

# MICROSUL<sup>®</sup> WG ELITE

## MATERIAL SAFETY DATA SHEET



### 1. IDENTIFICATION OF THE SUPPLIER

#### Supplier Details:

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### 2. IDENTIFICATION OF THE PRODUCT:

Product Name: Microsul WG Elite  
Formulation Type: Water dispersible granule  
Physical Appearance: Beige Brown Granule  
Odor: Sulphurous odor  
Active Ingredient: Elemental Sulphur  
Chemical Name: Sulphur  
Common Name: Sulphur  
Chemical Type: Inorganic  
Chemical Formula: S  
Atomic Weight: 32.06  
Composition: 80%  
CAS no: 7704 34 9  
Dangerous Goods Class & Subsidiary: None Allocated  
Risk:  
Hazchem Code: None Allocated  
Packing Group: None Allocated  
Poison Schedule: Exempt

### 3. IDENTIFICATION OF RISKS

#### CLASSIFICATION OF RISKS OF THE PRODUCT:

Flammability – non-flammable  
Combustibility – combustible  
Boiling Point – 444°C  
Flashpoint – Does not Flash

#### 4. HEALTH HAZARD INFORMATION

##### HEALTH EFFECTS:

##### Toxicity/Inhalation:

Low Toxicity.

May cause cough, burning of the throat, and may produce pulmonary enema.

##### Dermal Absorption:

Low Toxicity. May cause skin irritation.

##### Contact with the eyes:

Slight irritant. May cause irritation of the eyes manifested as tearing and possible conjunctivitis.

##### Ingestion:

Very Low Toxicity. This product may act as a laxative and produce nausea or vomiting.

##### Effects of Chronic Overexposure (Long Term):

Chronic exposure to elemental sulphur is generally recognised as safe, but studies show that people exposed to sulphur dioxide frequently present respiratory and ophthalmological problems, as well as bronchitis and sinusitis. Sulphur has been exclusively tested and there is no evidence of carcinogenic, teratogenic or mutagenic, or reproductive effects. No cases of human poisoning have been recorded.

##### Conditions That Could be Worsened By Exposure To The Product:

People with asthma or respiratory problems.

##### Dangers For The Environment:

None, although sulphur powder in prolonged contact with the product may be harmful to the ground and vegetation.

##### Special Dangers Of The Product:

Hydrogen sulphide may be emitted by the decomposition of sulphur, which may cause depression in the nervous system. This can result in headaches, nausea, vertigo, salivation, unconsciousness and death.

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#### 5. FIRST AID MEASURES

In case of accidental contact with the product, proceed accordingly:

- Inhalation: Remove the victim from the source of exposure. If the person is affected by the products of sulphur decomposition, immediately give the person fresh air and seek medical attention. If breathing is irregular, administer artificial respiration, administer oxygen if necessary.
- Contact with the Skin: Remove contaminated clothing. Wash contaminated skin with soap & water. If irritation persists, seek medical attention.
- Contact with the Eyes: Thoroughly wash eyes in water for at least 15 minutes.
- Ingestion: Do not feed or give beverages to an unconscious person. Give the person at least two glasses of water or milk (if available). Seek medical attention immediately.
- Notes for the Doctor Treating Exposure: The stomach can be washed with 15cc/kg of physiological serum for those patients who have ingested the substance within the hour.

## 6. MEASURES TO COUNTER FIRE

### FLAMIBILITY:

This product is non-flammable and non-explosive. Product is combustible.

### EXTINGUISHING AGENTS:

Suffocate the fire with inert materials (for example a fine water or mist aerosol or vapor). Apply indirectly in order to avoid further aggravating loose product and suspend the particles in the air. For localized fires, utilize carbon dioxide or sand.

### SPECIAL PROCEDURES TO COMBAT FIRE:

Take precautions for the emission of toxic gases (sulphurous anhydride).

### PERSONAL PROTECTIVE EQUIPMENT TO COMBAT FIRE:

Use adequate protective clothing and independent positive pressure tested breathing equipment, especially for closed areas.

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## 7. MEASURES TO CONTROL SPILLAGE OR LEAKS

### EMERGENCY PROCEDURES TO TAKE IF THERE IS A PRODUCT LEAK:

- Avoid unnecessary mixing with cleaning equipment;
- Avoid crushing and creating powder;
- The reaction with the environment is minimal if the product is maintained dry and cool.
- Remove all the spilled material and take it to an appropriate place for its cleaning and disposal.
- Avoid disposing of the product by combustion, and avoid all sources of spark.

### PERSONAL PROTECTIVE EQUIPMENT TO ADDRESS THE EMERGENCY:

Use protective clothing and glasses.

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## 8. STORAGE

### STORAGE CONDITIONS:

Always store in a safe, cool, dry, and well-ventilated place. Rotating may minimize the acidity generated. This acidity may cause corrosion of metals or concrete structural materials.

### RECOMMENDED STORAGE CONTAINERS:

Those, which permit the product to be isolated from the environment and humidity, are recommended. Avoid metallic materials.

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## 9. EXPOSURE CONTROL / SPECIAL PROTECTION

It is important to avoid the accumulation of powder in the air since it could cause an explosion.

**PARAMETERS OF CONTROL:**

- LEL (lower limit of explosiveness) = 35 g/m<sup>3</sup>\*
- UEL (higher limit of explosiveness) = 1,400 g/m<sup>3</sup>\*
- (\*) Note: Data for pure sulphur

**PERMISSIBLE LIMITS (LLP & LPA):**

It has none according to national norms.

**RESPIRATORY PROTECTION:**

If there are any problems with the powder, a NIOSH approved respirator should be used.

**PROTECTIVE GLOVES:**

Use acid and heat-resistant gloves.

**EYE PROTECTION:**

Use safety glasses to protect from the powder, or, according to the circumstances, a full-face mask.

**OTHER PROTECTIVE EQUIPMENT:**

Use adequate clothing according to the emergency.

**VENTILATION:**

There should be constant ventilation whether natural or forced.

**10. PHYSICAL PROPERTIES**

Temperature of decomposition:	Expose not on 200°C
Point of inflammation:	207.2°C
Temperature of self ignition:	Undisturbed surface (liquid): 248-281°C* Cloud of powder in the air (sulphur particles): 190°C* (* Note: data for pure sulphur
Explosive properties:	Sensitive to the impact of a moderate mechanical explosion while the likelihood of explosion grows when there are small particles in the air exposed to static charge.
Risk of fire or explosion:	Presents risk of fire and explosion, both of which are greater when there are small particles in the air.
Speed the flame spreads:	No data available.
Vapour pressure at 20°C	Not applicable.
Vapour density:	Not applicable.
Apparent density:	0.84 – 0.89 g/cc
Solubility in water or other solvents:	Insoluble in water & in the majority of known organic solvents. Somewhat soluble in sulphur carbide.

## II. STABILITY & REACTIVITY

- Stability: It does not produce a rapid reaction with air or water without initiators, but is corrosive when wet or humid. Unstable in the presence of strong oxidizing agents, forming sulphur dioxide.
  - Conditions that should be avoided: Humidity, acidic media, oxidizing agents.
  - Incompatibilities (Materials to be avoided): Materials that are susceptible to corrosion.
  - Dangerous Products of Decomposition: Generation of sulphurous anhydride, sulphurous acid, sulphuric acid.
  - Dangerous Products of Combustion: Sulphurous anhydride.
  - Dangerous Polymerization: Does not occur.
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## 12. TOXICOLOGICAL INFORMATION

Acute Toxicity:	LD <sub>50</sub> oral rats = > 5,000 mg/kg* LD <sub>50</sub> dermal rats = > 2,000 mg/kg* (* ) Note: data for pure sulphur
Chronic or long-term toxicity:	Chronic, low-level exposure is generally recognised to be safe. People exposed to SO <sub>2</sub> present repeated respiratory and ocular problems.
Local effects:	Reduction of pulmonary function.
Allergic Sensibility:	Moderate effect when in formulated form.

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## 13. ECOLOGICAL INFORMATION

- Instability: The product does not react rapidly in water or in air without initiators, but is highly corrosive when wet due to the formulation of acids.
- Durability / Degradability: Elemental sulphur is converted into sulphate on the ground by autotrophic bacteria while in vegetation it oxidizes slowly when exposed to the air or microbial reactions.
- Bioaccumulation: Sulphur is incorporated in physiological substances in plants.
- Effects on the Environment: Sulphur is a component of the natural environment. There is a natural cycle of oxidoreduction reactions that transform sulphur into organic and inorganic compounds.

#### 14. CONSIDERATIONS ABOUT FINAL DISPOSAL

##### METHOD TO DISPOSE OF RESIDUAL PRODUCT:

The product can be eliminated in authorised sanitary fill, generally requiring the application of lime.

##### CONSIDERATIONS ABOUT FINAL DISPOSAL (continued)

##### ELIMINATION OF CONTAMINATED CONTAINERS:

Dispose of containers according to existing local legislation. It is recommended to wash the containers three times and control the acidity and sulphur content of the water collected in case it is necessary to neutralize the water by filtering.

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#### 15. NORMS IN USE

Applicable international norms: Food & Agricultural Organisation Regulations  
Labeling: Caution

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For further details, please contact Melpat International Pty Ltd:

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