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NutraGold Sulphur Bentonite for Fertilizer

MATERIAL SAFETY DATA SHEET

SECTION 1 – STATEMENT OF HAZARDOUS NATURE CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

This product is classified as:

Not Hazardous according to criteria of the National Occupational Health and Safety Commission and **not a Dangerous Good** according to the Australian Dangerous Goods (ADG) Code.

Emergency Telephone Number: Poisons Information Centre (Australia) 13 1126

| | |
|----------------------|---|
| Substance | Sulphur Bentonite |
| Other Names | NutraGold, NutraSul |
| Product Use | Fertiliser, fertiliser blend ingredient |
| Creation Date | January 2003 |
| Revision Date | April 2009 |

SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredients | CAS No. | Proportion (% By Weight) |
|-------------|-----------|--------------------------|
| Sulphur | 7704-34-9 | 90 |
| Bentonite | 1302-78-9 | 10 |

SECTION 3 – HAZARDS IDENTIFICATION

| | |
|--|---|
| Approved Criteria Classification (Calculated) | Not classified |
| SUSDP Classification | Not classified |
| ADG Classification | Not regulated |
| UN Number | Not regulated |
| Emergency Overview | |
| Physical Description | Solid – pellet or pastille shape |
| Colour | Earth tone colours |
| Odour | Slight sulphurous odour |
| Major Health Hazards | Irritating to respiratory tract. Skin and eye irritant. |

| Potential Health Effects | |
|---------------------------------|---|
| Inhalation: | |
| Short Term Exposure | Inhalation of dust may cause respiratory irritation. |
| Long Term Exposure | No data available. |
| Skin Contact: | |
| Short Term Exposure | May be irritating to the skin, which may be aggravated by perspiration or moisture. |
| Long Term Exposure | Prolonged or repeated exposures may lead to irritation. |
| Eye Contact: | |
| Short Term Exposure | May cause eye irritation. |
| Long Term Exposure | No data available. |
| Ingestion: | |
| Short Term Exposure | May cause nausea, vomiting, diarrhea and abdominal pain. |
| Long Term Exposure | No data available. |
| Carcinogen Status | |
| NOHSC | Not classified |
| NTP | Not classified |
| IARC | Not classified |

| SECTION 4 – FIRST AID MEASURES | |
|---------------------------------------|---|
| Scheduled Poisons | Poison Information Centres in each State capital city can provide additional assistance for scheduled poisons. Phone: Australia 13 1126. |
| Inhalation | Remove from exposure to fresh air. Obtain medical attention if symptoms persist. |
| Skin Contact | Remove contaminated clothing and wash underlying skin with soap and water. Wash contaminated clothing before re-use. Obtain medical attention if irritation occurs. |
| Eye Contact | Flush with copious amounts of clean low-pressure water, ensuring eyelids are held open for at least 15 minutes. Seek medical attention. |
| Ingestion | Rinse mouth with water and drink a glass of water. If vomiting occurs, drink further water. Seek medical attention. |

| SECTION 5 – FIRE FIGHTING MEASURES | |
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| Fire and Explosion Hazards | Flammable solid. Crushing may form flammable dust clouds in air, which is readily ignited by flame, static electricity or friction spark. Sulphur burns with a pale blue flame that may be difficult to see in daylight. |
| Extinguishing Media | Fine water spray or fog, carbon dioxide or dry chemical powder. Small fires may be smothered with sulphur. |
| Fire Fighting | On burning, evolves toxic fumes, including oxides of sulphur. Can melt and flow in a fire and may give off flammable vapours creating an explosion hazard. Approach fire from up wind. Cool containers exposed to fire with water. Remove containers from path of fire if can be done without risk. Fire fighters must wear appropriate protective equipment including self-contained breathing apparatus if risk of exposure to vapours or products of combustion. |
| Flash Point | 207 °C |
| Autoignition Temperature | Dust clouds: 190 °C Un-dispersed dust: 220 °C |
| Explosive Limits | Lower 35 g/m ³ Upper 1 400 g/m ³ |

| SECTION 6 – ACCIDENTAL RELEASE MEASURES | |
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| Occupational Release | Eliminate all potential sources of ignition. Cover with damp inert material such as sand and sweep or vacuum up without generating dust. Shovel into labelled, sealed containers, bags or drums for disposal or reuse using a spark-free shovel. Equip clean up personnel with appropriate protective equipment and work upwind or increase ventilation. |

| SECTION 7 – HANDLING AND STORAGE | |
|---|---|
| Handling | Use in a well-ventilated area away from heat, flames, sparks and other ignition sources. Minimise dust formation. Keep containers tightly closed. Ground and bond all handling equipment to avoid static sparks. Sparkless electrical equipment is recommended. Avoid skin and eye contact and inhalation of dust. Keep clothing as free from dust as possible. |
| Storage | Store in a cool, well-ventilated area away from sources of heat or ignition and out of direct sunlight. Keep away from food stuffs, seed, herbicides and insecticides. Becomes corrosive to metals when stored wet. |

| SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION | | | |
|---|---|----------------------|---------------|
| Exposure Limits (NOHSC) | Ingredient | TWA | STEL |
| | Dust | 10 mg/m ³ | None Assigned |
| Ventilation | Provide exhaust ventilation or other engineering controls to control airborne concentrations below the exposure guidelines. | | |
| Eye Protection | Safety glasses. Dust-tight goggles in dusty conditions. | | |
| Skin Protection | Overalls and impervious gloves. Fire-retardant fabric recommended. | | |
| Respirator | Suitable approved respiratory equipment should be worn if ventilation is inadequate. | | |

| SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES | |
|--|----------------------------------|
| Physical State | Solid – pellet or pastille shape |
| Colour | Earth tone colours |
| Odour | Slight sulphurous odour |
| Boiling Point | 444 °C |
| Melting Point | 119 °C |
| Specific Gravity | 2.07 (Water = 1) |
| Vapour Density | > 1 (Air = 1) |
| Vapour Pressure @ 20 °C | < 0.0001 mmHg |
| Solubility in Water | Insoluble |
| pH | Neutral when dry |
| Evaporation Rate | Not Available |
| % Volatiles by Volume | Not Available |

| SECTION 10 – STABILITY AND REACTIVITY | |
|---------------------------------------|--|
| Reactivity | Stable |
| Conditions to Avoid | Heat, sparks and open flame. Excess dust generation. |
| Materials to Avoid | Oxidising agents such as chlorates and nitrates, finely divided metals, alkalis and mineral acids. |
| Hazardous Decomposition | Burning may produce toxic fumes, including oxides of sulphur. |
| Hazardous Polymerisation | Will not occur. |

| SECTION 11 – TOXICOLOGICAL INFORMATION | |
|--|---|
| Individual Ingredient Information | |
| Sulphur | |
| Irritation Data | 8 ppm eye human |
| Toxicity Data | LD rat oral: > 8 437 mg/kg LDLo rabbit oral: 175 mg/kg LC50 mammal – spp. unspecified inhalation: 1 660 mg/m ³ |
| Bentonite | |
| Toxicity Data | LD50 rat intravenous: 35 mg/kg LDLo dog intravenous: 10 mg/kg |

| | |
|-------------------------|--|
| Tumorigenic Data | TDLo: mouse oral 12 000 g/kg/28 wks-continuous |
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| SECTION 12 – ECOLOGICAL INFORMATION | |
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| | Avoid contaminating waterways. |

| SECTION 13 – DISPOSAL CONSIDERATIONS | |
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| | Waste must be disposed of in accordance with federal, state and local environmental control regulations. |

| SECTION 14 – TRANSPORT INFORMATION | |
|---|---------------|
| ADG Code | Not regulated |
| HAZCHEM Code | Not regulated |
| Special Provision | Not regulated |
| Packaging Group | Not regulated |
| Packaging Method | Not regulated |
| UN Proper Shipping Name | Not regulated |
| UN Number | Not regulated |

| SECTION 15 – REGULATORY INFORMATION | |
|--|---------------------------------|
| AICS | All ingredients listed on AICS. |

| SECTION 16 – OTHER INFORMATION | |
|---------------------------------------|--|
| Acronyms | <p>SUSDP Standard for the Uniform Scheduling of Drugs and Poisons</p> <p>ADG Code Australian Code for the Transport of Dangerous Goods by Road and Rail</p> <p>CAS Number Chemical Abstracts Service Registry Number</p> <p>UN Number United Nations Number</p> <p>R-Phrases Risk Phrases</p> <p>HAZCHEM An emergency action code of numbers and letters which gives information to emergency services</p> <p>NOHSC National Occupational Health and Safety Commission</p> <p>NTP National Toxicology Program (USA)</p> <p>IARC International Agency for Research on Cancer</p> <p>AICS Australian Inventory of Chemical Substances</p> <p>TWA Time Weighted Average</p> <p>STEL Short Term Exposure Limit</p> |