

**Safety data sheet**  
according to 1907/2006/EC, Article 31

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

- **1.1 Product identifier**
- **Trade name:** L-Glutathione oxidized
- **Article number:** A2243
- **CAS Number:**  
27025-41-8
- **EC number:**  
248-170-7
- **Application of the substance / the mixture**  
Laboratory chemicals  
Biochemistry
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
AppliChem GmbH  
Ottoweg 4  
D-64291 Darmstadt
- **Further information obtainable from:** Dept. Compliance
- **1.4 Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

Tel.: +49 (0)6151 93570  
Fax.: +49 (0)6151 935711  
msds@applichem.com

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
The substance is not classified, according to the CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**SECTION 3: Composition/information on ingredients**

- **3.1 Substances**
- **CAS No. Description**  
27025-41-8 L-Glutathione oxidized

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- **Identification number(s)**
- **EC number:** 248-170-7

## SECTION 4: First aid measures

- **4.1 Description of first aid measures**
  - **General information:** No special measures required.
  - **After inhalation:** Supply fresh air; consult doctor in case of complaints.
  - **After skin contact:**  
Immediately rinse with water.  
If skin irritation continues, consult a doctor.
  - **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Seek medical treatment.
  - **After swallowing:**  
Rinse out mouth.  
If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
Water, CO<sub>2</sub>, foam, powder.  
Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.  
In case of fire, the following can be released:  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide and carbon dioxide  
Sulphur oxides (SO<sub>x</sub>)  
Non-combustible.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Avoid formation of dust.  
Do not inhale dust.  
Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Avoid formation of dust.  
Clean up affected area.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Provide suction extractors if dust is formed.
- **Information about fire - and explosion protection:** The product is not flammable.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container sealed.
- **Recommended storage temperature:** +2 - +8°C
- **Storage class:** 13
- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see item 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**  
Immediately remove all soiled and contaminated clothing
- **Respiratory protection:**  
Filter P1  
Required when dusts are generated.
- **Hand protection**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:**  
Nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.11$  mm  
Value for the permeation: Level  $\geq 480$  min
- **As protection from splashes gloves made of the following materials are suitable:**  
Nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.11$  mm  
Value for the permeation: Level  $\geq 480$  min
- **Eye/face protection** Safety glasses
- **Body protection:** Protective work clothing

## SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Physical state** Solid
- **Colour:** White
- **Odour:** Characteristic

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|                                                                                 |                                               |
|---------------------------------------------------------------------------------|-----------------------------------------------|
| · Odour threshold:                                                              | Not determined.                               |
| · Melting point/freezing point:                                                 | 178 °C                                        |
| · Boiling point or initial boiling point and boiling range                      | Undetermined.                                 |
| · Flammability                                                                  | Product is not flammable.                     |
| · Lower and upper explosion limit                                               |                                               |
| · Lower:                                                                        | Not determined.                               |
| · Upper:                                                                        | Not determined.                               |
| · Flash point:                                                                  | Not applicable.                               |
| · Auto-ignition temperature:                                                    | Not determined.                               |
| · Decomposition temperature:                                                    | Not determined.                               |
| · pH                                                                            | Not applicable.                               |
| · Viscosity:                                                                    |                                               |
| · Kinematic viscosity                                                           | Not applicable.                               |
| · Dynamic:                                                                      | Not applicable.                               |
| · Solubility                                                                    |                                               |
| · water:                                                                        | Soluble.                                      |
| · Partition coefficient n-octanol/water (log value)                             | Not determined.                               |
| · Vapour pressure:                                                              | Not applicable.                               |
| · Density and/or relative density                                               |                                               |
| · Density:                                                                      | Not determined.                               |
| · Relative density                                                              | Not determined.                               |
| · Vapour density                                                                | Not applicable.                               |
| <b>9.2 Other information</b>                                                    |                                               |
| · Appearance:                                                                   |                                               |
| · Form:                                                                         | Powder                                        |
| · Important information on protection of health and environment, and on safety. |                                               |
| · Explosive properties:                                                         | Product does not present an explosion hazard. |
| · Change in condition                                                           |                                               |
| · Evaporation rate                                                              | Not applicable.                               |
| <b>Information with regard to physical hazard classes</b>                       |                                               |
| · Explosives                                                                    | Void                                          |
| · Flammable gases                                                               | Void                                          |
| · Aerosols                                                                      | Void                                          |
| · Oxidising gases                                                               | Void                                          |
| · Gases under pressure                                                          | Void                                          |
| · Flammable liquids                                                             | Void                                          |
| · Flammable solids                                                              | Void                                          |
| · Self-reactive substances and mixtures                                         | Void                                          |
| · Pyrophoric liquids                                                            | Void                                          |
| · Pyrophoric solids                                                             | Void                                          |
| · Self-heating substances and mixtures                                          | Void                                          |
| · Substances and mixtures, which emit flammable gases in contact with water     | Void                                          |
| · Oxidising liquids                                                             | Void                                          |
| · Oxidising solids                                                              | Void                                          |
| · Organic peroxides                                                             | Void                                          |
| · Corrosive to metals                                                           | Void                                          |
| · Desensitised explosives                                                       | Void                                          |

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.

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- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** oxidizing agent
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

## SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**  
Quantitative data on the toxicological effect of this product are not available.

| Components | Type | Value       | Species |
|------------|------|-------------|---------|
| Oral       | LD50 | >5000 mg/kg | (rat)   |

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **After inhalation:** No irritant effect.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Chemicals must be disposed of in compliance with the respective national regulations.
- **Uncleaned packaging:**
- **Recommendation:**  
Disposal must be made according to official regulations.

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Packagings that may not be cleansed are to be disposed of in the same manner as the product.

- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## SECTION 14: Transport information

- |                                                                                             |                 |
|---------------------------------------------------------------------------------------------|-----------------|
| · <b>14.1 UN number or ID number</b><br>· <b>ADR, ADN, IMDG, IATA</b>                       | Void            |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR, ADN, IMDG, IATA</b>                      | Void            |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, ADN, IMDG, IATA</b><br>· <b>Class</b> | Void            |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>                                     | Void            |
| · <b>14.5 Environmental hazards:</b>                                                        | Not applicable. |
| · <b>14.6 Special precautions for user</b>                                                  | Not applicable. |
| · <b>14.7 Maritime transport in bulk according to IMO instruments</b>                       | Not applicable. |
| · <b>UN "Model Regulation":</b>                                                             | Void            |

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Directive 2012/18/EU**
  - **Named dangerous substances - ANNEX I** Substance is not listed.
  - **National regulations:**
  - **Other regulations, limitations and prohibitive regulations**
  - **Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Dept. Compliance
- **Abbreviations and acronyms:**
  - ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - SVHC: Substances of Very High Concern
  - vPvB: very Persistent and very Bioaccumulative
- **\* Data compared to the previous version altered.**