

**SAFETY DATA SHEET**  
Forza Silvicultural Herbicide

SDS # : FO002204-A  
Revision date: 2017-03-09  
Format: NA  
Version 1



**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier**

**Product Name** Forza Silvicultural Herbicide

**Other means of identification**

**Product Code(s)** FO002204-A

**Synonyms** GLYPHOSATE ISOPROPYLAMINE SALT: 2-(phosphonomethylamino)acetate (CAS name); 2-(phosphonomethylamino)acetate (IUPAC name)

**Active Ingredient(s)** Glyphosate, in the form of its isopropylamine salt

**Chemical Family** Phosphonoglycine

**PCP #** 26401

**Recommended use of the chemical and restrictions on use**

**Recommended Use:** Herbicide

**Restrictions on Use:** Use as recommended by the label

**Supplier Address**

FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (E-Mail General Information)

**Emergency telephone number**

For leak, fire, spill or accident emergencies, call:  
1 800 / 424 9300 (CHEMTREC - U.S.A.)  
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

Medical Emergencies:  
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)  
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

**2. HAZARDS IDENTIFICATION**

**Classification**


**OSHA Regulatory Status**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2B

**GHS Label elements, including precautionary statements**

**EMERGENCY OVERVIEW**

<p><b>Warning</b></p> <p><b>Hazard Statements</b>                  H332 - Harmful if inhaled                  H320 - Causes eye irritation                  H411 - Toxic to aquatic life with long lasting effects</p> 
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**Precautionary Statements - Prevention**

- P202 - Do not handle until all safety precautions have been read and understood
- P281 - Use personal protective equipment as required
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
- P271 - Use only outdoors or in a well-ventilated area
- P273 - Avoid release to the environment
- P264 - Wash hands thoroughly after handling

**Precautionary Statements - Response**

- P312 - Call a POISON CENTER or doctor if you feel unwell
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P337 + P313 - If eye irritation persists: Get medical advice/ attention
- P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P391 - Collect spillage

**Precautionary Statements - Storage**

- P405 - Store locked up
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container according to label directions

**Hazards not otherwise classified (HNOC)**

No hazards not otherwise classified were identified.

**Other Information**

Toxic to aquatic life with long lasting effects. May be harmful in contact with skin.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Chemical Family**                      Phosphonoglycine.

Chemical name	CAS-No	Weight %
Glyphosate IPA Salt	38641-94-0	30-60

Synonyms are provided in Section 1.

\*Note: The product contains about 480 g/L of the active ingredient Glyphosate as its isopropylamine salt, equivalent to 360 g/L of the free acid Glyphosate (CAS # 1071-83-6).

**4. FIRST AID MEASURES**

<b>Eye Contact</b>	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
<b>Skin Contact</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>Ingestion</b>	Call a physician or poison control center immediately. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.
<b>Most important symptoms and effects, both acute and delayed</b>	Skin contact: May see mild irritation at the site of contact. Eye contact: Possible irritation and redness. Ingestion: Possible irritation of the throat. Inhalation: May experience irritation of the throat with a feeling of tightness in the chest. Delayed/Immediate effects: Immediate effects can be expected after short-term exposure. No known/observed signs or symptoms of short-term (acute) exposure. Prolonged or repeated (chronic) exposure may cause adverse kidney effects.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

<b>Suitable Extinguishing Media</b>	Dry chemical, CO2, water spray or regular foam. Avoid heavy hose streams.
<b>Specific Hazards Arising from the Chemical</b>	Combustible liquid. This material may burn when exposed to extreme heat, flame and other ignition sources. Closed containers may rupture if exposed to excess heat or flame due to build-up of internal pressure. Reacts with materials made of iron, galvanized steel and unlined steel, releasing flammable hydrogen gas, which may ignite. Flammable hydrogen gas can produce a highly combustible mixture with air and this mixture could flash or explode if ignited by heat, sparks and flame.
<b>Hazardous Combustion Products</b>	Carbon oxides (COx), Nitrogen oxides (NOx), Phosphorus oxides.
<b><u>Explosion data</u></b>	
<b>Sensitivity to Mechanical Impact</b>	Not sensitive.
<b>Sensitivity to Static Discharge</b>	Not expected to be sensitive to static discharge.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus and full protective gear. Move containers from fire area if you can do it without risk. Use water spray to cool fire exposed surfaces and protect personnel.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
<b>Other</b>	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
<b>Environmental Precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for Containment</b>	Dike to confine spill and absorb with non-combustible absorbent such as clay, sand or soil. Vacuum or shovel waste into a drum and label contents for disposal.
<b>Methods for cleaning up</b>	Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe

to do so. Contain and absorb spilled material with inert, non-combustible absorbent material, such as sand. Sweep up and shovel into suitable containers for disposal. For a water spill, confine the spill immediately with booms. Large spills that soak into the ground should be dug up, placed into suitable containers and disposed of appropriately (see Section 13). Notify the appropriate authorities as required.

**7. HANDLING AND STORAGE**

<b>Handling</b>	<p>Handle in accordance with good industrial hygiene and safety practice. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Remove all sources of ignition. Keep away from heat, sparks and open flame. No smoking.</p> <p>This product should be mixed, stored or applied using only stainless steel, fiberglass, plastic, or plastic lined containers and equipment. This product can react with containers made of iron, galvanized steel and unlined steel to produce flammable hydrogen gas. Avoid contact with incompatible materials. Use caution when opening cap. Keep containers tightly closed when not in use.</p>
<b>Storage</b>	<p>Keep away from open flames, hot surfaces and sources of ignition. Keep in a dry, cool and well-ventilated place. Keep out of reach of children and animals. Keep/store only in original container.</p>
<b>Incompatible products</b>	<p>Strong oxidizing agents, Alkalis, Iron, Galvanized steel, Unlined steel. Strong oxidizing agents Alkalis Iron</p>

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls**

**Engineering measures**                      Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

**Individual protection measures, such as personal protective equipment**

<b>Eye/Face Protection</b>	<p>For dust, splash, mist or spray exposure, wear chemical protective goggles.</p>
<b>Skin and Body Protection</b>	<p>Avoid contact with skin and clothing. Wear long-sleeved shirt, long pants, socks, and shoes. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.</p>
<b>Hand Protection</b>	<p>Impervious gloves. Wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.</p>
<b>Respiratory Protection</b>	<p>Do not breathe vapors, mist or gas. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. Use only with adequate ventilation.</p>
<b>Hygiene measures</b>	<p>Clean water should be available for washing in case of eye or skin contamination. Remove and wash contaminated clothing before re-use. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Launder work clothing separately from regular household laundry.</p>
<b>General information</b>	<p>If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.</p>

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Appearance</b>	Viscous, Liquid suspension
<b>Physical State</b>	Liquid
<b>Color</b>	Clear, Yellow
<b>Odor</b>	Slight amine
<b>Odor threshold</b>	No information available
<b>pH</b>	4.5 (1% solution) @ 20°C
<b>Melting point/freezing point</b>	< 0 °C / 32 °F
<b>Boiling Point/Range</b>	113 °C / 235 °F
<b>Flash point</b>	> 113 °C / > 235 °F (estimated)
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability Limit in Air</b>	
<b>Upper flammability limit:</b>	No information available
<b>Lower flammability limit:</b>	No information available
<b>Vapor pressure</b>	1.75 x 10 <sup>-7</sup> mmHg (1.31 x 10 <sup>-5</sup> Pa) @ 77°F / 25°C (free Glyphosate acid).
<b>Vapor density</b>	No information available
<b>Density</b>	No information available
<b>Specific gravity</b>	1.165 g/cm <sup>3</sup> @ 68°F(20°C)
<b>Water solubility</b>	Miscible with water
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Viscosity, kinematic</b>	43 centistokes @ 68°F / 20°C; 18 centistokes @ 104°F / 40°C
<b>Viscosity, dynamic</b>	No information available
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular weight</b>	No information available
<b>Bulk density</b>	No information available

**10. STABILITY AND REACTIVITY**

<b>Reactivity</b>	This product can react with containers made of iron, galvanized steel and unlined steel to produce flammable hydrogen gas which may form a highly combustible gas mixture with air. This gas mixture could flash or explode when exposed to heat, sparks, flame, welder's torch, lighted cigarettes or other ignition sources.
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur. The product does react with caustic (alkaline) materials to liberate heat, however this is an acid-base neutralization reaction and is not polymerisation.
<b>Conditions to avoid</b>	Heat, flames and sparks. Extremes of temperature and direct sunlight
<b>Incompatible materials</b>	Strong oxidizing agents, Alkalis, Iron, Galvanized steel, Unlined steel.
<b>Hazardous Decomposition Products</b>	See Section 5 for more information.

**11. TOXICOLOGICAL INFORMATION**

**Product Information**

<b>LD50 Oral</b>	> 5000 mg/kg (rat)
<b>LD50 Dermal</b>	> 2000 mg/kg (rat)
<b>LC50 Inhalation</b>	> 4.86 mg/L (4-hr) (rat) - Maximum attainable concentration (zero mortality)
<b>Serious eye damage/eye irritation</b>	Contact with eyes may cause irritation.
<b>Skin corrosion/irritation</b>	May cause slight irritation.
<b>Sensitization</b>	No information available

**Information on toxicological effects**

**Symptoms**

Inhalation: Inhalation may cause irritation to the nose, throat and upper respiratory tract. Symptoms may include coughing and sneezing.  
 Skin contact: Direct skin contact may cause slight irritation.  
 Eye contact: Direct eye contact may cause moderate irritation and reversible eye injury. Symptoms may include pain, redness and tearing.  
 Ingestion: This product is not expected to be harmful by oral administration route. Ingestion of large amounts could cause irritation. Symptoms may include nausea, vomiting and diarrhea.  
 Effects of long-term (chronic) exposure: Prolonged or repeated overexposure may cause liver and kidney effects.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Mutagenicity** Not expected to be mutagenic in humans  
**Carcinogenicity** There are no known carcinogenic chemicals in this product  
**Reproductive toxicity** Not expected to have reproductive effects.  
**Teratogenicity** Not expected to be a teratogen.  
**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target organ effects** Eyes, Skin, Respiratory System, digestive system  
**Aspiration hazard** No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
Glyphosate IPA Salt 38641-94-0		Group 2A		X

**Legend:**

*IARC (International Agency for Research on Cancer)*  
*Group 2A - Probably Carcinogenic to Humans*

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

<b>Glyphosate IPA Salt (38641-94-0)</b>				
Active Ingredient(s)	Duration	Species	Value	Units
Glyphosate	48 h EC50	Daphnia	21.6	mg/L
	LC50 5 d	Mallard duck	>5,620	mg/kg
	LC50 5 d	Bobwhite quail	>5,620	mg/kg
	EC50 96h	Algae	2.2	mg/L
	LD50	Bee	>100	µg/bee

**Persistence and degradability** Glyphosate: Persistent. Readily hydrolyzes.

**Bioaccumulation** Glyphosate: Bioaccumulation is unlikely.

**Mobility** Glyphosate: Relatively immobile in soil.

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

**Contaminated Packaging** Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

**14. TRANSPORT INFORMATION**

<u>DOT</u>	NOT REGULATED
<u>TDG</u>	NOT REGULATED
<u>ICAO/IATA</u>	NOT REGULATED
<u>IMDG/IMO</u>	NOT REGULATED

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	Yes
<b>Chronic health hazard</b>	Yes
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

*FIFRA Information*

*This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:*

*Caution*

*Reacts with materials made of iron, galvanized steel and unlined steel, liberating (releasing) hydrogen, which may ignite. May cause eye irritation. Contains material which may cause liver and kidney effects. Dangerous for the environment. Toxic to flora (plants). May be harmful to aquatic organisms.*

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations

**International Inventories**

**Forza Silvicultural Herbicide**

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Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Glyphosate IPA Salt 38641-94-0		X	X	X	X			X

**CANADA**

**WHMIS Statement**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR

This product is a Pest Control Product and is not regulated as a Controlled Product under the Hazardous Products Act (HPA). However, for reference purposes only, this product would have the following WHMIS Classification if it were regulated as a Controlled Product under the HPA:

**WHMIS Hazard Class** D2B - Toxic materials



**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 1	<b>Flammability</b> 1	<b>Instability</b> 0	<b>Special Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 2*	<b>Flammability</b> 1	<b>Physical hazard</b> 0	<b>Personal Protection</b> X

\*Indicates a chronic health hazard.

**NFPA/HMIS Ratings Legend** Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

**Revision date:** 2017-03-09  
**Reason for revision:** Initial Release

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**End of Safety Data Sheet**