

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **Sulphur Powder**
 Synonyms : Pulverized sulphur, cyclooctosulphur

Product Uses : For use in animal feed and fertilizer applications.
 Product Uses Advised Against : Not intended for human consumption

Distributed by: : Pestell Minerals & Ingredients
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 CANADA N3A 2H1

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 1-613-996-6666 CANUTEC (CAN)

2. HAZARDS IDENTIFICATION

Emergency Overview

WHMIS Classification

B4	Flammable solid	Flammable solid
D2B	Toxic Material Causing Other Toxic Effects	Moderate skin irritant

GHS Classification

Skin irritant, Category 1
 Eye irritant, Category 1
 Flammability, Category 1

GHS Label elements, including precautionary statements

Pictogram



Signal word

WARNING

Hazard statement(s)

H228: Flammable solid
 H290: May be corrosive to metals.
 H303: May be harmful if swallowed.
 H316: May cause mild skin irritation.
 H320: May cause eye irritation.
 H335: May cause respiratory irritation.

Precautionary statement(s)

- P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P220: Keep away from oxidizing agents.
- P424: Use non-sparking tools when available.
- P243: Take precautionary measures against static discharge.
- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264: Wash hands thoroughly after handling and before eating.
- P284: In case of inadequate ventilation, wear respiratory protection.

Hazards not otherwise classified

Elemental sulphur poses a risk of COMBUSTIBLE DUST when accumulated in air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : S8 (Rhombic or monoclinic)
Molecular Weight : 256.56 g/mol

Product	Percentage Contained	CAS Number
Sulfur	>99.5%	7704-34-9

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician if irritation persists.

In case of skin contact

Removed contaminated clothing. Wash off with soap and plenty of water. Consult a physician if symptoms persist.

In case of eye contact

Remove contact lenses if applicable. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if irritation persists.

If swallowed

Rinse mouth with water. Never give anything by mouth to an unconscious person. **SEEK IMMEDIATE MEDICAL ATTENTION.**

Most important effects acute or delayed

See Section 11

Indication of Immediate Medical Attention or Special Treatment Needs:

Individuals with known allergies to sulfide drugs may also have allergic reactions to elemental sulphur.

Precautionary statement(s)

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5. FIREFIGHTING MEASURES

Fire Hazard

Fire will rekindle until mass is cooled below 154 °C (310 °F). Cool surrounding areas with water fog to prevent re-ignition. Sulphur dust is HIGHLY FLAMMABLE.

Suitable extinguishing media

Use water spray, water fog, or alcohol-resistant foam.

Unsuitable extinguishing media

Do not use solid streams of water, which could create sulphur dust clouds and cause an explosion or move burning sulphur to adjacent areas.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for fire-fighting if necessary. If exposed to smoke, fumes or combustion products, firefighters should be relieved IMMEDIATELY and checked for symptoms of exposure of toxic gases. DO NOT mistake symptoms for heat exhaustion or smoke inhalation. SEEK MEDICAL ATTENTION.

Hazardous combustion products

Sulphur oxide gases, very toxic.

Explosion data - sensitivity to static discharge

Sulphur dust is highly flammable; if suspended in air, it will ignite by friction, static electricity, heat, sparks, or flames. Sulphur dust clouds may explode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Emergency procedures

Immediately isolate spill or leak areas. ELIMINATE ALL SOURCES OF IGNITION in the spill area, such as flares, sparks or flames. DO NOT SMOKE in the vicinity. Ventilate closed spaces before entering.

Methods and materials for containment and cleaning up

Minor tears/ruptures to containers can be repaired with tape where possible. Pick up and arrange disposal without creating dust. Sweep up using and shovel any spills using NON-SPARKING EQUIPMENT (example, a natural fibre broom, an aluminum shovel) keeping in suitable, closed containers for disposal by an appropriate reclamation or disposal facility.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

7. HANDLING AND STORAGE

Precautions for safe handling

ALL HANDLING AND CONVEYING EQUIPMENT SHOULD BE PROPERLY GROUNDED AND BONDED.

Try to avoid formation of dust and any other conditions that may tend to create a dust explosion. Use non-ferrous tools to reduce sparking. Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with skin and eyes. Wash hands and remove contaminated clothing after handling.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Store away from flammable materials, sources of heat, flames and sparks and incompatible materials (see Section 10). Separate from chlorates, nitrates and other oxidizing agents. Exercise caution to prevent damage or leakage from containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Specific engineering controls

Ensure adequate ventilation in work area through a general or localized exhaust system. Be careful not to create dust. Eliminate all sources of ignition, such as flames, flares, sparks.

Occupational Exposure Limits

Components	CAS-No.	Value	Control parameters	Basis
Sulfur	7704-34-9	TWA	10.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	10.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	10 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection

Face shield or safety glasses to protect from dust irritation. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Skin and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Wash contaminated clothing separately before reuse.

Industrial Hygiene measures

Handle in accordance with good industrial hygiene and safety practice to minimize build-up of dust. Wash hands before breaks and at the end of workday. Keep product away from sources of heat or ignition.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form small granules
Colour yellow

Formula

Sg(Rhombic or monoclinic)

Odor

Odorless, or faint odor of rotten eggs

Odor Threshold

No data available

pH	no data available
Melting point/freezing point	118-120°C (244-248°F)
Boiling point	444° C (832° F)
Flash point	207°C (405°F) Closed Cup
Evaporation rate	no data available
Flammability	May form combustible dust concentrations in air
Ignition temperature	no data available
Auto-ignition temperature	240°C (464°F)
Lower explosion limit	0.17% (v)
Upper explosion limit	6.38% (v)
Vapour pressure	8mmHg at 246°C (475°F) 1mmHg at 183.8°C (362.8°F)
Water solubility	Insoluble
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Specific Gravity	2.07 @ 70° F
Bulk Density	Lumps: 75-115 lbs. /ft3

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Keep away from heat sources, flames and other sources of ignition.

Materials to avoid

Strong oxidizing agents, copper, copper alloys, steel, chlorates, nitrates.

Possibility of hazardous reactions

Possible violent reactions with oxidizers. No polymerization is expected to occur.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Sulphur oxide gas.
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LDLO Oral - Rabbit - 175 mg/kg

LD50 Oral - Rat - > 2,000 mg/kg

Inhalation LC50

LC50 Inhalation - Rat - 4 h - > 9.23 mg/l

Dermal LD50

LD50 Dermal - Rabbit - > 2,000 mg/kg

Other information on acute toxicity

LDLO Intravenous - Rat - 8 mg/kg

LDLO Intravenous - Rabbit - 5 mg/kg

LDLO Intraperitoneal - Guinea pig - 55 mg/kg

LDLO Intravenous Dog 10 mg/kg

Other information on acute toxicity

no data available

Skin corrosion/irritation

Skin - Rabbit - No skin irritation

Serious eye damage/eye irritation

Eyes - Rabbit - No eye irritation

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

This product does not contain any ingredient designated by NTP, IARC, or OSHA as a probable human carcinogen

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting., Dermatitis

Chronic Exposure

no data available

Synergistic effects

no data available

Additional Information

RTECS: WS4250000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - > 180 mg/l

LC50 - other fish - 866 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - > 5,000 mg/l - 48 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

- TDG (CA)** UN1350, SULPHUR, 4.1, III. Special Provision 33 says " These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to these dangerous goods if the dangerous goods (a) are in a quantity less than or equal to 400 kg per means of containment; or (b) have been formed to a specific shape such as prills, granules, pellets, pastilles or flakes."
- IMDG** UN1350, SULPHUR, 4.1, III. Special Provision 242 says " Sulphur is not subject to the provisions of this Code when it has been formed to a specific shape (such as prills, granules, pellets, pastilles or flakes.)"
- ICAO/IATA** UN1350, SULPHUR, 4.1, III. Special provision A105 says " Sulphur is not subject to these Regulations when it has been formed to a specific shape, e.g. prills, granules, pellets, pastilles or flakes."
- DOT (US)** UN1350, Sulfur , 4.1, III. Special Provision 30 says " Sulfur is not subject to the requirements of this subchapter if transported in a non-bulk packaging or if formed to a specific shape (for example, prills, granules, pellets, pastilles, or flakes). A bulk packaging containing sulfur is not subject to the placarding requirements of subpart F of this part, if it is marked with the appropriate identification number as required by subpart D of this part."

15. REGULATORY INFORMATION

WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects Moderate skin irritant

16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Pestell Minerals & Ingredients and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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