

SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

Product Identifier : **GLYFOS X-TRA HERBICIDE**

EPA Reg. No. : **4787-23**

Product Use : Herbicide

Supplier's name and address:

Cheminova, Inc.

One Park Drive, Suite 400

PO Box 110566

Research Triangle Park, NC, USA

27709

Phone #: (919) 474-6600 (8:00 AM to 5:00 PM EST, Monday to Friday)

Emergency Telephone #: 1-866-303-6950 (Medical Emergencies)
1-800-424-9300 (24 Hr. Chemtrec Number)

Manufacturer's name and address:

Refer to Supplier

SDS Prepared by: Cheminova Inc.

SDS Preparation date: August 8, 2003

Revision date: April 27, 2015

Revision reason: GHS Revision

SECTION 2 – HAZARDS IDENTIFICATION

GHS Signal Word:

Warning

Classification:

Health	Environmental	Physical
Inhalation – Category 4 Skin irritation – Category 2 Eye irritation – Category 2B	Aquatic Toxicity – Chronic 2	Not applicable

GHS Pictogram:



Hazard Statements:

Harmful if inhaled.

Causes skin irritation.

Causes eye irritation.

Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention:

Avoid breathing mist, vapors and spray.

Use only outdoors or in a well-ventilated area.

Wash hands thoroughly after handling.
Wear protective gloves.
Avoid release to the environment.

Response:

If inhaled: Remove victim to fresh air and keep comfortable for breathing.
Call a poison control center or doctor if you feel unwell.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice or attention.
If on skin: Wash with plenty of water. See label for specific treatment.
If skin irritation occurs: Get medical advice and attention.
Take off contaminated clothing and wash it before reuse.
Collect spillage.

Storage:

Not applicable.

Disposal:

Dispose of contents/container according to label directions.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>% (weight)</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
			<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Glyphosate as isopropylamine salt	38641-94-0	30.00 – 60.00	N/Av	N/Av	N/Av	N/Av
Surfactant	61791-26-2	5.00 – 15.00	N/Av	N/Av	N/Av	N/Av

This material is classified as hazardous under OSHA regulations (29CFR 1910.1200).

SECTION 4 – FIRST AID MEASURES

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing.
Rinse skin immediately with plenty of water for 15-20 minutes.
Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air.
If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
Call a poison control center or doctor for further treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice.
Have a 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.
Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-866-303-6950 for emergency medical treatment information.

Notes for physician: Treat symptomatically.

Signs and symptoms of short-term (acute) exposure

- Inhalation* : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include coughing and sneezing.
- Skin* : May cause mild skin irritation. Symptoms may include redness, itching and swelling.
- Eyes* : May cause moderate eye irritation. Symptoms will include pain, redness and tearing.
- Ingestion* : No exposure symptoms reported under normal conditions of use. Ingestion of large amounts may cause stomach irritation. Symptoms include nausea, vomiting and diarrhea.

Effects of long-term (chronic) exposure

- : Prolonged or repeated overexposure may cause liver and kidney effects.

Conditions aggravated by overexposure

- : Pre-existing skin, eye and respiratory disorders.

SECTION 5 – FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

- : 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.

Flammability classification (OSHA 29 CFR 1910.1200)

- : Combustible Liquid Class III B.

Flash point : >235° F / >113° C

Flash point method : estimated

Oxidizing properties : None known

Explosion data: Sensitivity to mechanical impact / static discharge

- : Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media

- : Carbon dioxide or dry chemical for small fires. For large fires, use water spray or foam.

Special fire-fighting procedures/equipment

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Avoid spreading burning liquid with water spray used for cooling purposes.

Hazardous combustion products

- : Carbon oxides; nitrogen oxides (NOx); oxides of phosphorous; irritating fumes and smoke.

NFPA Rating : 0 – Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe
Health: 1 Flammability: 1 Instability: 0 Special Hazards: None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions

- : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Refer to Section 8, EXPOSURE CONTROLS

AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Spill response/cleanup : 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. Notify the appropriate authorities as required.

Prohibited materials : None known.

Special spill response procedures

: In case of a transportation accident, in the United States contact CHEMTREC at 1-800-424-9300 or International at 1-703-527-3887. If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002)
US CERCLA Reportable quantity (RQ): None known

SECTION 7 – HANDLING AND STORAGE

Safe handling procedures : This material is a harmful liquid. Wear chemically resistant protective equipment during handling. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Keep away from heat and flame. 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. Wash thoroughly after handling.

Storage requirements : Store in a cool, dry, well ventilated area. Keep away from excessive heat, open flames, sparks and other possible sources of ignition. Keep away from incompatibles. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials : Strong oxidizing agents; Alkalis; Iron; Steel (galvanized and unlined).

Special packaging materials: Always keep in containers made of the same materials as the supply container.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering measures

: Provide sufficient ventilation to keep vapor concentration below the given TLV and/or PEL.

Respiratory protection : Not required under normal conditions of handling. In the event of an accidental discharge of the material which produces a heavy vapor or mist, workers should use respiratory protection. NIOSH-approved respirators are recommended. Seek advice from respiratory protection specialists.

Skin protection : Chemical resistant gloves from EPA Category A such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, ≥14 mils. Impervious

gloves must be worn when using this product. Advice should be sought from glove suppliers.

Eye / face protection : Safety glasses with side-shields or chemical splash goggles.

Other protective equipment

: Wear resistant clothing and boots. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

: Avoid breathing vapor or mist. Avoid contact with skin, eyes and clothing. Do not eat, drink, use tobacco or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, using tobacco or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Separate contaminated work clothes from street clothes. Do not take contaminated clothing home.

Permissible exposure levels: For individual ingredient exposure levels, see Section 2.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, yellow, viscous liquid.

Odor: Odorless to slight amine-like odor.

Odor threshold: NE

pH: 4.5 @ 20° C (1% solution)

Melting point/Freezing point: >32° F / >0° C

Initial boiling point and boiling range: 235° F / 113° C

Flash point: >235° F / >113° C

Evaporation rate: NE

Flammability: Combustible Liquid Class III B (OSHA 29 CFR 1910.1200)

Upper/lower flammability and explosive limits: NE

Vapor pressure: 1.7×10^{-7} mmHg @ 25° C (free Glyphosate acid)

Vapor density: NE

Bulk density: 9.72 lb/gal

Solubility(ies): in water: miscible

Partition coefficient (n-octanol/water): Log P = -3.3 @ (free Glyphosate acid)

Auto-ignition temperature: NA

Decomposition temperature: NA

Viscosity: NE

SECTION 10 – STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed. Reacts with materials made of iron, galvanized steel and unlined steel, releasing flammable hydrogen gas, which may ignite.

Hazardous polymerization : Will not occur.

Conditions to avoid : Keep this product away from heat, sparks, flame, and other sources of ignition (e.g. pilot lights, electric motors, static electricity). 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.

Materials to avoid and incompatibility

: Incompatible materials (see Section 7).

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Target organs	: Eyes, skin, respiratory system, digestive system.
Routes of exposure	: <i>Inhalation</i> : YES <i>Skin absorption</i> : NO <i>Skin & Eyes</i> : YES <i>Ingestion</i> : YES
Toxicological data	: LD50 Oral (rat): >5000 mg/kg LD50 Dermal (rat): >2000 mg/kg LC50 Inhalation (rat): >4.86 mg/L/4 Hrs
Carcinogenic status	: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects	: Not expected to have other reproductive effects.
Teratogenicity	: Not expected to be a teratogen.
Mutagenicity	: Not classifiable as a mutagen.
Epidemiology	: Not available.
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.
Synergistic materials	: Not available.
Irritancy	: May cause eye and skin irritation. May cause irritation to upper respiratory system.
Other important hazards	: None known.

SECTION 12 – ECOLOGICAL INFORMATION

Environmental effects : The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. This product is an herbicide. The active ingredient is: Glyphosate (as isopropylamine salt). The active ingredient is considered to be toxic to many plants, and non-toxic to fish, aquatic invertebrates, soil micro- and macroorganisms, birds, mammals and insects.

Important environmental characteristics

: The active ingredient is rapidly deactivated by absorption to clay particles. The active ingredient binds strongly to soil. The active ingredient is not readily biodegradable. It undergoes slow degradation in the environment and in waste water treatment plants. No adverse effects are found at concentrations up to 100 g/L in waste water treatment plants. Degradation is mainly microbiological. Aerobic degradation is most important, but anaerobic degradation does also occur. The risk of bioaccumulation is considered to be low.

Ecotoxicological

: The acute toxicity of the product is measured to be:



- Fish – 96-Hr LC50, Rainbow Trout (*Salmo gairdneri*) = 18.6 mg/L (static)
- 21-day NOEC, Rainbow Trout (*Salmo gairdneri*): 0.46 - 0.81 mg/L
- 96-Hr LC50, Bluegill sunfish (*Lepomis macrochirus*) = 11.9 mg/L (static)
- Invertebrates – 48-hr EC50, Daphnids (*Daphnia magna*) = 21.6 mg/L
- 21-day NOEC, Daphnids (*Daphnia magna*) = 1.5 mg/L
- Algae – 72-Hr IC50, Green Algae (*Scenedesmus subspicatus*) = 17.4 mg/L
- 96-Hr IC50, Green Algae (*Scenedesmus subspicatus*) = 2.2 mg/L
- Plants – 7-day EC50, Duckweed (*Lemna gibba*) = 27 mg/L
- Earthworms – 14-day LC50, (*Eisenia foetida*) = >1000 mg/kg dry soil
- Birds – LD50, Japanese quail (*Coturnix japonica*) = 1900 mg/kg

5-day dietary LD50, Japanese quail (*Coturnix japonica*) = >5000 ppm in feed
Bees – 48-Hr LD50, Worker honey-bees (*Apis mellifera*), acute oral = >100 µg/bee
24-Hr LD50, Worker honey-bees (*Apis mellifera*), topical = >20 µg/bee
Bacteria – IC50, Activated sludge = >100 mg/kg

SECTION 13 – DISPOSAL CONSIDERATIONS

- Handling for disposal** : Handle wastes according to recommendations in Section 7.
- Methods for disposal** : Do not contaminate water, foodstuffs, feed or seed by storage or disposal. For disposable containers, triple rinse (or equivalent) containers and add rinse material to disposal tank. Follow any additional local, state or federal requirements for cleaning containers prior to disposal. Make the empty, rinsed container unsuitable for further use by puncturing. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 – TRANSPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
49CFR/DOT	None	Not regulated.	Not regulated	none	
49CFR/DOT Additional information	None.				
TDG	None	Not regulated.	Not regulated	none	
TDG Additional information	None.				

SECTION 15 – REGULATORY INFORMATION

US Federal Information:

FIFRA: 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 on safety data sheets, and for workplace labels on non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

WARNING

Causes substantial but temporary eye injury.

Harmful if inhaled or absorbed through skin.
Do not get in eyes, on skin, or on clothing.
Wash thoroughly with soap and water after handling.
Remove contaminated clothing and wash clothing before re-use.

OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200).

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): Refer to supplier

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) Health Hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above de minimus concentrations.

US State Right to Know Laws:

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

International Information:

This product is a Pest Control Product and is not regulated as a Controlled Product under the Hazardous Products Act (HPA). For informational purposes, this product would have the following WHMIS classification:

Class D2B (Materials Causing Other Toxic Effects, Toxic Material)

This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and this SDS contains all the information required by the CPR.

SECTION 16 – OTHER INFORMATION

HMIS Rating	:	*-Chronic Hazard	0 – Minimal	1 – Slight	2 – Moderate	3 – Serious	4 – Severe
		Health: *2		Flammability: 1		Reactivity: 0	

Prepared by: Cheminova Inc.

Telephone #: (919) 474-6600 (8:00 AM to 5:00 PM EST, Monday to Friday)

SDS preparation date: June 30, 2009

Revision date: April 27, 2015

Revision reason: US GHS Revision