



مصنع ساف للكبريت
SAF Sulphur Factory

**MATERIAL SAFETY DATA SHEET
(MSDS)**

SULPHUR LUMP (BROKEN)

SECTION I General

Synonyms: sulphur, sulphur lump, sulphur powder, brimstone, flowers of sulfur, precipitated sulfur, sublimed sulfur, bensulfoid, flowers of sulphur, precipitated sulphur

Use: in sugar refining, added to soil to increase acidity, chemical reagent

Molecular formula: S

CAS No: 7704-34-9

EC No: 231-722-6

UN No. 1350

IMO Hazard Class No. 4.1

Packing Group: III

EMS : F-A, S-G

MANUFACTURER:

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SECTION II Physical data

Appearance: Bright yellow Lump

Melting point: ca. 116 C (depending upon form)

Boiling point: 445 C

Vapour density: 8.8 (air = 1)

Vapour pressure:

Density (g cm-3): 2.01

Flash point: 188 C

Explosion limits:

Auto ignition temperature:

Water solubility: negligible

Stability

Stable. Dust may form a flammable or explosive mixture with air. Incompatible with strong oxidizing agents, most common metals, hydrogen, chlorine, fluorine.



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SECTION III FIRST AID MEASURES

Skin: Wash with mild soap and water. Eyes: Irrigate thoroughly with copious quantities of plain water. Inadequate irrigation may increase the irritation. Do not use Boric Acid.

SECTION IV HAZARDS INFORMATION

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

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

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

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

Permissible Concentration: None established. Unusual Chronic

Toxicity: N/A

Flash Point oC Auto Ignition oC Flammable Limits in Air (% by VOL)

Pure Liquid S, Dust clouds, Minimum explosion concentration is 188 oC, (370 oF) 190 oC, (374 oF) approximately 35 gm per cu. Metre (0.035 oz per cu. ft.). Maximum Impure Liquid S, Undispersed dust, explosive concentration lies 168 oC, (335 oF) 220 oC, (428 oF) between 1000 and 2000 gm/m³ probably about 1400 gm/m³, (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. Dust tight casings should be equipped with explosion relief vents. Sparkless electrical equipment is recommended.

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 Sulphur.

Explosive Limits: LEL 35 gm/m³

UEL 1400 gm/m³

SECTION V PRECAUTIONS/PROCEDURES

* Fire Extinguishing Agents Recommended:

1. A fine water spray or fog is recommended.
2. CO₂ or dry chemical.
3. Small fires may be smothered with sand or solid sulphur.

* Fire Extinguishing Agents to Avoid:

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

* Special Fire Fighting Precautions:

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

* Ventilation:

Local exhaust if dusty conditions prevail.



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*** Normal Handling:**

Avoid breathing dust and keep clothing as free from dust as possible.

*** Storage:**

Solid becomes corrosive to metals when stored wet.

Sulphur/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 VI 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

SECTION VII REACTIVITY DATA

Stability Conditions to Avoid

 Unstable X Stable The main hazards are fire and dust explosions.

Hazardous Polymerization Conditions to Avoid.

 May occur X Will not occur.

SECTION VIII HAZARDOUS INGREDIENTS (Mixtures Only)

*** Material or Components:**

Mixtures with chlorates, nitrates or other oxidizing agents may be explosive. Sulphur will react with alkalis or alkaline earths.

Notice to Reader

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Authorized Signatory



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