



Agritech Bioscience (Pty) Ltd. t/a Carabiner


Material Safety Data Sheet

Radiate

Reg. No: L 9569 (Act 36 of 1947)
N-AR 1540

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1) IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER.	
Product name:	RADIATE
UN No:	Not regulated
Other means of identification	Picloram 240 g/L SL
Recommended use:	Herbicide
Restrictions on use:	Agriculture
Distributed by:	AGRITECH BIOSCIENCE P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL) 012 664 1100 TYGERBERG: 021 931 6129 RED CROSS: 021 689 5227 RAPID SPILL RESPONSE 0800 775 3305 GRIFFON POISON CENTRE: 082 446 8946
Chemical Name:	potassium 4-amino-3,5,6-trichloro-2-pyridinecarboxylate
2) Classification of the substance / mixture:	
Classification of the product is based on the co-formulants listed in section 3.	Xi, Xn, N; R22, R35, R36, R43, R36/38, R52 Full text of R-phrases: see section 15.
Label elements:	Hazard symbols: Xi – Irritant Xn – Harmful N – Dangerous for the environment Health Hazard 
Health effects: eyes:	Signal Word: Harmful May cause severe irritation. Corneal injury is unlikely. Effects are likely to heal readily.

Health effects: skin:	May cause irritation. A single prolonged exposure is not likely to result in the product being absorbed through the skin in harmful amounts. Prolonged or repeated exposure may cause slight skin irritation.
Health effects: ingestion	May cause irritation and may be harmful. Single dose oral toxicity is considered to be low.
Health effects: inhalation	Unlikely to cause harmful effects under normal conditions and proper handling.

3) Composition Details:

COMPOSITION

Picloram potassium salt 240 g/L
Potassium hydroxide: 75 g/L

Mixture:

Chemical name	Composition	CAS No.	EC No.	Classification according to Regulation EC 1272/2008 (CLP)	Classification according to 67/548/EEC
Picloram	240 g/L	1918-02-1	217-636-1	Aquatic Chronic 3, H412 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 1, H410 Aquatic Acute 1, H400 Acute Tox. 4, H302, H312, H332 Carc. 1B, H350	
Potassium hydroxide (Caustic Potash)	75 g/L	1310-58-3	215-181-3	Acute Tox. 4, H302, H312 Skin Corr. 1A, H314 Skin Irrit. 2; H315: 0,5% ≤ C < 2% Eye Irrit. 2; H319: 0,5% ≤ C < 2% Met. Corr. 1, H290 Eye Dam. 1, H318 Acute Tox. 3, H301 STOT SE 3, H335 STOT SE 1, H370 Aquatic Chronic 3, H412 Acute Tox. 3, H332 Flam. Liq. 2, H225	Xn; R22 C; R35 S (1/2) S26 S36/37/39 S45

Full text of R- and S-phrases: see section 15.

4) First Aid Measures:

Inhalation:	Remove patient to fresh air. Loosen clothing around neck. Lie down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
Skin contact:	Immediately flush body and clothes with large amounts of water and soap. Remove contaminated clothing and footwear. Wash affected areas with soap and water. Do not rub skin. Persons providing first aid must wear gloves to avoid self-contamination. Seek medical assistance if irritation occurs.
Eye contact:	Immediately flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance if irritation persists.
Ingestion	

<p>Indication of immediate medical attention and special treatment needed: Advice to physician</p>	<p>Never give anything by mouth to an unconscious person or to a person having convulsions. Do not induce vomiting. For advice, contact the National Poisons Centre. Seek medical assistance immediately. The decision of whether to induce vomiting or not must be made by an attending physician.</p> <p>No specific antidote known. Treat symptomatically and supportively.</p>
<p>5) Fire-Fighting Measures:</p>	
<p>Flash point:</p> <p>Suitable extinguishing media:</p> <p>Unsuitable extinguishing media:</p> <p>Special hazards arising from the substance or mixture:</p> <p>Fire Fighting:</p>	<p>Approximately 100 °C</p> <p>Fine water fog or spray, foam, carbon dioxide, Dry chemical. Do not use high volume water jet, due to contamination risk.</p> <p>Water jet, due to contamination/spreading risk.</p> <p>No data available.</p> <p>Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Do not scatter the material. Avoid pollution of waterways.</p> <p>During a fire, smoke may contain the original material as well as unidentified toxic and/or irritating compounds.</p>
<p>Protective clothing:</p>	<p>Fire may produce irritating or poisonous vapours, mists or other products of combustion. Full protective clothing and self-contained breathing apparatus</p>
<p>6) Accidental Release Measures:</p>	
<p>Personal precautions:</p> <p>Environmental precautions:</p> <p>Cleaning procedure:</p>	<p>Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. Wash contaminated clothing before re-use. Prevent skin contact</p> <p>Do not contaminate waterways, drains and groundwater. If contamination of waterways, drains, rivers or lakes is unavoidable, warn the local authorities (Police and Department of Water/Environmental affairs) immediately.</p> <p>Wear protective clothing. Clear area of unprotected personnel. Contain and absorb liquid spills with sand or other non-combustible absorbent material, remove with an approved scoop or vacuum and place into specially marked waste containers for later disposal.</p>

Clothing:	For brief contact: Clean body-covering. Emergency conditions: Protective clothing impervious to this material. The selection of specific items will depend on the operation.
Gloves:	Employee must wear appropriate chemical-resistant 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 & Chemical Properties:	
Form:	Liquid
Colour:	Brown
Odour:	Characteristic
Odour threshold:	No data available
pH:	7 – 8.5
Melting point / Freezing point (°C)	No data available
Initial boiling point and boiling range	No data available
Flash point:	Not flammable
Evaporation rate:	No data available
Flammability (solid, gas)	Not flammable
Upper/ lower flammability or explosive limits	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Relative density:	No data available
Solubility:	Miscible in water
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature:	No data available
Viscosity:	No data available
10) Stability & Reactivity:	
Reactivity:	Stable under normal storage conditions.
Stability:	When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture. Avoid temperature extremes. Avoid strong basic, acidic or oxidising materials
Hazardous decomposition product(s):	None known under normal conditions of storage and use.
Conditions to avoid:	Protect from extreme temperatures, direct sunlight, open flames and sources of ignition.
Incompatible materials:	Always store in original container.
11) Toxicological Information:	
<p>Oral : LD50 > 5 000 mg/kg, rat. Dermal : LD50 > 5 000 mg/kg, rabbit. Inhalation : LC50 (4h) > 5.3 mg/L, rat.</p> <p>Skin irritation: Prolonged or repeated exposure may cause irritation. Eye irritation : severe irritant, rabbit. Sensitization : Positive skin sensitizer.</p> <p>Acute: Oral LD50 > 2 000 mg/kg, rat. Dermal LD50 > 4 000 mg/kg, rat.</p>	

Inhalation LC50 4h > 8.11 mg/L, rat.

12) Ecological Information: Based on active ingredient.

Bees : LD₅₀ for honeybees >100 µg/bee

Birds : Acute oral LD₅₀ for chicks c. 6000 mg/kg. LC₅₀ for mallard ducks and bobwhite quail >5000 mg/kg diet.

Fish: LC₅₀ (96 h) for rainbow trout 5.5, bluegill sunfish 14.5 mg/l.

Daphnia : LC₅₀ 34.4 mg/l.

Algae EC₅₀ for *Selenastrum* 36.9 mg/l

Worms : Practically non-toxic to earthworms.

Once in the plant or in the environment, all salt and ester forms are readily converted to picloram acid.

Plants: On plant surfaces, photodecomposition occurs, possibly with cleavage of the pyridine ring.

Soil/Environment: Quickly degraded by light, in clear water or on plant surfaces. Degraded moderately slowly to slowly by soil micro-organisms, typical field DT₅₀ 30–90 d. Rate of degradation in soil strongly proportional to application rate. Aqueous photodegradation DT₅₀ <3d.

13) Disposal Considerations:

Waste Disposal : : In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved chemicals waste disposal facility.

Container Disposal : Refer to the product label for instructions.

Wash out thoroughly. The container must be disposed of safely as product waste in accordance with local regulations. Preferably send to a licensed re-claimer or a permitted incinerator.

DO NO REUSE THE CONTAINER FOR ANY OTHER PURPOSE.

Do not transport if this container is damaged or leaking.

14) Transportation Information:

UN NUMBER: Not regulated.

15) Regulatory Information:

Symbol(s): Xi, Xn, N

Signal words:

Xi – irritant

Xn – Harmful

N – Dangerous for the environment

R-phrase(s):

R22 – Harmful if swallowed.

R35 – Causes severe burns.

R36 – Irritating to eyes.

R43 – May cause sensitization by skin contact.

R36/38 - Irritating to eyes and skin.

R52 - Harmful to aquatic organisms.

S-phrase(s):

S1/2 – Keep locked up and out of reach of children.

S2 - Keep out of reach of children.

S13 – Keep away from food, drink and animal feeding stuffs.

S20/21 – When using, do not eat drink or smoke.

S24 – Avoid contact with skin.

S24/25 - Avoid contact with skin and eyes.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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).

S46 –If swallowed, seek medical advice immediately and show this container.

S62 – If swallowed, do not induce vomiting: seek medical advice immediately.

Hazard Statements:

H302 - Harmful if swallowed.

H312 – Harmful in contact with skin.

H314 – Causes severe burns and eye damage.

H315 – Causes skin irritation.

H319 – Causes serious eye irritation.
H290 – May be corrosive to metals.
H318 – Causes serious eye damage.
H301 – Toxic if swallowed.
H335 – May cause respiratory irritation.
H370 – Causes damage to organs.
H412 – Harmful to aquatic life with long-lasting effects.
H332 – Harmful if inhaled.
H225 – Highly flammable liquid and vapor.

16. Other Information

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

It is the responsibility of persons in receipt of this SDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with this product. If the recipient subsequently produces formulation(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this SDS to their own SDS.

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