

Safety Data Sheet

SPIRAL 500 EC - Reg. No: L 7982 (Act No 36 of 1947)

Date of issue: 04/10/2010

Date revised: 28/04/2016

1) PRODUCT AND COMPANY IDENTIFICATION	
Product name:	SPIRAL 500 EC
Other means of identification:	Spiroxamine 500 g/L EC
Recommended use:	Fungicide
Restrictions on use:	Agriculture
UN No:	2902
Distributed by:	MERIDIAN AGRITECH P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056 www.agritech.co.za
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL) 012 664 1100 TYGERBERG:021 931 6129 RED CROSS 021 689 5227 GRIFFON POISON CENTRE: 082 446 8946
Chemical Name:	8- <i>tert</i> -butyl-1,4-dioxaspiro[4.5]decan-2-ylmethyl (ethyl)-(propyl)-amine (IUPAC)
2) Hazards Identification:	
Product Classification:	Xn; R20/21/22; R38; R41 See full text phrases; see section 15
Label Elements:	Hazard symbols: Xn – Harmful  Signal word: Harmful
Health effects: eyes:	May cause damage to eyes.
Health effects: skin:	May cause moderate to severe irritation.
Health effects: ingestion	May cause irritation and may be harmful.
Health effects: inhalation	May cause irritation
3) Composition Details:	
COMPOSITION	Spiroxamine 500 g/L
4) First Aid Measures:	

<p>Inhalation:</p> <p>Skin contact:</p> <p>Eye contact:</p> <p>Ingestion</p> <p>Advice to physician:</p>	<p>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. Administer oxygen if breathing is difficult.</p> <p>Remove contaminated clothing and footwear immediately and flush body with large amounts of water. Wash affected areas with soap and water. Do not rub skin. Seek medical advice.</p> <p>Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Consult an eye specialist</p> <p>Seek medical assistance immediately. If diluted mixture has been swallowed, induce vomiting, by tickling the back of the throat. If concentrate has been swallowed, firstly give copious amounts of beaten egg, or white starch solution or Milk of Magnesia before inducing vomiting. Repeat this until vomit fluid is clear and free from smell of poison. Never give anything by mouth to an unconscious person. Administer artificial respiration and/or closed chest massage if necessary. Do not apply direct mouth to mouth respiration. For advice, contact the National Poisons Centre.</p> <p>Spiroxamine belongs to the spiroketalamine chemical group. No specific antidote. Symptoms: Local contamination: Irritating to skin and respiratory tract. Systemic contamination: Overexposure to benzyl alcohol may cause headache, nausea, vomiting, gastrointestinal irritation, convulsions, central nervous system depression. Risk of serious damage to eyes. Treat symptomatically after decontamination. In the case of skin or eye contamination: treat as above under first aid measures.</p>
<p>5) Fire-Fighting Measures:</p>	
<p>Flash point:</p> <p>Extinguishing Media:</p> <p>Fire Fighting:</p>	<p>> 100 °C</p> <p>Fine water spray, foam, dry chemical, carbon dioxide, sand. Do not use high volume water jet, due to contamination risk.</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 intact containers from fire area if possible and without risk. Water can be used to cool unaffected containers but the water must then be contained for later disposal. Bund the area with sand or earth to prevent contamination of drains or waterways. Dispose of spillage safely at a later stage. Do not scatter the material. Avoid pollution of waterways.</p> <p>Generating poisonous and corrosive fumes containing: carbon monoxide, nitrogen oxides, sulphur and hydrogen cyanide.</p> <p>UNUSUAL FIRE OR EXPLOSION HAZARDS: Combustion products are toxic and/or irritant.</p>
<p>Protective clothing:</p>	<p>Full protective clothing and self-contained breathing apparatus Well ventilated areas: full face mask with combination filter. Enclosed premises: respirator with independent air supply.</p>
<p>6) Accidental Release Measures:</p>	

<p>Personal precautions:</p> <p>Environmental precautions:</p> <p>Occupational spill:</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.</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. Spills may be slippery and should be cleaned up immediately. Extinguish or remove possible sources of ignition. Prevent spilled material from entering drains or watercourses. Contain and absorb liquid spills with inert material and place in waste containers. Wash area with water and absorb with further inert material. Heavily contaminated soil layers have to be dug out down to clean soil. If spill does enter waterways contact the local authority. Spilled product cannot be re-used and must be disposed of by incineration or disposal in a chemical waste disposal facility. If containers cannot be recycled, they should be disposed of together with the waste chemical. Generating poisonous and corrosive fumes.</p>
<p>7) Handling & Storage:</p>	
<p>Handling:</p> <p>Storage:</p>	<p>Keep out of reach of children. Avoid skin and eye contact and inhalation of spray mist.</p> <p>Avoid inhalation of fog and vapours. Protect from extreme temperatures. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. Wash gloves, goggles or face shield, and contaminated clothing after use.</p> <p>APPROVED HANDLER: This product must be under the control of an approved handler when applied in a wide dispersive manner; or used by a commercial contractor.</p> <p>BEWARE: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants.</p> <p>Store in original container tightly closed and in a locked, dry, cool area away from ignition sources, foodstuffs, fertilisers and seeds. Do not store for prolonged periods in direct sunlight.</p> <p>Keep away from children or uninformed persons.</p>
<p>8) Exposure Control / Personal Protection:</p>	
<p>It is essential to provide adequate ventilation. The measures appropriate for a particular work site 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.</p> <p>Occupational Exposure Limits:</p> <p>Engineering Controls:</p> <p><u>PERSONAL PROTECTIVE EQUIPMENT:</u></p> <p>Clothing:</p> <p>Gloves:</p>	<p>Not available</p> <p>Control process conditions to avoid contact. When opening containers use exhaust ventilation to prevent vapours from spreading. Use in a well-ventilated area only.</p> <p>Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.</p> <p>Respiratory protection: Respirator with filter for organic vapour.</p> <p>Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance</p> <p>The use of safety goggles with side shields is recommended.</p>

Eye protection:	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.
Emergency eye wash:	
9) Physical & Chemical Properties:	
Form:	Liquid
Colour:	Brown
Odour:	Characteristic odour
Solubility:	Emulsifies in water
pH:	9.4 (1% solution)
Odour threshold:	Not available
Melting point / Freezing point	Not available
Boiling point:	Not available
Flash point:	>100°C
Evaporation rate:	Not available
Flammability (solid, gas)	Not available
Upper/ lower flammability or explosive limits:	Not available
Vapour pressure:	1.7 x 10 ⁻² Pa (spiroxamine)
Vapour density:	Not available
Relative density:	1.00 at 20°C
Partition coefficient: n-octanol/water	Log P _{ow} = 1.28 to 5.08 at pH 3-9 at 20°C (Spiroxamine)
Auto-ignition temperature:	
Viscosity:	Not available
10) Stability & Reactivity:	
Stability:	When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture.
Conditions to avoid:	Heat, flames
Incompatible materials:	Strong oxidizing agents, strong acids, plastics.
Hazardous decomposition product(s):	None under normal conditions. Heating can release vapours which can be ignited. Combustion products are toxic and/or irritant.
11) Toxicological Information:	
Oral : LD50 200-1000 mg/kg, rat. Dermal : LD50 > 1 500 mg/kg, rat. Inhalation : LC50 (4h) 2 000 mg/m ³ , rat. Skin irritation: Severe irritant, rabbit. Eye irritation : May damage eyes. Sensitization : Causes sensitization on laboratory animals.	
12) Ecological Information:	
Bees : LD50 (48h) Oral >100 µg/bee; Contact >4 µg/bee. Birds : LD50 Bobwhite quail > 500 mg/kg. Dietary LC50 (8d) Bobwhite quail & Mallard ducklings >5 000 mg/kg diet. Fish : LC50 (96h) Rainbow trout 18 mg/L, Bluegill sunfish 7 mg/L. Daphnia : EC50 (48h) > 6 mg/L. Algae : E _r C ₅₀ (72h) <i>Scenedesmus subspicatus</i> 0.012 mg/l. Worms : >1000 mg/kg. Persistence: Soil DT ₅₀ 35 - 64 days. Photodegradation in water is not significant. K _{oc} 659 – 6417 mL/g. In water/sediment studies, spiroxamine bound rapidly to the sediment; DT ₅₀ in the supernatant water 12–13 hrs. Thoroughly degraded in the water/sediment systems, ultimately to CO ₂ . Unlikely to leach or to contaminate groundwater, unlikely to bioaccumulate in natural systems.	
13) Disposal Considerations:	

Waste Disposal : Triple or preferably pressure rinse container before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. In accordance with local and national regulations 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 container below 500mm in a disposal pit specifically set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product through a reputable waste contractor. Do not contaminate water, food or feed by disposal.

Container Disposal : Refer to the product label for instructions.

Empty containers should not be burnt.

Container Refilling and Disposal:

If the container is to be refilled, do not rinse with any material or introduce any pesticide other than this product.

DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.

Do not transport if this container is damaged or leaking.

14) Transportation Information:

UN NUMBER: 2902

Road Transport ADR/ RID:

Class: 6.1

Packaging group: III

Labelling no: 9

Shipping name: Pesticide, Liquid, Toxic, N.O.S (contains spiroxamine)

Maritime Transport IMDG / IMO:

Class: 9

Packaging group: III

Labelling no: 9

Pesticide, Liquid, Toxic, N.O.S (contains spiroxamine)

15) Regulatory Information:

Symbol(s): Xn – Harmful

R-phrase(s):

R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.

R38- Irritating to skin.

R41- Risk of serious damage to eyes.

S-phrase(s):

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.

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

S28- After contact with skin, wash immediately with plenty of water and soap. S36/37/39-

Wear suitable protective clothing, gloves and eye/face protection.

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

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

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.

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