

# Safety Data Sheet



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** **SULPHUR MOLTEN**

**Other name(s):** Sulfur molten; Liquid (molten) sulphur; Brimstone (molten); Molten sulphur; Molten sulfur; Liquid sulfur.

**Recommended Use of the Chemical and Restrictions on Use** Stack conditioning and industrial chemical manufacture.

**Supplier:** Ixom Operations Pty Ltd  
**ABN:** 51 600 546 512  
**Street Address:** Level 8, 1 Nicholson Street  
East Melbourne Victoria 3002  
Australia

**Telephone Number:** +61 3 9906 3000  
**Emergency Telephone:** **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

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

**Classification of the chemical:**  
Skin Irritation - Category 2

**SIGNAL WORD:** WARNING



**Hazard Statement(s):**  
H315 Causes skin irritation.

**Precautionary Statement(s):**

**Prevention:**  
P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves / protective clothing / eye protection / face protection.

**Response:**  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362 Take off contaminated clothing and wash before reuse.

**Storage:**  
No storage statements.

*Product Name: SULPHUR MOLTEN*  
*Substance No: 000031062201*

*Issued: 28/01/2016*  
*Version: 5*

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**Disposal:**

No disposal statements.

**Poisons Schedule (SUSMP):** None allocated.

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Sulfur	7704-34-9	99.5%	H315
Impurities	-	0.5%	-

## 4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

**Inhalation:**

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. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

**Skin Contact:**

If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor. If molten material should contact the skin and adhere, cool quickly with running water - do not attempt to remove. Seek immediate medical assistance.

**Eye Contact:**

Immediately wash in and around the eye area with large amounts of water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport promptly to hospital or medical centre.

**Ingestion:**

Immediately rinse mouth with water. If swallowed, give a glass of water to drink. If vomiting occurs give further water. Seek immediate medical assistance.

**Indication of immediate medical attention and special treatment needed:**

Treat symptomatically. Can cause corneal burns.

## 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:**

Coarse water spray, fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

**Hazchem or Emergency Action Code:** 1Y

**Specific hazards arising from the chemical:**

Flammable solid. May form flammable vapour mixtures with air.

**Special protective equipment and precautions for fire-fighters:**

Avoid all ignition sources. Burns with a light blue flame which is not apparent in daylight. On burning will emit toxic fumes, including those of oxides of sulfur and hydrogen sulfide. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

## 6. ACCIDENTAL RELEASE MEASURES

**Emergency procedures/Environmental precautions:**

Shut off all possible sources of ignition. Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

**Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:**

Slippery when spilt. Avoid accidents, clean up immediately. Avoid breathing in vapours. Work up wind or increase ventilation. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Contain - prevent run off into drains and waterways. Allow material to solidify. Collect and seal in properly labelled containers or drums for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:**

Avoid skin and eye contact and breathing in vapour. Take precautionary measures against static discharges.

**Conditions for safe storage, including any incompatibilities:**

Store in cool place and out of direct sunlight. Store away from sources of heat or ignition. Store at 142°C. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters:** No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for combustion products and/or impurities:

Hydrogen sulfide: 8hr TWA = 14 mg/m<sup>3</sup> (10 ppm), 15 min STEL 21 mg/m<sup>3</sup> (15 ppm)

Sulfur dioxide: 8hr TWA = 5.2 mg/m<sup>3</sup> (2 ppm), 15 min STEL = 13 mg/m<sup>3</sup> (5 ppm)

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

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## Appropriate engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Vapour heavier than air - prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. 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.

## Individual protection measures, such as 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.

OVERALLS, CHEMICAL GOGGLES, FACE SHIELD, GLOVES (Long), APRON, RUBBER BOOTS.



Wear overalls, chemical goggles, face shield, elbow-length impervious gloves, splash apron or equivalent chemical impervious outer garment, and rubber boots. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

If determined by a risk assessment an inhalation risk exists, wear an air supplied respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Molten solid ( Liquid )
<b>Colour:</b>	Amber to Yellow
<b>Odour:</b>	Characteristic , Rotten egg
<b>Molecular Formula:</b>	S
<b>Solubility:</b>	Insoluble in water.
<b>Specific Gravity:</b>	2.07 @25°C
<b>Relative Vapour Density (air=1):</b>	>1
<b>Vapour Pressure (20 °C):</b>	<0.01 kPa
<b>Flash Point (°C):</b>	168 (COC)
<b>Flammability Limits (%):</b>	0.03-2.1
<b>Autoignition Temperature (°C):</b>	232
<b>Boiling Point/Range (°C):</b>	444
<b>pH:</b>	Not applicable
<b>Freezing Point/Range (°C):</b>	119

## 10. STABILITY AND REACTIVITY

<b>Chemical stability:</b>	Water will sink through molten sulfur, turn to steam and boil up through the molten sulfur. The force with which the steam is expelled can be considerable enough to eject molten sulfur into the air.
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<b>Possibility of hazardous reactions:</b>	Hazardous polymerisation will not occur.
<b>Conditions to avoid:</b>	Avoid exposure to heat, sources of ignition, and open flame.
<b>Incompatible materials:</b>	Incompatible with strong oxidising agents , alkalis .
<b>Hazardous decomposition products:</b>	Oxides of sulfur. Hydrogen sulfide.

## 11. TOXICOLOGICAL INFORMATION

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:

<b>Ingestion:</b>	Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.
<b>Eye contact:</b>	A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.
<b>Skin contact:</b>	Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.
<b>Inhalation:</b>	Breathing in vapour may produce respiratory irritation.
<b>Acute toxicity:</b>	Oral LD50 (rat): >8437 mg/kg.
<b>Chronic effects:</b>	No information available for the product.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Avoid contaminating waterways.
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## 13. DISPOSAL CONSIDERATIONS

**Disposal methods:**  
Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

## 14. TRANSPORT INFORMATION

### Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.



<b>UN No:</b>	2448
<b>Transport Hazard Class:</b>	4.1 Flammable Solid
<b>Packing Group:</b>	III

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**Proper Shipping Name or Technical Name:** SULPHUR, MOLTEN  
**Hazchem or Emergency Action Code:** 1Y

## Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

**UN No:** 2448  
**Transport Hazard Class:** 4.1 Flammable Solid  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** SULPHUR, MOLTEN

**IMDG EMS Fire:** F-A  
**IMDG EMS Spill:** S-H

## Air Transport

TRANSPORT PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in Passenger and Cargo Aircraft, and Cargo Aircraft Only.

## 15. REGULATORY INFORMATION

### **Classification:**

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

### **Classification of the chemical:**

Skin Irritation - Category 2

### **Hazard Statement(s):**

H315 Causes skin irritation.

**Poisons Schedule (SUSMP):** None allocated.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

## 16. OTHER INFORMATION

This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

### **Reason(s) for Issue:**

Revised Primary SDS  
Change in company details

# Safety Data Sheet



This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.