


# Safety Data Sheet – SO<sub>2</sub> Selective Scrubber

## Section 1 - Identification

<b>Product name</b>	SO <sub>2</sub> Selective Scrubber
<b>Synonym</b>	Part No.: ECO-H040011-01, standard-6.44cc and large-13.86cc sizes
<b>Application of the Material</b>	Used as a gas drying and scrubbing medium. Only use for intended purpose and as directed.
<b>Supplier details</b>	Ecotech Pty Ltd 1492 Ferntree Gully Road, Knoxfield, Victoria 3180, Australia
<b>Emergency Contact details:</b>	Safety Officer (03) 9730 7800
<b>Contact Number:</b>	+61 3 9730 7800

## Section 2 - Hazards identification

<b>Hazard Classification</b>	<p>This material is NOT classified as Hazardous according to Safe Work Australia<sup>1</sup>.</p> <p>Not Classified as dangerous goods according to the criteria of the ADG code.</p> <p>Not classified as a hazardous substance or mixture according to GHS<sup>2</sup> classification.</p> <p>The product is relatively non-toxic and poses little immediate hazard to the health of workers or emergency response personnel or to the environment in an emergency situation. However, the medium, securely contained in the scrubber packaging contains citric acid monhydrate which is irritating to skin, a serious eye irritant and may cause respiratory irritation. Thus care should to be taken when first fitting, replacing or disposing of the scrubbers. The following Signal words, Hazards and Precautionary statements refer to the scrubber medium which is securely contained in the packaging.</p>
<b>Signal Word</b>	Warning
<b>Pictogram(s)</b>	
<b>Hazards Statements <sup>2</sup></b>	H335 Dust from crushed or broken scrubbers may cause respiratory tract irritation.
<b>Precautionary Statements <sup>2</sup></b>	
<b>Prevention</b>	<p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P261 Avoid breathing dusts</p> <p>Refer to section 7 for Handling and Storage and to Section 8 for dust exposure controls.</p>
<b>Response</b>	P314 Get medical advice / attention if you feel unwell.

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**Disposal** P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

**Poisons Schedule (SUSMP):** Not scheduled.

## Section 3 – Composition/Information on ingredients

Ingredient	CAS Number	Levels
Molecular Sieve (5A)	69912-79-4	~7.2% w/w
Citric Acid, monohydrate	5949-29-1	~1.4% w/w
Packaging – inner and outer	N/A	~91% w/w

Components of molecular sieve (5A)

Ingredient	CAS Number	Levels
SiO <sub>2</sub>	7631-86-9	~ 50% w/w
Al <sub>2</sub> O <sub>3</sub>	1344-28-1	~ 30% w/w
Na <sub>2</sub> O	1313-59-3	~ 4% w/w
CaO	1305-78-8	~15% w/w
MgO	1309-48-4	~ 2.% w/w

## Section 4 – First aid measures

### Material in its market form:

**Ingestion** Not a normal route of exposure due to product form.

**Skin** Not a normal route of exposure due to product form.

**Eye** Not a normal route of exposure due to the encased packaging.

**Inhalation** Product in its manufactured form is not inhalable

### Dust produced from breakage, crushing of molecular sieve material / disposal.

#### Eye contact with dust

In case of contact, immediately flush eyes with plenty of clean water for at least 15 minutes. Get medical aid.

Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### Skin contact with dust

Wash affected area with soap and plenty of water. Seek medical attention if adverse effects occur.

#### Inhalation with dust

Remove person to fresh air. If breathing has stopped, administer artificial respiration and seek immediate medical attention.

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## Section 5 – Fire-fighting measures

### Hazardous combustion products

In case of fire, hazardous decomposition products can occur from the packaging materials – plastic and foam; carbon dioxide, carbon monoxide and different hydrocarbons. If scrubbers are broken irritating, toxic and /or corrosive fumes may be produced from the decomposition of the citric acid monohydrate and molecular sieve.

### Extinguishing media

Remove ignition source and fuel supply from fire if safe to do so. Foam, carbon dioxide, dry chemical or water. Prevent contamination of drains and waterways.

### Fire fighting

Alert fire brigade and inform them of the hazard.

Wearing breathing apparatus and body protection are required for firefighting personnel.

Use firefighting procedures suitable for surrounding area.

Prevent contamination of drains and waterways.

### Hazchem code

Not allocated

## Section 6 – Accidental release measures

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

Prevent product from entering drains and waterways.

### Clean-up and Disposal of Spills – Major and Minor:

Individual tubes can be simply gathered and disposed of as necessary. No Smoking.

However, if large amounts of dust are created during the clean-up dampen spilled material with water and sweep up wet material to avoid dust generation. DO NOT DRY SWEEP. Wear appropriate respiratory protection and personal protective equipment (See section 8).

Clean up all spills immediately. Dispose of waste in accordance with local, state and federal regulations.

## Section 7 – Handling and storage

### Handling

Use appropriate personal protective equipment as specified in Section 8.

Handle in a well-ventilated area.

Avoid breathing any generated dusts from broken scrubbers.

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Handle and use in a manner consistent with good work practices.

Wash thoroughly after handling and before eating/drinking, smoking or using restrooms.

## Storage

Store in a closed, dry and well-ventilated area. Store away from ignition sources.

Packaging should be adequately labelled and protected from physical damage via strong impacts that may cause the material to break and molecular sieve dust to be released.

## Section 8 - Exposure controls / personal protection

### Exposure limits

There is no provision for any exposure limits associated with the finished product or the components of the product in the Australian HCIS system.

However, dust maybe generated with breakages / clean-up of crushed molecular sieve from the scrubbers. Australian Workplace Standards for Airborne Contaminants lists the following Permissible exposure limits, for nuisance dust, measured in mg/m<sup>3</sup>.

8 hours, TWA: Nuisance dust                      10.0 mg/m<sup>3</sup> (measured as inhalable dust)

Acute exposure to very dusty environment may result in mild respiratory irritation and possible eye irritation due to abrasion of dust granules on tissue.

### Biological Limits

No biological limits have been entered for this product

### Personal protective equipment

#### Eye protection

Safety glasses or goggles with side shields during handling

#### Hand and Skin protection

Impervious gloves and long-sleeved work clothes. Wash hands before eating, drinking, smoking, or using toilet facilities.

#### Respiratory protection

Not normally required. In the case of brief exposure to dusts use properly fitted respiratory filter mask - for protection against respirable dusts or a Class P1 Particulate respirator

## Section 9 – Physical and chemical properties

<b>Physical State</b>	Foam covered glass tube with plastic fittings / connectors
<b>Colour</b>	Black
<b>Appearance</b>	Black foam shrink wrapped tube with opaque plastic fittings.
<b>Bulk density (kg/m<sup>3</sup>)</b>	0.88 (molecular sieve + citric acid monohydrate)
<b>UN Class 4 Division 4.1</b>	Not DG 4.1 (molecular sieve + citric acid monohydrate)
<b>UN Class 4 Division 4.3</b>	Not DG 4.3 (molecular sieve + citric acid monohydrate)

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<b>UN Class 8</b>	Not DG 8 (molecular sieve + citric acid monohydrate)
<b>Water Solubility (% wt/wt)</b>	Not soluble (molecular sieve + citric acid monohydrate)
<b>pH (20% solution)</b>	8.94 (molecular sieve + citric acid monohydrate)
<b>Melting Point</b>	Does not melt. Black foam becomes brittle between 150°C and 200°C due to loss of plasticizers.

## Section 10 –Stability and reactivity

### Stability:

Stable under normal conditions of use.

### Chemical Stability:

Stable at normal temperatures and storage conditions.

### Conditions to avoid

Avoid strong impacts that may cause material to break and generate dust.

### Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

### Hazardous Polymerization

Will not occur.

## Section 11 – Toxicological information

**No acute or chronic effects are known from exposure to intact SO<sub>2</sub> scrubbers.**

### Primary Routes of Exposure:

None for the intact product. Inhalation and potential exposure to eyes, hands, lungs could be made with dust emitted from breakages and crushing of molecular sieve material.

### Acute Effects

None for intact product. Breathing dust from broken or crushed scrubbers may cause acute physical respiratory irritation. Eye contact may cause physical irritation.

### Skin contact

Not classified as skin irritant.

### Eye contact

Not classified as an eye irritant.

### Carcinogenicity:

Based on available information of component parts, not classified.

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**Tetrogenicity:** No available data

**Mutagenicity:** No available data

**Reproductive Effects** Insufficient data to classify as a reproductive toxin.

**STOT – single exposure** No data available

**STOT – repeated exposure** No data available

## Section 12 - Ecological information

**Environmental Fate** Prevent entry into drains and waterways.

**Persistence and Degradability:** Not established

**Bioaccumulative Potential:** Not established

**Mobility on Soil:** Not available

## Section 13 - Disposal Considerations

### Disposal method:

Preferred options of disposal are recycling or appropriate landfill. Dispose of waste at an appropriate waste disposal facility according to current applicable laws and regulations.

If large amounts of dust or waste are present dampen spilled material with water and sweep up wet material to avoid dust generation. DO NOT DRY SWEEP. Wear appropriate respiratory protection and personal protective equipment (See section 8). Dispose of residue at an appropriate waste disposal facility.

## Section 14 - Transport information

This material is not classified as dangerous goods according to ADG Code, IMDG or IATA.

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG /IMO)	AIR TRANSPORT (IATA)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport Hazard Class	None Allocated	None Allocated	None Allocated
14.4 Packaging Group	None Allocated	None Allocated	None Allocated
14.5 Environmental Hazards	Marine pollutant: No	Marine pollutant: No	Marine pollutant: No

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## Section 15 – Regulatory information

### Poisons Schedule

None

### Regulations

Fire Hazard	No
Reactive Hazard	No
Release of Pressure	No
Acute Health Hazard	No
Chronic Health Hazard	No
Corrosive Hazard	No

All components are listed on the Australian Inventory of Chemical Substances (AICS).

## Section 16 – Other information

### Hazard ratings according to: HCIS <sup>2</sup>

### SDS Distribution

This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of anyone in contact with this product.

### Acronyms

CAS	Chemical Abstract Services
ADG	Australian Dangerous Goods
SDS	Safety Data Sheet
IMO	International Maritime Organization
IATA	International Air Transport Association
TWA	Time weighted Average
PEL	Permissible Exposure Limit

### Key Legend

- <sup>1</sup> Hazardous Chemicals Identification System – Safe Work Australia
- <sup>2</sup> Globally Harmonized System of Classification of labelling Chemicals (GHS)

### Created

December 2019, by HRL Technology Group