P.O. Box 82021, Southdale, 2135, South Africa. Tel: 011-680.5247, Fax: 011-680.4848

eMail: shardain@vsnl.com, Website: http://www.shardaintl.com (Company registration No. 2006/186705/23)

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SAFETY DATA SHEET "SHARDA METRIBUZIN 480 SC" "BUZZIN 480 SC"

July 2013

1. IDENTIFICATION OF PRODUCT AND COMPANY

Name of Product: "Sharda Metribuzin 480 SC" or "Buzzin 480 SC"

Active Ingredient: Metribuzin

Chemical Name:

4-amino-6-*tert*-butyl-4,5-dihydro-3-methylthio-1,2,4-triazin-5-one 4-amino-6-*tert*-butyl-3-methylthio-1,2,4-triazin-5(4*H*)-one

Product Use: Herbicide

Registration holder: Sharda International Africa cc

Address: P.O. Box 82021, Southdale, 2135.

Contact Tel. No.: 011-680-5247 Emergency Tel. No.:

Poison Centers: UNITAS Hospital: 0800-111-9900

Tygerberg Hospital: 021-931-6129

Netcare 911: 082911

2. COMPOSITION AND INFORMATION ON INGREDIENTS

Active Ingredient: Metribuzin CAS No. 21087-64-9 48 %

3. HAZARD IDENTIFICATION (Substance hazard class and category)

Symptoms of Human Poisoning: No definite symptoms of poisoning. However, breathing may be difficult and symptoms of narcosis may be observed.

Inhalation: Exposure through inhalation is unlikely.

Skin Contact: Not a skin irritant.

Eye Contact: Not an eye irritant.

Environmental Risks: Toxic to aquatic organisms.

Other Risks: Do not contaminate any water body.

4. FIRST AID MEASURES

Eye contact: Flush eyes with plenty of clean water, occasionally lifting upper and lower eye lids, for at least 15 minutes. Check for, and remove if present, any contact lenses after the first 5 minutes of flushing. Get medical attention should any symptoms develop or persist.

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Skin contact: Remove all contaminated clothing. Wash the skin thoroughly with soap and large quantities of clean water. Wash any contaminated clothing before reuse.

Inhalation: Remove patient to fresh air. Get medical attention should any symptoms develop or persist.

Ingestion: If swallowed, immediately give a large amount of water to drink. Rinse the mouth with clean water. If vomiting occurs, administer more water. Never give anything by mouth to an unconscious person. Get medical attention.

Advice to physician: Treat symptomatically and give supportive therapy as necessary.

Antidote: There is no specific antidote.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Use dry chemical, carbon dioxide (CO₂), water spray or foam. Avoid high pressure water spray. Contain fire-fighting water and prevent contamination of any natural water course or water body, as well as entry of this water into sewers or drains.

Fire and Explosion Hazards: Isolate the fire area. The product is not considered to be flammable or an explosion hazard, but can burn if exposed to heat or flame. The packaging and surrounding goods (if any) in the immediate area must be considered.

Hazardous Products of Combustion: The products of combustion (burning of the product and/or packaging) in the event of a fire are expected to be toxic and to cause irritation of the respiratory tract or eyes. Inhalation of this smoke (or fumes, gases or vapours) can be harmful. Avoid inhalation. Thermal decomposition of the product may release toxic fumes of oxides of carbon, nitrogen and sulphur. Other harmful compounds may also be produced in a fire or with intense heat.

Fire Fighting Equipment: Wear full protective clothing and a self-contained breathing apparatus.

Fire Fighting: Remove spectators from the area. Keep up-wind of the fire. Avoid inhalation of vapours and fumes from burning material. Fight the fire from maximum distance. Remove containers from the fire area if possible and only if this can be done without personal risk. Water can be used to keep intact (not burning) cool and thus help prevent the containers from exploding.

6. ACCIDENTAL RELEASE MEASURES (Spillage)

Personal Precautions and Protective Equipment: Avoid contact with the skin and eyes. Do not breathe fumes. Wear personal protective clothing (overall, boots, gloves). Keep personnel and spectators up-wind of the spillage.

Emergency Procedures: Isolate the spillage area. Keep unprotected persons and animals out of the area. Dyke in order to confine the spillage and prevent contamination of any natural water course or water body, as well as entry of the product into sewers or drains.

Environmental Precautions: Keep the spillage out of waterways, drains, streams, rivers and dams. Metribuzin is toxic to fish and aquatic organisms.

Methods and Materials for Cleaning up: Absorb with a non-combustible absorbent material such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label the drum for disposal of the contents.

Refer to Section 13 for disposal of spilled material.

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7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed at all times when handling this product. Areas for handling and storage should be well ventilated.

Handling:

Avoid contact with eyes and skin.

Remove contaminated clothing and wash thoroughly before reuse.

Do not eat, drink or smoke while handling this product.

Wash hands and exposed skin thoroughly after handling or contact with this product and before eating, drinking and smoking.

Do not contaminate drains, sewers and water bodies when disposing of equipment rinse water.

Refer to Section 13 for disposal of rinse water.

Observe all safeguards on the label as to cleaning and destruction of the container.

Storage:

Store in a cool dry well-ventilated place protected from sunlight, moisture and rain.

Store away from any heat source and ignition point.

Keep out of reach of children, uninformed persons and animals.

Store away from other pesticides, food, drink, seed and animal feed.

Store only in the original labeled container.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal Protective Clothing

To reduce personnel exposure to this product, it is recommended to use appropriate personal protective clothing when handling this product. Do not wear leather clothing.

Respiratory Protection: For periods of prolonged exposure, wear a face mask or respirator.

Hand Protection: Wear chemical resistant gloves when handling the concentrate.

Eye Protection: Wear a face shield when handling the concentrate.

Skin and Body Protection: Wear a long sleeved overall and boots.

Engineering Controls:

Ensure thorough ventilation when handling the concentrate.

Hygiene Measures:

Do not eat, drink, smoke or go to the bathroom while handling this product.

Wash face, hands and exposed skin after handling this product.

Wash contaminated clothing after exposure to this product.

9. PHYSICAL AND CHEMICAL PROPERTIES OF PRODUCT

These are typical values and not a guaranteed analysis of any specific lot or as specifications for the product.

Appearance, Colour, Form	Homogenous white suspension, liquid
Odour	Strong smell of sulphide
pН	6.21
pH; 1% aqueous solution	6.44
Explosive Limits	Not explosive
Density	1.124
Solubility (water)	Complete
Volatility	Volatility not expected
Corrosivity	Corrosivity not expected

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10. STABILITY AND REACTIVITY

Stability: Product has a shelf life of 2 years provided it is stored in the unopened, original and undamaged container, and it is not exposed to temperature extremes or direct sunlight.

Hazardous Decomposition: Unlikely to occur.

Conditions to Avoid: Heat and ignition sources.

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity: Rat, LD₅₀: > 5000 mg/kg body weight

Acute Dermal Toxicity: Rat, LD_{50} : > 2000-5000 mg/kg body weight

Skin Irritation/Corrosion: Rabbit, not an irritant.

Eye Irritation/Damage: Rabbit, not an irritant.

Skin Sensitization: Guinea Pig, not a skin sensitizer.

Mutagenicity: Non-mutagenic.

Toxicity to Reproduction and/or Fertility: Metribuzin is not a reproduction toxin.

12. ECOLOGICAL INFORMATION

Data applicable to metribuzin active ingredient.

Aquatic Toxicity, Fish:

Sheepshead minnow: Acute toxicity, 96 hours, $LC_{50} = 85 \text{ mg/}\ell$ Golden orfe: Acute toxicity, 96 hours, $LC_{50} = 141.6 \text{ mg/}\ell$ Rainbow trout: Acute toxicity, 96 hours, $LC_{50} = 74.6 \text{ mg/}\ell$

Aquatic Toxicity, Invertebrates:

Water Flea (*Daphnia magna*), 48 hours, $LC_{50} = 49.6 \text{ mg/}\ell$

Arthropod Toxicity

Bees: Not toxic to bees; $LD_{50} = 35 \mu g/bee$

Avian Toxicity

Bobwhite quail (*Colinus virginianus*): Acute oral toxicity, $LD_{50} = 164$ mg/kg body weight Mallard duck (*Anas platyrhynchos*): Acute oral toxicity, $LD_{50} = 460-680$ mg/kg body weight

Soil Organism Toxicity, Invertebrates

Earthworm (*Eisenia foetida*): $LC_{50} = 331.8 \text{ mg/kg dry soil}$

Bioaccumulation

Not likely.

Persistence / Degradability:

Soil $DT_{50} = c$. 30 to 60 days

Water $DT_{50} = c$. 7 days

Photodecomposition in water is very rapid ($DT_{50} < 1$ day)

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Mobility in Soil: Metribuzin is poorly bound to most soils; leaching potential in many soil types is the result.

13. DISPOSAL CONSIDERATIONS

Product

Recycle if appropriate equipment and/or facilities are available.

Do not burn.

Dispose of as hazardous industrial waste.

Keep out of drains, sewers, ditches and water ways.

Follow all local / regional / national / international regulations.

Containers

Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.

Do not reuse the empty container for any other purpose and destroy it by perforation and flattening. Pour rinse water into spray tank; spray on target area.

Store for collection by approved waste or recycling disposal service.

Dispose of as non-hazardous industrial waste.

Do not use containers for any other purpose.

Follow all local / regional / national / international regulations.

14. TRANSPORT INFORMATION

For safe transport of hazardous substances apply appropriate local codes, classifications and regulations.

UN No.: 3082

UN Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S.

Class: 9

Packing Group: III

Marine pollutant: Yes

15. REGULATORY INFORMATION

RSA: Registration Number L 9475, Act No. 36 of 1947. SEARCH: Registration in the following countries –

RSA Classification: Group III (Blue) CAUTION

16. OTHER

The information presented is not necessarily exhaustive but is regarded as representative. These data are presented in good faith and are believed to be correct. No representation as to the completeness or accuracy of these data is made. No responsibility for damages of any nature whatsoever resulting from the use of or reliance upon this information will be accepted. In the event of any uncertainty, consult the supplier before use.