



WILLOWOOD LIMITED

17/ F, Seaview Plaza, No. 283 Shau Kei Wan Road, Shau Kei Wan
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COMPANY WEBSITE: WWW.WILLOWOODHK.COM

ISO 9001:2008

Material Safety Data Sheet

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

- 1.1 Product identifier Trade name : Metribuzin 480 SC Selective Herbicide
- 1.2 Relevant identified uses of the substance or mixture and uses advised against Use Herbicide

SECTION 2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture Classification in accordance with GHS Regulation

Acute toxicity: Category 4

H302 Harmful if swallowed.

Eye Damage/Irritation: Category 2A

H319 Causes serious eye irritation.

Acute aquatic toxicity: Category 1

H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1

H410 Very toxic to aquatic life with long lasting effects.

- 2.2 Label elements Hazard label for supply/use required.

Hazardous components which must be listed on the label:

Metribuzin

Signal word: Warning

Hazard statements H302 Harmful if swallowed

H319 Causes serious eye irritation

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature Metribuzin 480 g/l

Chemical nature Suspension concentrate (=flowable concentrate)(SC)

Chemical Name CAS-No. Concentration [%]

Metribuzin 21087-64-9 41.40

Glycerine 56-81-5 > 10.00 - < 20.00

1,2-Benzisothiazol-3(2H)-one 2634-33-5 > 0.005 - < 0.05

Other ingredients (non-hazardous) to 100%

SECTION 4. FIRST AID MEASURES

General advice Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

Inhalation Move the victim to fresh air and keep at rest. Oxygen or artificial respiration if needed.

Call a physician or poison control center immediately.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

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Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. Keep patient warm and at rest. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed Symptoms No symptoms known or expected.

Indication of any immediate medical attention and special treatment needed Treatment Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media Suitable Water, Foam, Carbon dioxide (CO₂), Sand

5.2 Special hazards arising from the substance or mixture In the event of fire the following may be released: Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Sulphur oxides, Nitrogen oxides (NO_x)

5.3 Advice for firefighters Special protective equipment for firefighters Wear self-contained breathing apparatus and protective suit. Further information Evacuate personnel to safe areas. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Do not allow run-off from fire fighting to enter drains or water courses. Whenever possible, contain fire-fighting water by diking area with sand or earth.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures Precautions Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Use personal protective equipment. Keep unauthorized people away.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

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SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling Advice on safe handling Use only in area provided with appropriate exhaust ventilation. Advice on protection against fire and explosion No special precautions required. Hygiene measures Avoid contact with skin, eyes and clothing. After each day's use, wash gloves, face shield or goggles and contaminated clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Garments that cannot be cleaned must be destroyed (burnt).

7.2 Conditions for safe storage, including any incompatibilities Requirements for storage areas and containers Store in original container and out of the reach of children, preferably in a locked storage area. Keep away from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure controls Respiratory protection

Respiratory protection is not required under anticipated circumstances of exposure. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet. Eye protection Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection Wear standard coveralls and Category 3 Type 6 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

General protective measures In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form suspension

Colour white

Odour weak, characteristic

pH 5.0 - 8.0 at 100 % (23 °C)

Flash point Not relevant; aqueous solution

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Density ca. 1.16 g/cm³ at 20 °C

Water solubility miscible

Partition coefficient: noctanol/water Metribuzin: log Pow: 1.6

Viscosity, dynamic 600 - 1,600 mPa×s at 20 °C Velocity gradient 7.5 /s

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity Thermal decomposition Stable under normal conditions.

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions No hazardous reactions when stored and handled according to prescribed instructions.

10.4 Conditions to avoid Exposure to moisture. Elevated temperatures

10.5 Incompatible materials Strong bases, Ketones, Aldehydes, Oxidizing agents Store only in the original container.

10.6 Hazardous decomposition products Thermal decomposition can lead to release of:
Hydrogen cyanide (hydrocyanic acid) Nitrogen oxides (NOx) Carbon oxides Sulphur oxides

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects Acute oral toxicity LD50 (Rat) 1,078 mg/kg Test conducted with a similar formulation. Acute inhalation toxicity LC50 (Rat) 3.055 mg/l Exposure time: 4 h (analytical) Determined in the form of liquid aerosol. Test conducted with a similar formulation.

Acute dermal toxicity LD50 (Rat) > 2,000 mg/kg Test conducted with a similar formulation.

Skin irritation Slight irritant effect - does not require labelling (Rabbit) Test conducted with a similar formulation.

Eye irritation Irritating to eyes (Rabbit) Test conducted with a similar formulation.

Sensitisation Non-sensitizing (Guinea pig) OECD Test Guideline 406, Buehler test Test conducted with a similar formulation.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)) 74.6 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient metribuzin. LC50 (Leuciscus idus (Golden orfe)) 141.6 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient metribuzin.

Toxicity to aquatic invertebrates LC50 (Daphnia magna (Water flea)) 49.6 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient metribuzin.

Toxicity to aquatic plants IC50 (Desmodesmus subspicatus (green algae)) 0.021 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient metribuzin.

Toxicity to bacteria EC50 (activated sludge) 761 mg/l The value mentioned relates to the active ingredient metribuzin.

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Toxicity to other organisms LD50 (Colinus virginianus (Bobwhite quail)) 164 mg/kg The value mentioned relates to the active ingredient metribuzin. LD50 (Anas platyrhynchos (Mallard duck)) 460 - 680 mg/kg The value mentioned relates to the active ingredient metribuzin.

12.2 Persistence and degradability Biodegradability Metribuzin: Not rapidly biodegradable Koc Metribuzin: Koc: 24 – 106

12.3 Bioaccumulative potential Bioaccumulation Metribuzin: Does not bioaccumulate.

12.4 Mobility in soil Mobility in soil Metribuzin: Mobile in soils

SECTION 13. DISPOSAL CONSIDERATIONS

Metal drums and plastic containers: Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Do not reuse container for any other purpose.

SECTION 14. TRANSPORT INFORMATION

ADG UN number 3082

Transport hazard class(es) 9

Subsidiary Risk None

Packaging group III

Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METRIBUZIN SOLUTION)

IMDG UN number 3082

Transport hazard class(es) 9

Subsidiary Risk None

Packaging group III

Marine pollutant YES

Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METRIBUZIN SOLUTION)

IATA

UN number 3082

Transport hazard class(es) 9

Subsidiary Risk None

Packaging group III

Environm. Hazardous Mark YES Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METRIBUZIN SOLUTION)

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SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994 Australian Pesticides and Veterinary Medicines Authority approval number: 31791

SECTION 16. OTHER INFORMATION

This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

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