



SAFETY DATA SHEET

Product Name **SULPHUR AMORPHOUS**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name COOGEE CHEMICALS
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Synonym(s) AMORPHOUS SULPHUR • BRIMSTONE • PRECIPITATED SULPHUR • SULFUR (AMORPHOUS; UNMILLED) • SULPHUR

Use(s) ADDITIVE • FERTILISER ADDITIVE • LABORATORY APPLICATIONS • LABORATORY REAGENT • PHOTOGRAPHIC CHEMICAL • SULPHURIC ACID MANUFACTURE

SDS Date 06 Jan 2010

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

Not classified as a Dangerous Good for transport. Sulphur is not subject to the Australian Dangerous Goods Code when it has been formed to a specific shape (eg. prills, granules, pellets, pastilles or flakes) as according to Special Provision 242.

Classified as a Dangerous Good for storage in Western Australia only:

UN No: 1350

DG Class: 4.1

Packing Group: III

Hazchem Code: 1Z

UN No.	None Allocated	DG Class	None Allocated	Subsidiary Risk(s)	None Allocated
Packing Group	None Allocated	Hazchem Code	None Allocated		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
SULPHUR	S	7704-34-9	100%

4. FIRST AID MEASURES

Eye If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use a Type BE (Inorganic and acid gas, Sulphur dioxide) respirator or an Air-line respirator where an inhalation risk exists. Apply artificial respiration if not breathing.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

Ingestion For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flammability	Flammable. May evolve toxic gases (sulphur oxides) when heated to decomposition. Toxic hydrogen sulphide may be generated from molten sulphur. Dust may form explosive mixtures with air.
Fire and Explosion	Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.
Extinguishing	Water fog or special mixtures of dry chemical. Prevent contamination of drains or waterways.
Hazchem Code	None Allocated

6. ACCIDENTAL RELEASE MEASURES

Spillage	Contact emergency services where appropriate. Use personal protective equipment. Clear area of all unprotected personnel. Ventilate area where possible. Eliminate all ignition sources. Avoid generating dust. Contain spillage, then cover / absorb spill with non-combustible absorbant material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.
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7. STORAGE AND HANDLING

Storage	Store in a cool, dry, well ventilated area, removed from oxidising agents, halogens, carbides, ammonia, metals, direct sunlight, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should be well ventilated.
Handling	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Stds	No exposure standard(s) allocated.
Biological Limits	No biological limit allocated.
Engineering Controls	Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.
PPE	Wear dust-proof goggles and PVC or rubber gloves. When using large quantities or where heavy contamination is likely, wear: coveralls. At high dust levels, wear: type E-Class P2 (Sulphur dioxide and Particulate) respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	YELLOW SOLID PASTILLES, PELLETS OR FLAKES	Solubility (water)	INSOLUBLE
Odour	SLIGHT ODOUR	Specific Gravity	1.04 to 2.07
pH	NOT RELEVANT	% Volatiles	NOT AVAILABLE
Vapour Pressure	< 1 x 10 ⁻⁶ mm Hg @ 20°C	Flammability	FLAMMABLE SOLID
Vapour Density	NOT AVAILABLE	Flash Point	207.2°C
Boiling Point	444°C	Upper Explosion Limit	46 %
Melting Point	112°C to 119°C	Lower Explosion Limit	3.3 %
Evaporation Rate	NOT RELEVANT		
Autoignition Temperature	230°C to 266°C		

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended conditions of storage.
Conditions to Avoid	Avoid heat, sparks, open flames and other ignition sources.
Material to Avoid	Incompatible (forms explosive/unstable mixtures) with oxidising agents (eg. chlorates, nitrates), halogens (eg. fluorine), carbides, metals, ammonia, heat and ignition sources.
Hazardous Decomposition Products	May evolve toxic gases (sulphur oxides) when heated to decomposition.
Hazardous Reactions	Hazardous polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Low to moderate toxicity - irritant. May evolve highly irritating vapours if heated. Use safe work practices to avoid eye or skin contact and dust/vapour generation - inhalation. Some individuals may experience an allergic reaction.
Eye	Low to moderate irritant. Contact may result in irritation, lacrimation, pain and redness.
Inhalation	Low irritant dust - highly irritating vapours. Over exposure may result in irritation of the nose and throat, with coughing. If heated, pungent, strongly irritating and toxic vapours are evolved. Over exposure may result in breathing difficulties (with asthma-like symptoms), pulmonary oedema and unconsciousness.
Skin	Irritant. Contact may result in irritation, redness, rash and dermatitis.
Ingestion	Low to moderate toxicity. Ingestion may result in gastrointestinal irritation, nausea and vomiting. However, due to product form ingestion is considered unlikely.
Toxicity Data	SULPHUR (7704-34-9) LC50 (Inhalation): 1660 mg/m3 (mammal) LDLo (Ingestion): 175 mg/kg (rabbit)

12. ECOLOGICAL INFORMATION

Environment	In solid form, sulphur is insoluble and thus cannot be transported downward to the ground water table. Sulphur is oxidized by microbial species in soils. No potential for bioaccumulation.
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13. DISPOSAL CONSIDERATIONS

Waste Disposal	Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer if additional information is required.
Legislation	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport	Not classified as a Dangerous Good for transport. Sulphur is not subject to the Australian Dangerous Goods Code when it has been formed to a specific shape (eg. prills, granules, pellets, pastilles or flakes) as according to Special Provision 242.
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Classified as a Dangerous Good for storage in Western Australia only:
UN No: 1350
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Packing Group: III
Hazchem Code 1Z

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

Shipping Name	None Allocated			
UN No.	None Allocated	DG Class	None Allocated	Subsidiary Risk(s) None Allocated
Packing Group	None Allocated	Hazchem Code	None Allocated	

15. REGULATORY INFORMATION

Poison Schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

EXPOSURE STANDARDS - TIME WEIGHTED AVERAGE (TWA) or WES (WORKPLACE EXPOSURE STANDARD) (NZ): Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

ABBREVIATIONS:

ADB - Air-Dry Basis.

BEI - Biological Exposure Indice(s)

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

EC No - European Community Number.

IARC - International Agency for Research on Cancer.

M - moles per litre, a unit of concentration.

mg/m3 - Milligrams per cubic metre.

NOS - Not Otherwise Specified.

NTP - National Toxicology Program.

OSHA - Occupational Safety and Health Administration.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

RTECS - Registry of Toxic Effects of Chemical Substances.

TWA/ES - Time Weighted Average or Exposure Standard.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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SDS Date 06 Jan 2010

End of Report