

## Material Safety Data Sheet GLUTATHIONE

### Section 1 - Product Identification

Synonyms : Glutathione  
Molecular Weight : 307.321 g/mol  
Chemical Formula : C<sub>10</sub>H<sub>17</sub>N<sub>3</sub>O<sub>6</sub>S  
Company Identification : Tradeasia International Pte. Limited  
Address : 133 Cecil Street # 12-03 Keck Seng Tower, Singapore  
Tel: +65-6227 6365  
Fax: +65-6225 6286

Email: [contact@chemtradeasia.com](mailto:contact@chemtradeasia.com)

Recommended use of the chemical and restrictions on use

The product is used in industrial manufacturing, in particular in :

- Cosmetics industry
- Pharmaceuticals

### Section 2 – Composition/Information on Ingredients

Chemical Name	EC No/CAS No	Purity, %
Glutathione	200-725-4.; 70-18-8	min. 99.9

### Section 3 – Hazards Identification

**3.1. Potential Acute Health Effects:** May cause skin inflammation, may be irritating to mucous membrane and cause respiratory infection.

**3.2. Potential Chronic Health Effects:** Not available.

### Section 4 – First-Aid Measures

#### 4.1. Description of first aid measures

##### Skin contact

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap..

##### Eye contact

Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. This may be due to allergic reaction.

##### Inhalation

Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

##### Ingestion

Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

##### Note to physicians

Treat symptomatically and supportively.

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

N.A.

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

N.A.

### **Section 5 – Fire Fighting Measures**

**5.1. Flammability of the Product:** May be combustible at high temperature.

**5.2. Auto-Ignition Temperature:** Not available.

**5.3. Flash Points:** Not available.

**5.4. Flammable Limits:** Not available.

**5.5. Products of Combustion:** Not available.

**5.6. Fire Hazards in Presence of Various Substances:** Not available.

**5.7. Explosion Hazards in Presence of Various Substances:** Not available.

**5.8. Fire Fighting Media and Instructions:** Not available.

### **Section 6 – Accidental Release Measures**

**6.1. Small Spill:** Use appropriate tools to place the spilled solid in disposable container. Clean the contaminated surface with water.

**6.2. Large Spill:** Use a shovel for disposing followed by cleaning the contaminated surface with water.

### **Section 7 – Handling and Storage**

#### **7.1. Precautions for safe Handling**

Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids..

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

Container tightly closed and placed in cool environment.

### **Section 8 – Exposure Controls/Personal Protection**

#### **8.1. Appropriate engineering controls**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

#### **8.2. Individual protection measures, such as personal protective equipment (PPE)**

**Personal Protection:** Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**8.3. Exposure Limits:** Not available.

### **Section 9 – Physical and Chemical Properties**

#### **9.1. Information on basic physical and chemical properties**

Appearance : Solid

Odour : Odorless

Odour threshold : N.A.

pH @ 20°C : N.A.

Melting point : 195°C

Boiling point : Decomposes

Flash point : N.A.

Evaporation rate : N.A.  
Flammability : N.A.  
Upper/lower flammability or explosive limits : N.A.  
Vapour pressure : Negligible @ 20°C  
Vapour density : N.A.  
Relative density : N.A.  
Solubility in water : Soluble only in warm water  
pyridine & hot alc  
Partition coefficient: n-octanol/water : N.A  
Auto-ignition temperature : N.A.  
Viscosity : N.A.

## 9.2. Other information

Molecular weight : 307.321 g/mol  
Specific gravity : 1.4 g/cm<sup>3</sup>

## Section 10 – Stability and Reactivity

- 10.1. Stability:** The product is stable.  
**10.2. Instability Temperature:** Not available.  
**10.3. Conditions of Instability:** Not available.  
**10.4. Incompatibility with various substances:** Strong oxidising agent.  
**10.5. Corrosivity:** Not considered to be corrosive for glass.  
**10.6. Special Remarks on Reactivity:** Not available.  
**10.7. Polymerization:** No.

## Section 11 – Toxicological Information

- 11.1. Routes of Entry:** Inhalation, ingestion and eye contact.  
**11.2. Toxicity to Animals:** Oral LD50 (mouse): 5,000 mg/kg; Oral TDLo (mouse): 300 mg/kg.  
**11.3. Chronic Effects on Humans:** Not available.  
**11.4. Other Toxic Effects on Humans:** Hazardous in case of inhalation or ingestion without proper supervision.  
**11.5. Special Remarks on Toxicity to Animals:** Not available.  
**11.6. Special Remarks on Chronic Effects on Humans:** N.A.  
**11.7. Special Remarks on other Toxic Effects on Humans:** Not available.

## Section 12 – Ecological Information

- 12.1. Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.  
**12.2. Toxicity of the Products of Biodegradation:** May cause water pollution.  
**12.3. Remarks on the Products of Biodegradation:** N.A.

## Section 13 – Disposal Considerations

### 13.1. Disposal methods

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14 – Transport Information

- 14.1. UN number :** N.A.  
**14.2. UN proper shipping name :** N.A  
**14.3. Transport of hazard classes :** N.A  
**14.4. Packing group :** N.A  
**14.5. Environmental hazards :** N.A.

**14.6. Special precautions for user :** N.A

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** N.A.

## Section 15 – Regulatory Information

**15.1. Federal and State Regulations:** No products were found.

**15.2. Other Regulations:** Not available.

**15.3. Other Classifications:**

**15.3.1. WHMIS (Canada):** Not controlled under WHMIS (Canada).

**15.3.2 DSCL (EEC):** This product is not classified according to the EU regulations.

**15.3.3. HMIS (U.S.A.):** Health Hazard: 1 Fire Hazard: 1 Reactivity: 0 Personal Protection: E

**15.3.4. National Fire Protection Association (U.S.A.):** Health: 1 Flammability: 1 Reactivity: 0 Special hazard:

**15.4. Protective Equipment:** Gloves. Lab coat.

## Section 16 : Additional Information

**16.1. Mainly changes made to the previous version of this Material Safety Data Sheet (MSDS):**

- This MSDS complies with ISO 11014; the requirements of UN-GHS

Revision No	Revision content
05	<ul style="list-style-type: none"> <li>• This SDS is updated in accordance with the GHS (Rev.6) (2015)-Guidance on the Compilation of Safety data Sheets.</li> <li>• This SDS is updated in line with Eti Maden Corporate identity.</li> </ul>

## 16.2. List of abbreviation and acronyms used in this MSDS

**SDS :** Safety Data Sheets

**Index N° :** atomic number of the element most characteristic of the properties of the substance

**CAS No :** Chemical Abstracts Service number

**EC No :** EINECS Number : European Inventory of Existing Commercial Substances

**Repr. Cat. 2 :** Substance presumed human reproductive toxicant

**Acute Oral Cat. 5 :** Substance which is of relatively low acute oral toxicity.

**GHS :** Globally Harmonised System of Classification and Labelling

**LD<sub>50</sub> :** Median Lethal Dose

**LC<sub>50</sub> :** Lethal Concentration, 50%

**N.A. :** Not Applicable

**OSHA :** Occupational Safety & Health Administration

**Cal OSHA :** The State of California Division of Occupational Safety and Health (DOSH)

**PEL :** Permissible Exposure Limits

**ACGIH :** American Conference of Governmental Industrial Hygienists

**TLV :** Threshold Limit Value

**Japanese MITI :** Japanese Ministry of International Trade and Industry

**EC<sub>50</sub> :** Half maximal effective concentration

**UN :** United Nations

**U.S. EPA TSCA Inventory:** Inventory of the chemical substances manufactured or processed in the United States according to Toxic Substances Control Act compiled and published under the authority of the Environmental Protection Agency

**Canadian DSL:** Canadian Domestic Substances List

## 16.3. List of relevant hazard statements and precautionary statements used in this MSDS

### Hazard Statement

**H361 d:** Suspected of damaging the unborn child

**H319:** Causes serious eye irritation

**H303:** May be harmful if swallowed

**Precautionary Statements**

**Prevention**

**P201:** Obtain special instructions before use.

**P202:** Do not handle until all safety precautions have been read and understood.

**P281:** Use personal protective equipment as required.

**P264:** Wash eyes thoroughly after handling.

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

**Response**

**P308 + P313:** If exposed or concerned: get medical advice/attention.

**P305+P351+P338:** IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

**P337+P313:** If eye irritation persists: Get medical advice/attention.

**Storage**

**P405:** Store locked up.

**Disposal**

**P501:** Dispose of contents/container to in accordance with local regulations.

**16.4. Disclaimer of Liability**

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