



## Safety Data Sheet

### MONELO 90 WDG- Reg. No: L 6755 (Act No 36 of 1947)

Date of issue: 23/08/2008

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1) IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER.	
Product name:	MONELO 90 WDG
Other means of identification:	Terbuthylazine 900 g/L WDG
UN Number:	3077
Recommended use:	Herbicide
Restrictions on use:	Agriculture
Distributed by:	MERIDIAN AGRITECH P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056 <a href="http://www.agritech.co.za">www.agritech.co.za</a>
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL): 012 664 1100 WESTERN CAPE POISONS TELEPHONE SERVICE: 0861 555 777 RAPID SPILL RESPONSE: 0800 775 3305 GRIFFON POISON CENTRE: 082 446 8946
Chemical Name:	Terbuthylazine: N2-tert-b utyl-6-chloro-N4-ethyl1,3,5-triazine-2,4-diamine
2) CLASSIFICATION OF THE SUBSTANCE / MIXTURE:	
Classification of the product:	Acute Tox. 3, H301 Acute Tox. 4, H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Aquatic Chronic 2, H411 N; Xn; R10; R50/53 Full text of R-phrases; see section 15
Label elements:	<p><b>Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended</b></p> <p><b>Hazardous components which must be listed on the label: TERBUTHYLAZINE</b></p> <p><b>Hazard pictogram(s):</b></p> <p> </p> <p>Signal Word: <b>WARNING</b></p> <p><b>Hazard statement(s):</b> H412: harmful to aquatic life with long lasting effects. EUH401: To avoid risks to human health and the environment, comply with the instructions for use.</p> <p><b>Precautionary Statement(s):</b> P501: Dispose of content / container to hazardous or</p>

				special waste collection point.	
Health effects: eyes:				Irritating to eyes	
Health effects: skin:				Irritating to skin	
Health effects: ingestion				Harmful if swallowed	
Health effects: inhalation				Harmful if inhaled	
Health effects: Other				None known.	
3) COMPOSITION / INFORMATION ON INGREDIENTS:					
Mixture:					
Chemical name	Composition	CAS No.	EC No.	Classification according to Regulation EC 1272/2008 (CLP)	Classification according to 67/548/EEC
Terbutylazine	90%	5915-41-3	227-637-9	Acute Tox. 3, H301 Acute Tox. 4, H302 Aquatic Acute 1, H400 Aquatic Chronic 1,H410 Aquatic Chronic 2, H411	
Other ingredients	±10 %				
Full text of R- and S-phrases: see section 15.					
4) FIRST AID MEASURES:					
Eye contact:			Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance.		
Skin contact:			Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. Do not rub skin. Seek medical assistance should irritation persist.		
Ingestion:			Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting unless told to so by poison control centre or doctor. A glass of water may be given to sip. For advice, contact the National Poisons Centre. Seek medical assistance immediately.		
Inhalation:			Remove patient to fresh air. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation.  Seek medical assistance.		
Most important symptoms and effects, acute and delayed:			No data available.		
Indication of immediate medical attention and special treatment needed: Advice to physician			There is no specific antidote if this product is ingested. Treat symptomatically (decontamination, vital functions).		
5) FIRE-FIGHTING MEASURES:					
Suitable extinguishing media:			Dry chemical extinguisher, foam, carbon dioxide or water spray.		
Unsuitable extinguishing media:			Water jet, due to contamination risk.		
Special hazards arising from the substance or mixture:			Evacuate personnel to a safe area. On small fires, if area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the contamination hazard. Measures must be taken to prevent the contaminated extinguishing agent from seeping into the ground or from spreading uncontrollably.		
Fire-fighting:			Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.		

	<p>Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal.</p> <p>Generating poisonous and corrosive fumes. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. 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. (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated.</p> <p>Do not scatter the material. Water can be used to cool containers. Dispose of extinguishing agent and spillage in a safe way at a later stage.</p> <p>Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.</p> <p>Product may generate carbon monoxide, ammonia and nitrogen oxides during a fire.</p>
<b>Protective clothing:</b>	Full protective clothing and self-contained breathing apparatus.
<b>6) ACCIDENTAL RELEASE MEASURES:</b>	
<p><b>Personal precautions:</b></p> <p><b>Environmental precautions:</b></p> <p><b>Cleaning procedure:</b></p> <p><b>Disposal:</b></p>	<p>Wear appropriate safety clothing and eye/face protection. Do not breathe in spray or fumes.</p> <p>For personal protection see Section 8.</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 inert material and place in waste containers. Wash area with water containing soda or detergent and absorb with further inert material. If spill does enter waterways contact the local authority. Heavily contaminated soil layers should be removed and disposed of in an approved way. 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</p> <p><b>Waste Disposal:</b></p> <p>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 waste disposal facility.</p> <p><b>Container Disposal:</b></p> <p>Refer to the product label for instructions.</p> <p>If the container is to be refilled, do not rinse with any material or introduce any pesticide other than this product.</p> <p><b>DO NO REUSE THE CONTAINER FOR ANY OTHER PURPOSE.</b></p> <p>Do not transport if this container is damaged or leaking.</p>

7) HANDLING & STORAGE:	
<p><b>Handling:</b></p> <p><b>Storage:</b></p>	<p>Avoid skin and eye contact and inhalation of spray mist. Keep away from heat and sources of ignition. Ensure adequate ventilation.</p> <p>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>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. 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 foodstuffs, fertilisers and seeds. Keep away from children or uninformed persons. Avoid extreme temperatures.</p>
8) EXPOSURE CONTROL / PERSONAL PROTECTION:	
<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><b><u>PERSONAL PROTECTIVE EQUIPMENT:</u></b></p> <p><b>Clothing:</b></p> <p><b>Gloves:</b></p> <p><b>Eye protection:</b></p> <p><b>Respiratory protection:</b></p> <p><b>Emergency eye wash:</b></p>	<p>Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.</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> <p>Wear respirator if ventilation is inadequate or exposure to high levels are likely</p> <p>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.</p>
9) PHYSICAL & CHEMICAL PROPERTIES:	
<p><b>Form:</b></p> <p><b>Colour:</b></p> <p><b>Odour:</b></p> <p><b>Odour threshold:</b></p> <p><b>pH:</b></p> <p><b>Melting point / Freezing point</b></p> <p><b>Initial boiling point and boiling range</b></p> <p><b>Flash point:</b></p> <p><b>Evaporation rate:</b></p> <p><b>Flammability (solid, gas)</b></p>	<p>Solid granules</p> <p>White to beige</p> <p>Characteristic odour</p> <p>No data available</p> <p>±9.41</p> <p>178 – 179°C (Terbuthylazine)</p> <p>No data available</p> <p>&gt;150°C (Terbuthylazine)</p> <p>N/A</p> <p>No flammable</p>

<b>Upper/ lower flammability or explosive limits:</b> <b>Vapour pressure:</b> <b>Vapour density:</b> <b>Relative density:</b> <b>Solubility(ies)</b> <b>Partition coefficient: n-octanol/water</b> <b>Auto-ignition temperature:</b> <b>Viscosity:</b>	No hazard is expected as long as the product is used appropriately and in accordance with the intended use. 0.15 mPa at 25°C (Terbutylazine) No data available N/A Dispersible in water. No data available No data available No data available
<b>10) STABILITY &amp; REACTIVITY:</b>	
<b>Reactivity:</b> <b>Chemical stability:</b> <b>Hazardous decomposition product(s):</b> <b>Conditions to avoid:</b> <b>Incompatible materials:</b>	No hazardous reactions if stored and handled as indicated / prescribed. Stable under standard conditions. No decomposition if stored (up to 2 years) and applied as directed. Store in original containers and keep tightly closed. No hazardous reactions decomposition if stored and handled as indicated. Protect form light and humidity. Keep away from open flames, sources of ignition and moisture. Alkaline materials, strong acids and strong oxidizers.
<b>11) TOXICOLOGICAL INFORMATION:</b>	
Acute: Oral LD50 : > 2 000 mg/kg, rat. Dermal LD50 : > 2 000 mg/kg Inhalation LC50 (4h): > 5.3 mg/L, mouse.  Skin irritation : Non-irritant, rabbit. Eye irritation : Non- irritating, rabbit. Sensitisation : Does not cause sensitization on laboratory animals (Guinea pig). Other :  <b>Repeated dose toxicity:</b> No data available <b>Mutagenicity:</b> No data available <b>Carcinogenicity:</b> No data available <b>Reproductive toxicity:</b> No data available <b>Teratogenicity:</b> No data available	
<b>12) ECOLOGICAL INFORMATION: Information below based on active ingredient</b>	
<b>Bees:</b> LD50 (oral and contact) >100µg/bee <b>Birds:</b> It is moderately toxic to both cold and warm water fish, slightly toxic to aquatic invertebrates, and highly toxic to estuarine/marine invertebrates from acute exposures. Terbutylazine is expected to be phytotoxic to aquatic plants because it belongs to the triazine family (which includes many herbicides), is released to waterways, and dissipates slowly in the environment. <b>Other aquatic species:</b>	

**ENVIRONMENTAL FATE:**

Animals: In mammals, following oral administration, 72-84% is eliminated in the urine and faeces within 24h, and almost all within 48h. A de-ethyl metabolite forms rapidly,

**Persistence and Degradability:** No data available

**Ecological Effects Risk Assessment:**

No significant risks to birds or mammals are expected from use of terbutylazine. Although terbutylazine is moderately toxic to fish and slightly toxic to freshwater invertebrates, these species are not expected to be at risk under typical use and exposure scenarios. Because its use patterns are not associated with estuarine or marine environments, significant risk to estuarine/marine invertebrates is not expected. Followed by conjugates of products formed by oxidation of one methyl group of the tertbutyl moiety. All are rapidly excreted.

**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 waste disposal facility.

**Container Disposal:** Refer to the product label for instructions. Triple rinse empty containers before disposal in the following manner: Invert the container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed to a drip. Thereafter, rinse the container three times with a volume of water equal to a third of that of the container volume. Add rinsing to the contents of the spray tank before destroying the container in the prescribed manner. Empty containers should not be burnt; puncture and flatten containers and dispose at a licensed landfill site according to local regulations. 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. Prevent contamination of water sources, food or feed by disposal. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** If recycling, replace cap and take containers to the designated recycling point. If containers cannot be recycled, they should be disposed of together with the waste chemical according to local regulations.

**14) TRANSPORTATION INFORMATION:**

**UN Number: 3077**

**Road Transport ADR/ RID:**

Class: 9

Packaging group: III

Labelling no: III

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TERBUTHYLAZINE)

**Maritime Transport IMDG / IMO:**

Marine pollutant: Yes

Class: 9

Packaging group: III

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TERBUTHYLAZINE)

**Air Transport IATA:**

Class: 9

Packaging group: III

Labelling no: III

Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TERBUTHYLAZINE)

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC code): NA

## 15) REGULATORY INFORMATION:

### Labelling according to EC directives:

**Hazardous components which must be listed on the label: TERBUTHYLAZINE**

**Symbols:** Xi – Irritant

N – Dangerous for the environment

**Indication of danger: Harmful, Environmentally hazardous substance**

### Risk – Phrase (s):

R10 – Harmful if swallowed.

R50/53 – Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Safety – 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 or drink.

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

S60 – This material and its container must be disposed of as hazardous waste.

S61 – Avoid release to the environment. Refer to special instructions/ Safety data sheets.

## 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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