



VECTOR 540

MATERIAL SAFETY DATA SHEET

1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Vector 540*
Product Use: Non-selective weed control
Product Number: 31598

Manufacturer /Supplier: INTERPROVINCIAL COOPERATIVE LTD.
945 Marion St.
Winnipeg, Manitoba
R2J 0K7 www.ipco.ca

Effective Date: December 1, 2014

This product is regulated under authority of the Pest Control Products Act

2: HAZARD IDENTIFICATION

Effects of Overexposure:

Route of Exposure: Inhalation, eye contact, skin contact, ingestion.
Inhalation: A single exposure to vapors is not likely to be hazardous.
Eye Contact: May cause severe irritation with corneal injury, which may result in permanent impairment of vision, even blindness.
Skin Contact: May cause skin irritation.
Ingestion: Moderately toxic; May cause gastrointestinal irritation and ulceration

3: COMPOSITION AND INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	% (W/W)
Potassium salt of Glyphosate	70901-12-1	47.53 – 50.47
Other ingredients		49.47 – 52.53

Ingredients not listed are proprietary or non-hazardous

4: FIRST AID MEASURES

Inhalation: Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical attention IMMEDIATELY.

Ingestion: If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person.

Skin: Flush skin with running water, and then continue flushing with running water for 5 - 10 minutes. Start flushing while removing contaminated clothing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY.

Eyes: In case of contact, immediately flush eyes with plenty of water for 5 - 10 minutes and get medical attention.

Emergency Medical Care: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the SDS, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

In case of emergency call CANUTEC at 613-996-6666

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5: FIRE-FIGHTING MEASURES

Unusual Fire & Explosion Hazards:	This material will not burn until the water has evaporated. Residue can burn. If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes. Dense smoke is produced when product burns.
Extinguishing Media:	To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.
Special Oxidizing Material Hazards:	Not Established
Hazardous Combustion Products:	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and irritating. Combustion products may include and are not limited to: Phosphorus oxides, Nitrogen oxides, Carbon monoxide, and Carbon dioxide.
Special Fire Fighting Procedures:	Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed

6: ACCIDENTAL RELEASE MEASURES

In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

7: HANDLING AND STORAGE

Store in a cool, well-ventilated area. Keep away from heat, sparks and filling of containers. Keep away from children; prevent contact with eyes, skin, and clothing. Do not store near fertilizers, foodstuffs, seed, insecticides or fungicides.

Do not contaminate irrigation ditches or domestic water supplies. If this happens notify police and local authorities.

8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**Exposure Limits:**

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

LD50-ORAL: > 5000 mg/kg Rat

LD50-DERMAL: > 5600 mg/kg Rabbit

T.L.V. (ACGIH): Not established

LC50: 3.18 mg/L (Rat, 4 hr.)

Special Engineering Controls: Local exhaust ventilation required.

Eye Protection: CSA approved safety glasses with side shields or goggles.

Respiratory Protection: No respiratory protection needed unless mist generated, then a NIOSH/MSHA toxic mist mask suggested.

Hand and Arm: PVC or rubber gloves.

Feet: Rubber boots.

Body: Coveralls.

Other Personal Protection: Recommendations listed above indicate the type of equipment which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

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9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance & Odour:	Yellow, Amine Odour
Specific Gravity:	(@ 20 ⁰ c): 1.3573
Vapour density:	Not established
Solubility in water:	Miscible
Solubility in liquids:	Not established
Freezing point:	< 0 ⁰ c
% volatile by volume:	Not applicable
Boiling point:	100 ⁰ c
Odour threshold (ppm):	Not established
Coefficient of water/oil distribution:	Not applicable
Vapour pressure:	Not established
Evaporation rate:	Not established
pH:	4.5 – 4.9 67.7 gms/lt
Viscosity:	Not established
Flash Point & Method:	(⁰ C): > 100 (Tag Closed Cup)
Flammable Limits (% in air):	Lower: Not applicable Upper: Not applicable
Autoignition Temperature	Not applicable

10: STABILITY AND REACTIVITY

Decomposition Temp:	Not established
Stability:	Stable under normal conditions.
Materials to Avoid:	Avoid contact with: acids, halogens, oxidizers, peroxides, iron, galvanized steel and unlined steel
Hazardous Decomposition Products:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide, carbon dioxide, amines, hydrocarbons, nitrogen oxides, phosphorus oxides. Toxic gasses are release during decomposition.
Hazardous Polymerization or Condensation:	Will not occur.
Conditions to Avoid:	Thermally stable at typical use temperatures. Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

11: TOXICOLOGICAL INFORMATION

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

Similar Formulation

Rat, LD50: > 5,000 mg/kg body weight
Practically non-toxic.
FIFRA category IV.
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Skin irritation**Rabbit, 3 animals, OECD 404 test:**

Days to heal: 14

Primary Irritation Index (PII): 2.2/8.0

Moderate irritation.

FIFRA category III.

Eye irritation**Rabbit, 3 animals, OECD 405 test:**

Days to heal: 3

Moderate irritation.

FIFRA category III.

Acute inhalation toxicity**Rat, LC50, 4 hours, aerosol: > 1.20 mg/L**

Slightly toxic.

FIFRA category III.

No mortality. For purposes of the inhalation test, product was artificially aerosolized. Since this material will not become aerosolized to a hazardous concentration during transport, it is classified as non-hazardous under the transportation regulations in accordance with 2.6.2.2.4.7(b) and (c) of the UN Recommendations on the Transport of Dangerous Goods.

Skin sensitization**Guinea pig, Buehler test:**

Positive incidence: 0 %

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

Chronic effects/carcinogenicity**Mouse, oral, 24 months:**

NOEL tumor: > 30,000-mg/kg diet

NOAEL toxicity: ~ 5,000-mg/kg diet

Tumors: none

Target organs/systems: liver

Other effects: decrease of body weight gain, histopathologic effects

Rat, oral, 24 months:

NOEL tumor: > 20,000-mg/kg diet

NOAEL toxicity: ~ 8,000-mg/kg diet

Tumors: none

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

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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

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****Rainbow trout (*Oncorhynchus mykiss*):**

Acute toxicity, 96 hours, semi-static, LC50: 3.13 mg/L

Moderately toxic.

Aquatic toxicity, algae/aquatic plants**Green algae (*Selenastrum capricornutum*):**

Acute toxicity, 72 hours, static, EbC50 (biomass): 0.124 mg/L

Highly toxic.

Arthropod toxicity**Honeybee (*Apis mellifera*):**

Contact, 48 hours, LD50: > 250 µg/bee

Practically non-toxic.

Honeybee (*Apis mellifera*):

Oral, 48 hours, LD50: > 238.8 µg/bee

Practically non-toxic.

Soil organism toxicity, invertebrates**Earthworm (*Eisenia foetida*):**

Acute toxicity, 14 days, LC50: > 10,000 mg/kg dry soil

Practically non-toxic.

Soil organism toxicity, microorganisms**Nitrogen and carbon transformation test:**

40 L/ha, 28 days: Less than 25% effect on nitrogen or carbon transformation processes in soil.

Similar formulation**Aquatic toxicity, invertebrates****Water flea (*Daphnia magna*):**

Acute toxicity, 48 hours, static, EC50: 8.0 mg/L

Moderately toxic.

N- (phosphonomethyl) glycine; {glyphosate}**Avian toxicity****Bobwhite quail (*Colinus virginianus*):**

Dietary toxicity, 5 days, LC50: > 4,640-mg/kg diet

No more than slightly toxic.

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 4,640-mg/kg diet

No more than slightly toxic.

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Bobwhite quail (Colinus virginianus):

Acute oral toxicity, single dose, LD50: > 3,851-mg/kg body weight

Practically non-toxic.

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

13: DISPOSAL CONSIDERATIONS

Dispose of waste materials in an approved incinerator or waste treatment/disposal facility in accordance with applicable regulations. Do not dispose of wastes in local sewer or with normal waste.

14: TRANSPORT INFORMATION

This product is Not Regulated under regulations of the Transport of Dangerous Goods Act.

15: REGULATORY INFORMATION

Pest Control Products Act

Registration Number: 31598

For Information Phone: 204-233-3461

MSDS Status/

Revised Sections:

Replaces MSDS Dated: New

16: OTHER INFORMATION

WHMIS Ratings:

D2B

Notice:

The enclosed information is supplied as a customer service and is provided in good faith. Although it has been based on data drawn from sources deemed to be reliable, IPCO cannot guarantee its accuracy and assumes no responsibility for conditions resulting from its use.

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