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Product: KALASH 510 SL	

1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY UNDERTAKING:

PRODUCT NAME: KALASH 510 SL

ADDRESS: P. O. Box 1726, 22 Burnside Drive,
 Mount Edgecombe. Old Mill Industrial Park.
 4300. Mount Edgecombe
 4300.

PHONE No: 031 538 8700

EMERGENCY No.: Toll free number (24 hours): 082911
 For overseas customers (24 hours): +27-11-254 1911

2. COMPOSITION / INFORMATION ON INGREDIENTS:

PRODUCT DESCRIPTION:

A phosphonic acid herbicide. Aqueous solution with wetter.

HAZARDOUS INGREDIENTS:	CAS No.	<u>g/l or kg:</u>
Glyphosate (glycine)	1071-83-6	510 g a.i./l

Chemical name:	N-(phosphonomethyl)glycine, IPA salt
Chemical family:	PHOSPHANOGLYCINE (Organophosphorous herbicide) Organophosphorous herbicides are structurally different from OP insecticides and their ACHE-inhibiting power is very weak.
Chemical formula:	C6H17N2O5P
NIOSH/RTECS no.	MC1080000
UN No.	Not regulated
Hazchem code:	None
Symbols:	Not applicable
Risk phrase(s):	R20/22, R36

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3. HAZARD IDENTIFICATION:

Harmful if swallowed. May cause moderate eye irritation. Non-irritating to skin. Minimally toxic by inhalation.

4. FIRST-AID MEASUREMENTS:

Organophosphorous herbicides are structurally different from OP insecticides and their ACHE-inhibiting power is very weak. Symptoms of glyphosate poisoning include: headache, lethargy, diarrhoea, weakness and collapse. Nausea after ingestion has been observed.

- Inhalation** : Remove patient from exposure, keep warm and at rest. Obtain medical attention.
- Skin contact** : Immediately take off all contaminated clothing. Wash skin immediately with cold water, followed by soap and water. Such action is essential to minimise contact with skin. Contaminated clothing should be washed before re-use.
- Eye contact** : Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain medical attention.
- Ingestion** : Have victim rinse mouth thoroughly with water. Do not induce vomiting. Remove by gastric lavage and catharsis. Give oxygen if respiration is depressed. Do not perform gastric lavage if victim is unconscious. Administration of gastric lavage and oxygen should be performed by qualified medical personnel. Seek medical advice immediately showing container and label.

Further Medical treatment:

There is no specific antidote. Symptomatic treatment and supportive therapy as indicated. Remove by gastric lavage and catharsis, but not if victim is unconscious. Give oxygen if respiration is depressed.

5. FIRE-FIGHTING MEASURES:

Keep fire exposed containers cool by spraying with water.

Extinguishing Media:

For small fires, use foam, carbon dioxide, dry powder or halon extinguishant. For large fires, use foam or water-fog; avoid use of water jet. Contain run-off water with, for example, temporary earth barriers.

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Fire Fighting Protective Equipment:

A self contained breathing apparatus and suitable protective clothing must be worn in fire conditions.

Special hazard:

No fire hazard. Slight explosion hazard.

6. ACCIDENTAL RELEASE MEASURES:

Ensure suitable personal protection during removal of spillage. This means wearing eye protection, chemically resistant gloves, boots and coveralls.

Small spills:

Soak up with sand or other suitable noncombustible absorbent material, such as sawdust, and place into containers for subsequent disposal.

Large spills:

Contain liquid far ahead of spill. Contain spillage and contaminated water for subsequent disposal. Do not flush spilled material into drains. Keep spectators away.

7. HANDLING AND STORAGE:

7.1 HANDLING:

Harmful by inhalation or if swallowed. Avoid contact with eyes, prolonged contact with skin, and inhalation of spray and fumes. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the herbicide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage:

Store in its original labeled container in shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Do not store in galvanized steel or unlined steel containers. Not to be stored next to foodstuffs and water supplies. Keep out of reach of children and animals. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION:

Occupational exposure limits: TLV not established

Engineering control measures: It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations. If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Personal protective equipment:

Respirator: An approved respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye protection: The use of safety goggles is recommended. Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Form : Liquid
Colour : Clear brown to amber
Odour : Aromatic
Flash point : does not flash
Solubility : Water soluble
pH : 4.95 – 5.05
Density : 1.195 ± 0.01 g/ml at 20° C
Storage stability : Stable at 0° C and 54° C. Becomes slightly yellow.
Dilution stability : Stable

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Solubility in water : 35 mg/kg
Partition-coefficient
in n-octanol / water : log Pow <-1.72 (active ingredient: salt)

10. STABILITY AND REACTIVITY:

Stability: Data as for Glyphosate 62% TK

Stable under normal temperatures and pressures. Glyphosate reacts strongly (possibly violent exothermic reaction) with strong alkalis. Photodecomposition is negligible. Glyphosate is stable to light and also stable up to 60°C. glyphosate may be photolabile in natural waters, with calcium or other metal ions acting as catalysts for the process.

Incompatibility: Data as for Glyphosate 62% TK

Product is relatively stable in neutral, weakly acidic and weakly alkaline media, but reacts strongly (and possibly violently) with strong alkalis. Mixing with other products may reduce the activity of glyphosate.

Hazardous decomposition Product(s):

Combustion or thermal decomposition will evolve toxic and irritant vapors.

11. TOXICOLOGY INFORMATION:

Acute Oral LD50 : 10980 mg/kg (rat)

Dermal LD50 (calculated): >9804 mg/kg (rabbit)

Inhalation : Unlikely to cause harmful effects under normal conditions of handling and use.

Skin contact : Non-irritant to rabbit skin. It is not a skin sensitiser.

Eye contact : Moderate irritant to rabbit eyes.

Ingestion : Harmful if swallowed.

Carcinogenicity:

Animal studies did not detect any carcinogenic effects. No human information available.

Teratogenicity:

Animal studies did not detect any teratogenic effects. No human information available.

Mutagenicity: Animal studies did not detect any mutagenic effects. No human information available.

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12. ECOLOGICAL INFORMATION:

ECOTOXICOLOGY:

Birds:

Glyphosate 62% TK: Low toxicity to birds
Acute oral LD50: > 3851 mg/kg (bobwhite quail)

Fish:

Glyphosate 62% TK: LC50 (96 h): 536.96 mg/L (rainbow trout)
Surfactant: LC50 (96 h): >100 mg/L (Brachydanio rerio-trout)
Humactant: LC50: 1-10 g/L

Bees:

Glyphosate 62% TK: Non-toxic to bees

Daphnia:

Non-toxic to Daphnia magna
Glyphosate 62% TK: EC50 (48 h): >324 mg/L
Surfactant: EC50 (48 h): >100 mg/L

Degradability: *Glyphosate 62% TK*

Strongly absorbed to soil and therefore becomes practically immobile. Microbial degradation is the major cause of loss from soil, with liberation of carbon dioxide. The principal metabolite is aminomethylphosphonic acid. In soil the half life of the product is less than 60 days.

Surfactant: Readily biodegradable
Humactant: Biological eliminability: good

Mobility: *Glyphosate 62% TK*

The product is practically immobile and is unlikely to leach

Accumulation: *Glyphosate 62% TK*

The product shows little or no tendency to bioaccumulate and poses no long term threat to wildlife.

13. DISPOSAL CONSIDERATION:

Pesticide disposal:

Waste resulting from the use of this product that cannot be reused or reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable local procedures. Hydrolysis under alkaline conditions is a suitable method to dispose of small quantities of the product. After hydrolysis, dilute and dispose of in pits or landfill. Comply with any local legislation applying to waste disposal.

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DISPOSAL CONSIDERATION (contd):**Package product wastes:**

Emptied containers retain vapour and product residues. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Combustible containers should be disposed of in pesticide incinerators. Non-combustible containers must first be triple-rinsed with water, punctured and recycled or disposed of.

14. TRANSPORT INFORMATION:

Not classified as Dangerous for Transport. (See SABS 0228: Annexure D)

ADR/IRD : Not restricted
IMDG/IMO : Not restricted
ICAO/IATA : Not restricted

15. REGULATORY INFORMATION:

Indication of danger: Harmful

Risk phrases:

R20/22 Harmful by inhalation of if swallowed
R36 Irritating to eyes

Safety phrases:

S2 Keep out of reach of children
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Danger Group IV (SABS 0028-1990)

16. OTHER INFORMATION:

Usage : For weed control.

KALASH 510 SL.....is the property of VOLCANO AGROSCIENCE (Pty) LTD

Read the label before use or buy.

Use pesticides safely.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors or omissions or the consequence thereof.