



## MSDS - Sulphur 90%

Revision January 2011

### Section 1. Product Information

Family/Chemical Family: Sulfur

Chemical Formula: S<sub>8</sub>

CAS No.: 7704-34-9

Distributed by Pestell Minerals & Ingredients, New Hamburg, ON Canada

**24 Hour Emergency Telephone (Canutec): 613-996-6666**

### Section 2. Hazard Ingredients

90% Sulphur (CAS.No. 7704-34-9)

10% Bentonite Clay

### Section 3. Physical Data

Material is solid

Appearance and Odour: Earth tone colours. May have slight sulphur odour. Pellet or pastille in shape

Boiling Point: 444°C (832°F)

Specific Gravity: Solid, 2.07/gm/ml

Vapour Density: >1

Melting Point: 119°C (246°F)

Solubility in Water: Insoluble

pH: Neutral when dry

Vapour Pressure (mm Hg at 20°C): Solid, less than 0.0001mm.Hg

Evaporation Rate: N/A

% Volatiles: N/A

### Section 4. Fire or Explosion Hazard

Flash Point: Pure Liquid S - 188°C (370°F)

Impure Liquid S - 168°C (335°F)

Auto Ignition Temperature: Dust Clouds 190°C (374°F)

Undispersed Dust 220°C (428°F)

**Flammable Limits in Air:** Minimum explosion concentration is approximately 35gm per cu. metre (0.035 oz per cu. ft.) Maximum explosive concentration lies between 1000 and 2000 gm/m<sup>3</sup> probably about 1400 gm/m<sup>3</sup>, (1.4 oz per cu. ft.)

**Unusual Fire and Explosion Hazards:** Dust suspended in air is readily ignited by flame, static electricity or friction spark. Every reasonable step must be taken to minimize dust formation. Handling equipment must be grounded or bonded to avoid static electricity. Keep away from sources of flame or sparks. Detailed recommendations in Manufacturing Chemists Association SD-74 and National Safety Council 612 Bulletins covering "Sulphur" should be followed when handling.

**Explosive Limits:** LEL 35gm/m<sup>3</sup> UEL: 1400 gm/m<sup>3</sup>

#### **Fire Extinguishing Agents Recommended**

A fine water spray or fog is recommended

CO<sub>2</sub> or dry chemical

Small fires may be smothered with sand or solid sulfur

#### **Fire Extinguishing Agents to Avoid**

Hoses and extinguishers with pressure streams should be avoided where solid sulfur is dusty or where it may create a further hazard by raising more dust clouds.

#### **Special Fire Fighting Precautions**

Because burning sulfur evolves sulfur dioxide, breathing apparatus or gas masks approved for use in acid-gas atmosphere should be used. Fumes from unprotected sulfur fires shall be avoided if possible by approaching from the upwind side.

## **Section 5. Reactivity Data**

Stability: Product is stable

Conditions to Avoid: The main hazards are fire and dust explosions

Hazardous Polymerization: Will not occur

**Materials to Avoid:** Mixtures with chlorates, nitrates or other oxidizing agents may be explosive. Sulphur will react with alkalis or alkaline earths.

## **Section 6. Toxicological Properties**

Inhalation: Sulfur dust may irritate the mucous membranes of the respiratory passages.

Ingestion: Solid sulfur is virtually non-toxic. It can be taken internally in fairly large doses without injury.

Skin: In some individuals, sulfur dust has an irritant action, which may be aggravated by perspiration or moisture.

Eyes: Sulfur dust is capable of irritating the inner surfaces of the eyelids.

Permissible Concentrations: None established

Unusual Chronic Toxicity: N/A

## **Section 7. Preventive Measures**

#### **Personal Protective Equipment**

**Respiratory Protection:** Dust-type respirators shall be provided for dusty conditions. Breathing apparatus must be available for emergency use in case of fire.

**Eyes and Face:** Dust tight goggles with plastic or rubber frames may be helpful in dusty conditions.

**Hands, Arms and Body:** Workers whose skin may be sensitive to sulphur dust should button collars, roll sleeves down, and gather trousers at the ankle. Gloves may be helpful.

**Other Clothing and Equipment:** Hard hat and safety shoes. Fire retardant fabric is recommended. Sulphur impregnated clothing should not be worn.

**Ventilation:** Local exhaust if dusty conditions prevail

**Normal Handling:** Avoid breathing dust and keep clothing as free from dust as possible

**Storage:** Solid becomes corrosive to metals when stored wet. Sulfur/bentonite fertilizer will physically break down when exposed to moisture or water

**Spill or Leak:** Shovel into disposal containers or cover with tarp. For landfill disposal, mix with limestone 3 times the weight of sulphur.

**Special Precautions/Procedures/Label Instructions.**

Eye Wash Equipment Near The Work Area

## Section 8. First Aid Measures

**Skin:** Wash with mild soap and water

**Eyes:** Irrigate thoroughly with copious quantities of plain water for at least 15 minutes

Inadequate irrigation may increase the irritation. Do Not Use Boric Acid.

## Section 9. Transportation

Non regulated as per the following exemptions/provisions and observations:

US and Canadian Shipments: Non regulated as per TDGAR's exemption part 2.3 (a) (xxxviii) and 49CFR (Canadian Shipments and Packaging 171.12 (a) and CFR49 (Special Provisions 172.102 pt 30.)

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