

PRODUCT SPECIFICATION: SPE. 0009

| Section 1 – GENERAL | |
|-----------------------------|---|
| Product Name: | Tiger Iron |
| Description: | Tiger Iron is a high analysis granular degradable sulphur product that can be used both as a source of plant nutrient sulphur, iron and / or as a soil amendment for correction of problem alkali soils. Yearly applications of Tiger Iron will improve soil sulphur levels as well as loss associated with nutrients that are soluble. Tiger Iron is a unique, high analysis sulphur fertilizer that delivers agronomically and economically, and provides excellent handling characteristics. |
| Physical Properties: | <p>Colour : Charcoal grey pastilles</p> <p>Fertilizer Prill Size: 260 SGN</p> <p>Angle of Repose: 29 Degrees</p> <p>Breakage Test (% Fines Produced) <0.5%</p> <p>Specific Gravity 5.6 g/ml</p> <p>Package Sizing 25 kg bag or 1000 kg bulk bag</p> |
| Toxicity: | Sulphur is moderately toxic (Rating 3 according to "Clinical Toxicology of Commercial Products") with a probable lethal dose to humans of 0.5 to 5 g/kg body mass. |
| Hazards: | The material may burn when exposed to heat and flames, emitting toxic fumes of oxides of sulphur. The dust presents a dangerous explosion hazard if suspended in the atmosphere. May cause severe eye irritation as well as irritation to the skin and respiratory tract. |
| Special Precautions: | Store away from heat, naked flames and oxidising agents such as ammonium nitrate. |

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| | Maintain stringent dust control procedures to prevent concentrated flammable dusts from reaching a spark or flame source. Avoid extensive use of augers due to fracturing of the product. | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---------|-------|---------|----|----------|------|--------|-----|---------|----|--------|-----|------|-----|------|------|---------|----|----------|----|
| Statutory Aspects: | Occupational Health and Safety Act, No 85 of 1993. Not regulated as hazardous material Maximum Levels of Potentially Harmful Elements (according to act 36 of 1947) <table border="1"> <thead> <tr> <th>Element</th> <th>Mg/kg</th> </tr> </thead> <tbody> <tr> <td>Cadmium</td> <td>20</td> </tr> <tr> <td>Chromium</td> <td>1750</td> </tr> <tr> <td>Copper</td> <td>750</td> </tr> <tr> <td>Mercury</td> <td>10</td> </tr> <tr> <td>Nickel</td> <td>200</td> </tr> <tr> <td>Lead</td> <td>400</td> </tr> <tr> <td>Zinc</td> <td>2750</td> </tr> <tr> <td>Arsenic</td> <td>20</td> </tr> <tr> <td>Selenium</td> <td>15</td> </tr> </tbody> </table> | Element | Mg/kg | Cadmium | 20 | Chromium | 1750 | Copper | 750 | Mercury | 10 | Nickel | 200 | Lead | 400 | Zinc | 2750 | Arsenic | 20 | Selenium | 15 |
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| Arsenic | 20 | | | | | | | | | | | | | | | | | | | | |
| Selenium | 15 | | | | | | | | | | | | | | | | | | | | |

Section 2 – SPECIFICATION

| | |
|-----------------------------------|-------------------------|
| Appearance | Charcoal grey pastilles |
| Mean Particle Size | 2.4 – 3.2 mm |
| Uniformity Index | Not less than 50% |
| Micronutrient Content Iron | 15% ± 0.75 % |

Section 3 – PLANT EVALAUTION AND USES

The nutrient iron oxide is weighed and fed into a mix tank. In the mix tank the solid particles are mixed with molten sulphur at predetermined recipes.

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Section 4 – PURCHASING AND SUPPLIER SPECIFICATION

Product must be supplied in bulk bags, with liners and bottom discharge.
Top level of product supplied in containers must be palletized to facilitate removal from container Product name to be marked on the bag i.e. Iron Oxide

Section 5 – TESTING

The material is sampled and tested according to the most recent editions of the Sampling, Testing and Reporting Schedule.

| <u>PARAMETER</u> | <u>METHOD NO.</u> |
|---------------------------|--|
| 3.1 Burn Test | Burn Test Procedure no. 8 (Tiger Industries) |
| 3.2 Particle size tests | AECI G 01/4A |
| 3.3 Micronutrient Content | Umbog No. 161 |

This product is manufactured and tested at Chemical Initiatives Umbogintwini Factory.

Section 6 – DOCUMENTATION

This specification is based on: Information from Umbogintwini Factory.

Section 7 – REASON FOR REVISION

Revision 1 – new document

Revision 2 August 2013 – New template

Revision 3 November 2012 -Maximum Levels of Potentially Harmful Elements