



SALES & SERVICES

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## Safety Data Sheet

### 1. IDENTIFICATION OF THE PRODUCT AND THE SUPPLIER

#### 1.1 Product identifiers

Product name : SULPHUR

#### 1.2 Other means of identification

Sulfur, sulphur granules, sulphur pellets, sulphur prills, sulphur flakes, sulphur pastilles

#### 1.3 Recommended use of the product and restrictions on use

Used in the manufacturing of sulphuric acid, carbon disulphide, sulphites, insecticides, plastics, enamels, metal-glass cements; in vulcanizing rubber; syntheses of dyes; making gun powder and matches.

#### 1.4 Details of supplier of the safety data sheet

Company : AGent Sales & Services Pty Ltd

Street address : 38 May Holman Drive, Bassendean, Western Australia 6054

Telephone : (+61 8) 6270 4500

Fax : (+61 8) 6270 4544

#### 1.5 Emergency telephone number

Telephone : 1300 883 844

### 2. HAZARDS IDENTIFICATION

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS. Sulphur is not subject to the provisions of the Australian Dangerous Goods Code when it has been formed to a specific shape (eg. prills, granules, pellets, pastilles or flakes).

This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.

#### 2.1 GHS Classification

Skin irritation (Category 2)

#### 2.2 GHS Label elements, including precautionary statements

Pictogram :

Signal word : WARNING

#### Hazard statement(s)

H315 Causes skin irritation.

#### Precautionary statement(s)

#### Prevention

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

#### Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

**Storage**

No storage statements.

**Disposal**

No disposal statements.

**2.3 Other hazards**

None

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Component	CAS Number	Classification	Concentration (%)
Sulphur	7704-34-9	Skin Irrit. 2; H315	>99.5

For the full text of the H-Statements mentioned in this section, see Section 16

**4. FIRST AID MEASURES****4.1 Description of First Aid measures****General advice**

Contact the Poisons Information Centre (Phone: Australia 131 126; New Zealand 0800 764 766) or consult a doctor/physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

**In case of skin contact**

If skin or hair contact occurs, remove contaminated clothing and wash skin and hair with soap and water. If swelling, redness, blistering or irritation occurs seek medical assistance.

**In case of eye contact**

In case of eye contact, check for and remove any contact lenses. Immediately rinse thoroughly with plenty of running water for at least 15 minutes, keeping eyelids open. In all cases of eye contamination it is a sensible precaution to seek medical advice.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. If swallowed, give a glass of water to drink. If vomiting occurs give further water. Seek medical advice.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in Section 2.2 and/or Section 11.

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available.

**4.4 First Aid facilities**

Eye wash facilities and safety shower should be available.

**5. FIRE FIGHTING MEASURES****5.1 Suitable extinguishing media**

Incipient fires in sulphur storage piles can be frequently smothered by gently shovelling more sulphur, sand, or fine earth on them to exclude all air.

For larger fires, water applied as a fine mist is the most useful agent. Coarser water sprays are permissible on deposits containing only a small proportion of extreme sulphur fines.

**Unsuitable Extinguishing Media:**

Solid streams of water which could create sulphur dusts and cause an explosion or move burning sulphur to adjacent areas

High pressure water sprays disperse the dust into the air and should NOT be used.

**5.2 Special hazards arising from the chemical**

Non-combustible.

Not considered a significant fire risk, however containers may burn.

Decomposition may produce toxic fumes of: sulphur oxides (SO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>)

**NOTE:** Burns with intense heat. Produces melting, flowing, burning liquid and dense acrid black smoke. Moving sulphur may generate static charge. Sulphur burns with a pale blue flame that may be difficult to see in daylight.

### 5.3 Special protective equipment and precautions for fire fighters

Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire-fighting clothing (includes fire-fighting helmet, coat, trousers, boots and gloves). If safe to do so, remove containers from path of fire. Keep containers cool with water spray until well after fire is out. Fire will rekindle until mass is cooled below 145°C.

### 5.4 Hazchem code

Not applicable

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Slippery when spilt. Avoid accidents – clean up immediately. Eliminate all sources of ignition. Work up wind or increase ventilation. Wear protective equipment to prevent skin and eye contact and breathing in dust. Avoid dust formation. Clear area of all unprotected personnel. Isolate danger area. Use clean, non-sparking tools and equipment. All equipment used when handling the product must be grounded. For personal protection see Section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Isolate the danger area. Do not let product enter drains or waterways. Discharge into the environment must be avoided. If contamination of sewers or waterways has occurred, advise local emergency services. Observe all local and national regulations.

### 6.3 Methods and materials for containment and cleaning up

Contain and cover with damp absorbent (inert material, sand or soil). Sweep, or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. Use a spark-free shovel.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes and breathing in dust. Avoid handling which leads to dust formation. May form flammable dust clouds in air. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking. Keep away from heat and sources of ignition. Take precautionary measures against static discharges by bonding and grounding equipment.

For precautions see Section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry, well-ventilated place. Store away from sources of heat or ignition. Keep containers closed when not in use - check regularly for spills. Store away from incompatible materials described in Section 10.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 8.1 Control parameters

#### Occupational Exposure Limits

None allocated for this product. However, exposure standard for dust not otherwise specified is:

Chemical Name	Reference	TWA – Peak Limitation		STEL		Carcinogen Category	Notices
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>		
Inspirable dust	ASCC	-	10	-	-	-	-
Respirable dust	ASCC		3				

As published in "Workplace Exposure Standards for Airborne Contaminants, December 2011" by SWA.

#### Biological Limits

None allocated for this product.

### 8.2 Exposure controls

#### Appropriate engineering controls

Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

#### **Personal protective equipment (PPE)**

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods and environmental factors.

#### **Eye/face protection**

Safety glasses with side shields or goggles. See Australian Standards (AS/NZS 1336 & 1337).

#### **Skin protection**

Wear protective gloves and protective clothing appropriate for the risk of exposure. See Australian Standards (AS 2161 & 2919 and AS/NZS 2210). 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. Wash and dry hands.

#### **Respiratory protection**

If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator. See Australian Standards (AS/NZS 1715 & 1716).

### **9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Form : Solid, as prills, granules pellets, flakes or pastilles Colour : Bright yellow
<b>Odour:</b>	Odourless, but impurities may cause hydrogen sulphide smell
<b>Odour Threshold:</b>	No data available
<b>pH:</b>	Not applicable
<b>Melting Point:</b>	112.8°C
<b>Boiling Point:</b>	444.6°C
<b>Decomposition Temperature:</b>	Approx. 180°C
<b>Evaporation Rate:</b>	Not applicable
<b>Flash Point:</b>	> 180°C (as dust)
<b>Auto Ignition Temperature:</b>	232°C (as dust)
<b>Flammability:</b>	Not applicable
<b>Upper Explosive Limit:</b>	1400 g/m <sup>3</sup> (as dust)
<b>Lower Explosive Limit:</b>	35 g/m <sup>3</sup> (as dust)
<b>Density:</b>	1.92 – 2.07 g/cm <sup>3</sup>
<b>Vapour Density (air=1):</b>	> 1.0 (relative)
<b>Vapour Pressure:</b>	0.133 kPa @ 184°C
<b>% Volatiles:</b>	No data available
<b>Solubility in water:</b>	Insoluble

### **10. STABILITY AND REACTIVITY**

#### **10.1 Reactivity**

Reacts violently with finely divided metals, alkali metals and mineral acids.

#### **10.2 Chemical stability**

Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Corrosive to damp steel. Dust explosion hazard.

### 10.4 Conditions to avoid

Avoid dust generation. Avoid exposure to heat, sources of ignition, and open flame.

### 10.5 Incompatible materials

Incompatible with oxidising agents, such as chlorates, nitrates, perchlorates and permanganates.

### 10.6 Hazardous decomposition products

Oxides of sulphur.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral (rat) : > 2,000 mg/kg

LD50 Dermal (rat) : > 2,000 mg/kg

LC50 Inhalation (rat) : > 5.43 mg/L / 4h

#### Skin corrosion/irritation

Contact with skin will result in irritation.

#### Serious eye damage/eye irritation

Eye (human) : 8 ppm irritant

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

Non mutagenic

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen.

#### Reproductive toxicity

No data available

#### Specific target organ toxicity (STOT) - single exposure

No data available

#### Specific target organ toxicity (STOT) - repeated exposure

No data available

#### Aspiration hazard

No data available

#### Health Effects

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

**Eye contact :** May be an eye irritant.

**Skin contact :** Contact with skin will result in irritation.

**Ingestion :** Swallowing can result in nausea, vomiting, diarrhoea, and gastrointestinal irritation.

**Inhalation :** Breathing in dust may result in respiratory irritation

### 11.2 Information on possible routes of exposure

The substance can be absorbed into the body by ingestion and by inhalation.

### 11.3 Additional Information

RTECS: WS4250000

## 12. ECOLOGICAL INFORMATION

### 12.1 Ecotoxicity

Avoid contaminating waterways.

#### Toxicity to fish:

LC<sub>50</sub> (Oncorhynchus mykiss, rainbow trout) : > 180 mg/L, 96h

LC<sub>50</sub> (other fish) = 866 mg/L, 96h

**Toxicity to daphnia & other aquatic invertebrates**

EC<sub>50</sub> (Daphnia magna, water flea) : > 5,000 mg/L, 48h

**12.2 Persistence and degradability**

Low.

**12.3 Bioaccumulative potential**

Low (LogKOW = 0.229)

**12.4 Mobility in soil**

Low (KOC = 14.3)

**12.5 Other adverse effects**

No data available

**13. DISPOSAL CONSIDERATIONS**

**13.1 Disposal methods and containers**

Ensure waste disposal conforms to relevant local, state and federal authority waste disposal regulations. All empty packaging should be disposed of as unused product.

**13.3 Special precautions for landfill or incineration**

Contact a specialist disposal company or the local waste regulator for advice.

**14. TRANSPORT INFORMATION**

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS. Sulphur is not subject to the provisions of the Australian Dangerous Goods Code when it has been formed to a specific shape (eg. prills, granules, pellets, pastilles or flakes).

**14.1 UN number** Not applicable

**14.2 Proper shipping name** Not applicable

**14.3 Transport hazard class** Not applicable

**14.4 Packing group** Not applicable

**14.5 Environmental hazards** Not applicable

**14.6 Special precautions for users** Not applicable

**14.7 Hazchem code** Not applicable

**14.8 Dangerous goods initial emergency response guide (SAA/SNZ HB76:2010)** Not applicable

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations**

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

None allocated

**Carcinogen classification under WHS Regulations 2011, Schedule 10**

Not listed

**Notification status**

**AICS** On the inventory or in compliance with the inventory

**16. OTHER INFORMATION**

**Key / legend to abbreviations and acronyms used in the MSDS**

ADG	Australian Dangerous Goods
ASCC	Australian Safety and Compensation Council
DEC	Department of Environment and Conservation
NOHSC	National Occupational Health and Safety Commission
SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons
Skin Irrit.	Skin Irritation
TWA	Time weighted average

STEL	Short term exposure level
SWA	Safe Work Australia
Peak Limitations	A ceiling concentration that should not be exceeded over a measurement period, which should be as short as possible, but not exceeding 15 minutes
LD <sub>50</sub>	Lethal dose 50. The single dose of a substance that causes the death of 50% of an animal population from exposure to the substance by any route other than inhalation
LC <sub>50</sub>	Lethal concentration that kills 50% of an animal population within a specified time
TD Lo	The lowest dose of a substance known to have produced signs of toxicity
RTECS	Registry of Toxic Effects of Chemical Substances
g/L	Grams per litre
g/cm <sup>3</sup>	Grams per cubic centimetre
mg/m <sup>3</sup>	Milligrams per cubic metre
mg/kg	Milligrams per kilogram
pH	Relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline
WHS	Work Health and Safety

### Literature references

“Workplace Exposure Standards for Airborne Contaminants, December 2011” by SWA  
Work Health and Safety Regulations 2011

### Disclaimer

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