

Material Safety Data Sheet

This information is based upon technical information believed to be reliable.

It is subject to revision as additional knowledge and experience as gained.

SMOKE 41% GLYPHOSATE

1. Chemical Product/ Company Identification

Company identification

Manufacturer

Productierra

Add: Edificio P.H. Centro Commercial Aventura
Piso 4, Local 414
Panama

Phone Numbers

Tel: (507) 391 9136

Emergency Call: 1-613-966-6666

2. Composition/Information on Ingredients

Components

Material	CAS Number	g/l
Glyphosate acid	1071-83-6	360
Inert Ingredients		640

Chemical Family/Use: Herbicide

Product is formulated as Isopropylamine Salt of Glyphosate (CAS No. 38641-94-0). The product contains approximately 480 g/L glyphosate as its isopropylamine sale form.

Components are not hazardous

3. Hazard identification

Emergency Overview – From Short-term Exposure

Warning! Cause eye irritation. Harmful if swallowed or inhaled. May cause skin irritation.

Mild Irritant

Avoid contact with eyes or prolonged contact with skin.

Potential Health Effects (on toxicity studies)

Eye irritation

Direct contact may cause temporary eye irritation and conjunctivitis.

Skin absorption

Direct, prolonged exposure may cause skin irritation.

Ingestion

Based on toxicity studies this product is no more than slightly toxic. Ingestion has been reported to produce gastrointestinal discomfort with irritation of the mouth, nausea, vomiting and diarrhea. No long

term harmful effects are expected to result from ingestion. Prolonged exposure through oral ingestion of large quantities of the concentrated product has been reported to result in hypotension and pulmonary edema.

Inhalation

Occupational exposure to this product has been reported to cause respiratory tract irritation (nose, throat and upper respiratory tract). May cause symptoms that include coughing, sneezing, wheezing, and blood-tinged mucous.

4. First Aid Measures

First Aid

Inhalation

Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get professional medical attention immediately. Contact a doctor or Poison Control Centre.

Skin Contact

Remove contaminated clothing and shoes. Wash with plenty of soap and water for 15-20 minutes until no evidence of chemical remains. Get professional medical attention immediately. Contact a doctor or Poison Control Centre.

Eye Contact

Hold eyelids open and flush with water at 15-20 minutes until no evidence of chemical remains. Get professional medical attention immediately. Contact a doctor or Poison Control Centre.

Ingestion

This material will produce gastrointestinal irritation. DO NOT induce vomiting. Immediately dilute by having the victim swallow plenty of water or milk, DO NOT attempt to give anything by mouth to an unconscious person. Get professional medical attention immediately. Contact a doctor or Poison Control Centre.

Advise to Doctor

No specific antidote is available. If poisoning is suspected apply symptomatic therapy. Contact Poison Control Centre for more information.

5. Fire Fighting Measures

Flammable properties

Flash point & Method: >200°F-tag closed cup

Flammable limits: Not applicable

Auto ignition temperature: Not applicable

Fire fighting hazards and procedures

Extinguishing media

Smoke 41% Glyphosate MSDS

Use water spray, Foam, Dry Chemical, CO2

Fire fighting instructions

Firefighters and others who may be exposed to vapors or products of combustion should wear full protective clothing and self-contained breathing apparatus. Equipment should be thoroughly cleaned after each use. Dike the area to contain water runoff.

Combustion Products

Oxides of carbon, nitrogen and phosphorous

6. Accidental Release Measures

Spill or leak procedures

Liquid spills on the floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgate, bentonit, or other absorbent clays.

Accidental release measures continued

Collect contaminated absorbent, place in plastic-lined metal drum, and dispose of in accordance with instructions provided under DISPOSAL. Thoroughly scrub floor with a strong industrial type detergent solution and rinse with warm water. Liquid spills that soak into the ground should be dug up, place in plastic-lined metal drums, and dispose of leaking container in accordance with instructions provided under DISPOSAL. Any received spilled liquid should be similarly collected and disposed of.

7. Handling and Storage

General precautions information:

KEEP OUT OF REACH OF CHILDREN. MAY CAUSE EYE IRRITATION. HARMFUL IF SWALLOWED. AVOID CONTACT WITH EYES, SKIN and CLOTHING. Avoid breathing vapor or spray mist. Use with adequate ventilation. Keep container closed. Wash thoroughly after handling. Avoid contamination of seed, feed or foodstuffs. Do not contaminate water by disposal of waste, cleaning of equipment, or through direct application to a body of water. DO NOT MIX, SOTRE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.

Avoid contamination of seed, feed, and foodstuffs. Product is stable under normal conditions of storage and handling for at least 5 years. Store in a cool, well ventilated place away from seed, feed, foodstuffs, reducing agents and acids.

8. Exposure Controls/ Personal Protection

THE FOLLOWING INFORMATION IS FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT

Pesticide applicators and workers

Workers must refer to the product label and directions for use attached to the product for agricultural

use requirements.

Manufacturing, commercial blending, and packaging workers:

Ventilation

No special precautions are recommended.

Respiratory protection

Respiratory protection should not be required for normal use and handling. During periods of abnormal exposure to heavy spray or mist, use NIOSH/MSHA approved equipment for pesticide vapor/mist is recommended. The respirator use limitations specified by NIOSH/MSHA or the manufacturer must be observed.

Eye protection

Wear chemical safety goggles during mixing/pouring operations or other activities in which eye contact with undiluted material is likely to occur.

Protective clothing

In cases in which prolonged or repeated skin contact with this material may occur, long-sleeved shirt, long pants, and chemical protective (e.g.rubber) gloves are recommended. Wash hands and contaminated skin after handling. Clothing soaked with a solution of this material should be promptly removed and laundered before use.

9. Physical and Chemical Properties

Physical State	Viscous liquid
Odour	practically odourless to slight amine-like odour
Colour	amber to yellow colour
pH	4.5-7.5

Important health, safety and environmental information

Flash point	not applicable
Density Value	1.16-1.17g/cm ³
Reference temperature	20°C
Solubility in water	Miscible with water as free glyphosate acid
Corrosion Properties	Low corrosion; may react mildly with galvanized steel or unlined mild steel.

10. Stability and Reactivity

General

This material is stable for at least five years under normal conditions of warehouse storage. Heated facilities are not required. Store in a cool, dry, well-ventilated place away from foodstuffs, reducing agents and acids.

Decomposition and Incompatibility with other materials:

Under fire conditions this product will decompose into oxides of carbon (i.e. CO), phosphorous (i.e. P_xO_y) and nitrogen (i.e. NO_x).

Spray solutions of this product should be mixed, and stored, or applied using only stainless steel, aluminum, and fiberglass, plastic or plastic-lined containers.

Do not mix, store or apply this product or spray solutions of this product in galvanized or unlined steel (except stainless steel) containers or spray tank. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Polymerization:

Does not occur, this product can react with caustic (Basic materials to liberate heat). This is not a polymerization but rather a chemical neutralization in an acid base reaction.

11. Toxicological Information

Acute:

Inhalation: Slightly toxic LC₅₀ = 3.18 mg/L (rat)

Eye irritation: moderately irritating

Skin irritation: slightly irritating (rabbit 4-hour exposure)

Skin absorption: practically non-toxic (rabbit LD₅₀ > 500 0mg/kg)

Reproductive, Mutagenic & Carcinogenic Toxicity: No evidence to suggest or observations made.

Ingestion: slightly toxic to practically non-toxic (rat LD₅₀; 5000 mg/kg, Mouse LD₅₀ > 5000mg/kg). No skin irritation, allergy, or photo allergy was reported in human volunteers following repeated skin exposure. No skin irritation or photo irritation was reported with single skin exposure. No skin allergy was observed in guinea pigs following repeated skin exposure.

Following repeated skin exposure (3 weeks) to this material at 5-times the intended use concentration, severe skin irritation and systemic toxic (death, reduced food consumption, body weight loss, and testicular effects) were observed in rabbits. Slight to moderate skin irritation was the only effect in rabbits treated with 3-times the intended use concentration. Systemic toxic effects at 5-times use concentration were considered to be a secondary response to the stress of severe skin irritation. There was no evidence of cholinesterase inhibition (4-week) of a 33% solution of this material by rats. When this material was applied to skin or rhesus monkeys, an extremely low amount (1.8%) of the active ingredient was absorbed.

Isopropylamine salt of glyphosate

This material was practically nontoxic orally (rats) or after skin application (rabbits). It was nonirritating to rabbit eyes, and practically nonirritating to rabbit skin. In repeat dosing studies (8-month), dogs fed this material exhibited slight body weight changes. Following repeated skin exposure (3-weeks) to this material, skin irritation was the primary effect in rabbit. Additional toxicity information is available on glyphosate, the active herbicidal ingredient of isopropylamine salt of glyphosate, which has been tested in mutagenicity, teratogenicity, reproductive, acute,

sub-chronic, and chronic toxicity studies.

Surfactant

The surfactant component to this material is reported to cause irritation to the eyes and skin and may contribute to the irritation potential reported for the herbicide. Ingestion may produce gastrointestinal irritation, nausea, vomiting, and diarrhea.

12. Ecological Information

Mobility: 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 allow the product to contaminate water courses or enter anywhere where it can affect ground or surface waters. The product is relatively immobile as it rapidly absorbs to clay particles and binds strongly to soil.

Persistence: DT₅₀ 3 - 174 days glyphosate. The active ingredient slowly degrades in the environment and in waste water treatment plants. Duration differs depending on circumstances.

Bioaccumulation: Does not bioaccumulate.

Ecotoxicity: The results of single exposure (acute) environmental toxicity studies indicate that glyphosate is no more than slightly toxic to a variety of fish and invertebrates.

Fish Toxicity: 96 hour LC₅₀, Rainbow trout – 8.2 mg/L (Glyphosate acid)

96 hour LC₅₀, Bluegill – 5.8 mg/L (Glyphosate acid)

Avian Toxicity: Oral LD₅₀, Bobwhite quail – > 3,800 mg/Kg (Glyphosate acid)

Oral LD₅₀, Mallard duck – Unknown

Bee: Non-toxic

48-hour oral LD ₅₀ honeybee:	> 100 ug/bee
48-hour Dermal LD ₅₀ honeybee:	> 100 ug/bee
48-hour EC ₅₀ daphnia magna (with aeration):	37 mg/l (slightly toxic)
48-hour EC ₅₀ daphnia magna (with aeration):	24 mg/l (slightly toxic)
48-hour EC ₅₀ gammarus pseudolimnaeus:	42 mg/l (slightly toxic)
96-hour TL ₅₀ Carp:	19.7 ppm (slightly toxic)
96-hour LC ₅₀ Crayfish	> 1000 ppm (practically non-toxic)
96-hour LC ₅₀ Fathead minnow:	9.4 mg/l (moderately toxic)
96-hour LC ₅₀ Rainbow Trout (Static):	15.26 mg/l (slightly toxic)
96-hour LC ₅₀ Rainbow Trout (Flow-through):	8.2 mg/l (slightly toxic)
96-Hour LC ₅₀ Bluegill sunfish (static):	14 mg/l (slightly toxic)
96-hour LC ₅₀ Bluegill sunfish (Flow-through):	5.8 mg/l (Moderately toxic)
96-hour LC ₅₀ Channel Catfish:	16 mg/l (slightly toxic)
96-hour LC ₅₀ Coho salmon:	22 mg/l (slightly toxic)
96-hour LC ₅₀ Chinook salmon:	20 mg/l (slightly toxic)

Carp contained in a static pond were unaffected at any time during a 90-day observation period following exposure by aerial application of this material at the normal use concentration. Tissue residue analysis indicated glyphosate, the active ingredient in this material will not bioaccumulate. Exposure to

this material in fresh water at a concentration of 0, 10, 103 and 990 ug/L for 10 days did not impair the ability of salmon smolts to adapt to seawater.

Immersion of chicken eggs at four different embryo ages (0, 6, 12 and 18days) for about five seconds in 1 or 5% vol/vol material in water solutions was reported to have no adverse effects on the hatchability or time to hatch of the eggs.

13. Disposal Considerations

Wastes resulting from the use of this product that cannot be used or chemically reprocessed. Do not reuse the containers for any purpose. Dispose of at a container collection site after triple- or pressure-rinse of the empty container. Contact your local distributor/dealer or municipality for the location for the nearest collection site. If there is no container collection site in your area dispose of the container in accordance with provincial regulations.

An empty container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Do not cut or weld on or near this container.

Plastic Jugs

Do not reuse container. Triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by local authority, by burning. If burned, stay out of smoke.

14. Transportation Information

Canadian TDG Description (Road & Rail): None

Non-hazardous for sea transport

Non-hazardous for air transport

15. Regulation Information

WHMIS Trade Secret: Exempt. (This product is regulated under the Pest Control Products Act – WHMIS exempt.)

CANADIAN INVENTORY: This product is currently exempt from CEPA

HAZARD RATING SYSTEMS:

HMIS: Not Available

NFPA: Not Available

16. Other Information

Additional information

Technical data based on open literature information available for the technical material glyphosate acid

Effective date: April 28, 2014

This data in this Material Safety Data Sheet only to the specific material designated and does not related to use in combination with any other material or in any process.

Responsibility for MSDS:
PRODUCTIERRA