24 hours.
Skin Effects:	Non-irritating: LD50 > 5,050 mg/kg in male and female rats and rabbits. FIFRA category IV. Draize test for 6 animals: 3 days to heal, Primary Irritation Index: 0.0/8.0. Guinea pigs had 0% positive incidence of skin sensitization by the Buehler test.
Acute Inhalation Effects:	LC50 > 2.21 mg/L in male and female rats.
Acute Oral Effects:	LD50 > 5,000 mg/kg in female rats and mice. FIFRA category IV.
Chronic Effects:	NOAEL toxicity > 5,000 mg/kg body weight/day for rabbits in 21 days (dermal). NOAEL toxicity > 20,000 mg/kg diet for rats in 3 months (oral). NOEL tumor > 30,000 mg/kg diet and NOAEL toxicity ~5,000 mg/kg diet for mouse (oral, 24 months, target organ: liver, decrease of bodyweight gain, histopathologic effects). NOEL tumor > 20,000 mg/kg diet and NOAEL toxicity ~ 8,000 mg/kg diet for rat (oral, 24 months, target organ: eyes, decrease of body weight gain, histopathologic effects).
Toxicity to reproduction/fertility:	NOAEL toxicity > 30 mg/kg body weight and NOAEL reproduction > 30 mg/kg body weight for rat (oral, 3 generations).
Mutagenicity:	Not mutagenic with and without metabolic activation by the micronucleus and Ames tests.
Teratogenicity:	NOAEL toxicity = 1,000 mg/kg body weight and NOAEL development = 1,000 mg/kg body weight for rat (oral, 6-19 days of gestation, effects in mother animal: decrease of body weight gain, decrease of survival, developmental effects: weight loss, post-implantation loss, delayed ossification). Effects on offspring only observed with maternal toxicity. NOAEL toxicity = 175 mg/kg body weight and NOAEL development = 175 mg/kg body weight for rabbit (oral, 6-27 days of gestation, effect in mother animal, decrease in survival).
Carcinogenicity:	NTP: Not listed IARC: Not listed OSHA: Not listed

Section 12—Ecological Information

Soil absorption/mobility: In field soil, half life = 2 - 174 days. Koc: 884 - 60,000 L/kg. Adsorbs strongly to soil.

Aerobic water dissipation: Half life < 7 days.

Fish toxicity: Static acute toxicity LC50 (96 hours) > 1,000 mg/L for *Lepomis macrochirus* (bluegill sunfish). Static acute toxicity LC50 (96 hours) > 1,000 mg/L for *Oncorhynchus mykiss* (rainbow trout).

Aquatic invertebrate toxicity: Static acute toxicity EC50 (48 hours) = 930 mg/L for *Daphnia magna* (water flea).

Algae/aquatic plant toxicity: Static acute toxicity ErC50 (72 hours, growth rate) = 166 mg/L for *Scenedesmus subspicatus* (green algae).

Invertebrate soil organism toxicity: Acute toxicity LC50 (14 days) > 5,000 mg/kg dry soil for *Eisenia foetida* (earthworm).

Avian toxicity: Dietary toxicity LC50 (5 days) > 4,640 mg/kg diet and single dose acute oral toxicity LD50 > 3,851 mg/kg body weight for *Colinus virginianus* (bobwhite quail). Dietary toxicity LC50 (5 days) > 4,640 mg/kg diet for *Anas platyrhynchos* (mallard duck).

Arthropod toxicity: Oral (48 hours) LD50 = 100 micrograms/bee and contact (48 hours) LD50 > 100 micrograms/bee for *Apis mellifera* (honey bee).

Bioaccumulation: Whole fish BCF < 1 for *Lepomis macrochirus* (bluegill sunfish).
Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Section 13—Disposal Considerations

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.

Container: Triple rinse (or equivalent) the empty containers. Pour rinse water into spray tank. Then offer for recycling or reconditioning. Do NOT re-use containers.

RCRA characteristics: Not classified as a hazardous waste in its unused form.

Section 14—Transport Information

Not regulated by the DOT as a hazardous material.

Section 15—Regulatory Information

TSCA Inventory: All components are on the TSCA inventory.

SARA Title III, Section 302: Not applicable

SARA Title III, Section 311/312:	Immediate:	Yes	Delayed:	No	
Sudden Release of Pressure:	No	Fire:	No	Reactive:	No

SARA Title III, Section 313: Not applicable

CERCLA: Not applicable

Section 16—Other

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