



Sharda Cropchem

MATERIAL SAFETY DATA SHEET

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In Case of Emergency, call CANUTEC, 1(613) 996-6666, Open 24 hrs

SECTION – 1: PRODUCT IDENTIFICATION

Product Identifier: Sharda Glyphosate 360 Herbicide and Glyfo Silvi Herbicide

Registration Number: 31493 and 32122 (Pest Control Products Act)

Active Ingredient (%): Glyphosate (present as isopropylamine salt) 360 g/L, CAS No.: 38641-94-0

Chemical Name: glyphosate (present as isopropylamine salt or ethanolamine salt) n-(phosphonomethyl) glycine

Product Use: A broad spectrum weed control in crops and forestry.

SECTION – 2: COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

Isopropylamine salt of N-(phosphonomethyl)glycine; {Isopropylamine salt of glyphosate}

Composition

| COMPONENT | CAS No. | Gm/ltr (approximate) |
|-----------------------------------|------------|----------------------|
| Isopropylamine salt of glyphosate | 38641-94-0 | 360 |
| Other ingredients | | Up to 1000 |

The specific chemical identity is being withheld because it is trade secret information of Bubna Enterprises.

SECTION – 3: HAZARDS IDENTIFICATION

Emergency overview

Appearance and odour (colour/form/odour): Amber - Brown / Liquid, (viscous) / Slight

PRECAUTION!

MAY CAUSE EYE IRRITATION

MAY BE HARMFUL IF SWALLOWED

Potential health effects

Likely routes of exposure

Skin contact, eye contact, inhalation

Eye contact, short term

May cause temporary eye irritation.

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Skin contact, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

Refer to section 11 for toxicological and section 12 for environmental information.

SECTION – 4: FIRST AID MEASURES

Eye contact

Immediately flush with plenty of water.

If there are persistent symptoms, obtain medical advice.

Skin contact

Take off contaminated clothing, wristwatch, and jewelry.

Wash affected skin with plenty of water.

Wash clothes before re-use.

If there are persistent symptoms, obtain medical advice.

Inhalation

Remove to fresh air.

Ingestion

Immediately offer water to drink.

Do NOT induce vomiting unless directed by medical personnel.

If symptoms occur, get medical attention.

Advice to doctors

This product is not an inhibitor of cholinesterase.

Antidote

Treatment with atropine and oximes is not indicated.

SECTION – 5: FIRE-FIGHTING MEASURES

Flash point

None.

Extinguishing media

Recommended: Water, foam, dry chemical, carbon dioxide (CO₂)

Unusual fire and explosion hazards

Minimize use of water to prevent environmental contamination.



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Environmental precautions: see section 6.

Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (PxOy), nitrogen oxides (NOx)

Fire fighting equipment

Self-contained breathing apparatus.

Equipment should be thoroughly decontaminated after use.

SECTION – 6: ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protection recommended in section 8.

Environmental precautions

SMALL QUANTITIES:

Sharda International

Glyphosate 41% SL Version: 1.2 Effective date: 08/28/2002

Low environmental hazard.

LARGE QUANTITIES:

Minimize spread.

Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up

SMALL QUANTITIES:

Flush spill area with water.

LARGE QUANTITIES:

Absorb in earth, sand or absorbent material.

Collect in containers for disposal.

Dig up heavily contaminated soil.

Refer to section 7 for types of containers.

Flush residues with small quantities of water.

Refer to section 13 for disposal of spilled material.

SECTION – 7: HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

Handling

When using do not eat, drink or smoke.

Wash hands thoroughly after handling or contact.

Thoroughly clean equipment after use.

Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.

Refer to section 13 for disposal of rinse water.

Emptied containers retain vapour and product residue.

FOLLOW LABELED WARNINGS EVEN AFTER CONTAINER IS EMPTIED.



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Storage

Minimum storage temperature: -15 °C

Maximum storage temperature: 50 °C

Compatible materials for storage: stainless steel, aluminum, fibreglass, plastic, glass lining

Incompatible materials for storage: galvanized steel, unlined mild steel, see section 10.

Keep out of reach of children.

Keep away from food, drink and animal feed.

Keep only in the original container.

Partial crystallization may occur on prolonged storage below the minimum storage temperature.

If frozen, place in warm room and shake frequently to put back into solution.

Minimum shelf life: 5 years.

SECTION – 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits

Components Exposure Guidelines

Isopropylamine salt of glyphosate No specific occupational exposure limit has been established.

Other ingredients No specific occupational exposure limit has been established.

Engineering controls

Have eye wash facilities immediately available at locations where eye contact can occur.

Eye protection

If there is potential for contact:

Wear chemical goggles.

Skin protection

If repeated or prolonged contact:

Wear chemical resistant gloves.

Respiratory protection

No special requirement when used as recommended.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

SECTION – 9: PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Colour/colour range: Amber - Brown

Form: Liquid (viscous)

Odour: Slight

Flash point: None.

Specific gravity: 1.1743 20 °C / 15.6 °C

Solubility: Water: Soluble



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pH: 6.0

Partition coefficient (log Pow): < 0.000 (glyphosate)

SECTION – 10: STABILITY AND REACTIVITY

Stability

Stable under normal conditions of handling and storage.

Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

Materials to avoid/Reactivity

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

SECTION – 11: TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals. Data obtained on similar products and on components are summarized below.

Similar formulation

Acute oral toxicity

Rat, LD50 (limit test): > 5,000 mg/kg body weight

Other effects: breathing difficulty, decreased activity, soft stools

Practically non-toxic.

FIFRA category IV.

No mortality.

Acute dermal toxicity

Rat, LD50 (limit test): > 5,000 mg/kg body weight

Target organs/systems: none

Other effects: none

Practically non-toxic.

FIFRA category IV.

No mortality.

Skin irritation

Rabbit, 6 animals, OECD 404 test:

Days to heal: 1

Primary Irritation Index (PII): 0.4/8.0

Other effects: none

Essentially non irritating.

FIFRA category IV.

Eye irritation

Rabbit, 6 animals, OECD 405 test:



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Days to heal: 10
Moderate irritation.
FIFRA category II.

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol: 2.6 mg/L
Target organs/systems: none
Other effects: breathing difficulty, decreased activity, local effects
Practically non-toxic.
FIFRA category IV.

Skin sensitization Guinea pig, Buehler test:

Positive incidence: 0 %

EXPERIENCE WITH HUMAN EXPOSURE

Ingestion, short term, case report(s):

Gastro-intestinal effects: irritation, nausea/vomiting, diarrhea

Ingestion, short term:

Respiratory effects: increased fluid in lungs (lung/pulmonary oedema)

Cardiovascular effects: decreased blood pressure (hypotension)

N-(phosphonomethyl)glycine; {glyphosate}

Mutagenicity

In vitro and in vivo mutagenicity test(s):

Not mutagenic.

Repeated dose toxicity

Rabbit, dermal, 21 days:

NOAEL toxicity: > 5,000 mg/kg body weight/day

Target organs/systems: none

Other effects: none

Rat, oral, 3 months:

NOAEL toxicity: > 20,000 mg/kg diet

Target organs/systems: none

Other effects: none

Carcinogenicity

Mouse, oral, 24 months:

NOEL tumour: > 30,000 mg/kg diet

NOAEL toxicity: ~ 5,000 mg/kg diet

Tumours: none

Target organs/systems: liver

Other effects: decrease of body weight gain, histopathologic effects

Rat, oral, 24 months:

NOEL tumour: > 20,000 mg/kg diet

NOAEL toxicity: ~ 8,000 mg/kg diet

Tumours: none



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Target organs/systems: eyes

Other effects: decrease of body weight gain, histopathologic effects

Toxicity to reproduction/fertility

Rat, oral, 3 generations:

NOAEL toxicity: > 30 mg/kg body weight

NOAEL reproduction: > 30 mg/kg body weight

Target organs/systems in parents: none

Other effects in parents: none

Target organs/systems in pups: none

Other effects in pups: none

Developmental toxicity/teratogenicity

Rat, oral, 6 - 19 days of gestation:

NOAEL toxicity: 1,000 mg/kg body weight

NOAEL development: 1,000 mg/kg body weight

Other 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.

Rabbit, oral, 6 - 27 days of gestation:

NOAEL toxicity: 175 mg/kg body weight

NOAEL development: 175 mg/kg body weight

Target organs/systems in mother animal: none

Other effects in mother animal: decrease of survival

Developmental effects: none

SECTION – 12: ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists. Data obtained on similar products and on components are summarized below.

Similar formulation

Aquatic toxicity, fish

Bluegill sunfish (*Lepomis macrochirus*):

Acute toxicity, 96 hours, flowthrough, LC50: 5.8 mg/L

Moderately toxic.

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity, 96 hours, flowthrough, LC50: 8.2 mg/L

Moderately toxic.

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity, 48 hours, static, EC50: 11 mg/L

Slightly toxic.

Aquatic toxicity, algae/aquatic plants

Green algae (*Selenastrum capricornutum*):



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Acute toxicity, 96 hours, static, EC50: 2.6 mg/L

Moderately toxic.

Duckweed (*Lemna minor*):

Acute toxicity, 7 days, static, EC50: > 6 mg/L

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet

Practically non-toxic.

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet

Practically non-toxic.

Arthropod toxicity

Honey bee (*Apis mellifera*):

Oral/contact, 48 hours, LD50: > 100 µg/bee

Practically non-toxic.

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: > 5,000 mg/kg dry soil

Practically non-toxic.

N-(phosphonomethyl)glycine; {glyphosate }

Bioaccumulation

Bluegill sunfish (*Lepomis macrochirus*):

Whole fish: BCF: < 1

No significant bioaccumulation is expected.

Dissipation

Soil, field:

Half life: 2 - 174 days

Koc: 884 - 60,000 L/kg

Adsorbs strongly to soil.

Water, aerobic:

Half life: < 7 days

SECTION – 13: DISPOSAL CONSIDERATIONS

Product

Excess product may be disposed of according to label instructions.

Keep out of drains, sewers, ditches and water ways.

Recycle if appropriate facilities/equipment available.

Burn in proper incinerator.

Follow all local/regional/national/international regulations.



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Container

See the individual container label for disposal information.

Emptied containers retain vapour and product residue.

Observe all labelled safeguards until container is cleaned, reconditioned or destroyed.

Empty packaging completely.

Triple or pressure rinse empty containers.

Rinsate may be disposed of by agricultural use according to label instructions.

Do NOT contaminate water when disposing of rinse waters.

Recycle if appropriate facilities/equipment available.

Ensure packaging cannot be reused.

Follow all local/regional/national/international regulations.

SECTION – 14: TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Not hazardous under the applicable DOT, ICAO/IATA, IMO, TDG and Mexican regulations.

SECTION – 15: REGULATORY INFORMATION

PCPA registered.

SECTION – 16: OTHER INFORMATION

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Sharda Cropchem Limited will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years. This product is under the jurisdiction of the Pest Control Products Act and is exempt from the requirements for a WHMIS compliant MSDS. Hazardous properties of all ingredients have been considered in the preparation of this MSDS. Read the entire MSDS for the complete hazard evaluation of this product.