1 Identification

· Product identifier
· Trade name: 1-Aminocyclopropane-1-Carboxylic Acid
· Article number: 150348
· CAS Number: 22059-21-8
· Relevant identified uses of the substance or mixture and uses advised against
  No further relevant information available.
· Application of the substance / the mixture
  Research use only.
· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    MP Biomedicals Australia Pty Limited
    2/29 Bearing Road
    Seven Hills, NSW 2147 Aust.
    Telephone Number: (02) 9838 7422
    Fax Number: (02) 9838 7390
    www.mpbio.com
  · Further information obtainable from: Quality Control Department
  · Emergency telephone number: Australia Poison Control Centre: +61 13 11 26

2 Hazard Identification

· Classification of the substance or mixture
  GHS07
  Skin Irrit. 2  H315  Causes skin irritation.
  Eye Irrit. 2  H319  Causes serious eye irritation.
  STOT SE 3  H335  May cause respiratory irritation.
· Label elements
· GHS label elements
  The substance is classified and labelled according to the Globally Harmonised System (GHS).
· Hazard pictograms
  GHS07
  · Signal word Warning
  · Hazard statements
  Causes skin irritation.
Trade name: 1-Aminocyclopropane-1-Carboxylic Acid

Causes serious eye irritation.
May cause respiratory irritation.

· Precautionary statements
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves.
Wear eye protection / face protection.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· Other hazards
· Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.

3 Composition and information on ingredients

· Chemical characterisation: Substances
· CAS No. Description
  22059-21-8 1-Aminocyclopropane-1-Carboxylic Acid

4 First Aid Measures

· Description of first aid measures
· General information: Immediately remove any clothing soiled by the product.
· After inhalation: In case of unconsciousness place patient stably in side position for transportation.
· After skin contact: Immediately wash with water and soap and rinse thoroughly.
· After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· After swallowing: If symptoms persist consult doctor.
· Information for doctor:
  · Most important symptoms and effects, both acute and delayed No further relevant information available.
  · Indication of any immediate medical attention and special treatment needed
    No further relevant information available.

5 Fire Fighting Measures

· Extinguishing media
· Suitable extinguishing agents:
  CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· Special hazards arising from the substance or mixture No further relevant information available.
Trade name: 1-Aminocyclopropane-1-Carboxylic Acid

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: No special measures required.
- Methods and material for containment and cleaning up:
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- 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.

7 Handling and storage

- Handling:
- Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace.
- Information about fire - and explosion protection: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage: -20 °C
- Requirements to be met by storerooms and receptacles: No special requirements.
- Further information about storage conditions: Desiccate.
- Specific end use(s): No further relevant information available.

8 Exposure controls and personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- 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.
- Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures:
    Keep away from foodstuffs, beverages and feed.
    Immediately remove all soiled and contaminated clothing
    Wash hands before breaks and at the end of work.
    Avoid contact with the eyes and skin.
  - Respiratory protection:
    In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
  - Protection of hands:
    Protective gloves
    The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Trade name: 1-Aminocyclopropane-1-Carboxylic Acid

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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 breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**
  Safety glasses
  Tightly sealed goggles

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### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

  - **Appearance:**
    - **Form:** Powder
    - **Colour:** White
  - **Odour:** Indeterminate
  - **Odour threshold:** Not determined.

- **pH-value:** Not applicable.

- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Product is not flammable.

- **Ignition temperature:**
  - **Decomposition temperature:** Not determined.
  - **Self-igniting:** Not determined.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**
  - **Lower:** Not determined.
  - **Upper:** Not determined.

- **Vapour pressure:** Not applicable.

- **Density:** Not determined.
- **Relative density** Not determined.
- **Vapour density** Not applicable.
- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with**
  - **water:** Not determined.
Safety data sheet
according to WHS Regulations

Trade name: 1-Aminocyclopropane-1-Carboxylic Acid

- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.
- Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity
- Primary irritant effect:
  - Skin corrosion/irritation: Irritant to skin and mucous membranes.
  - Serious eye damage/irritation: Irritating effect.
  - Respiratory or skin sensitisation: No sensitising effects known.

12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
- Behaviour in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes: Not known to be hazardous to water.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
  - Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- Recommendation
  - Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Trade name: 1-Aminocyclopropane-1-Carboxylic Acid

(Contd. of page 5)

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.

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### 14 Transport information

- **UN-Number**
  - ADG, ADN, IMDG, IATA: Not regulated

- **UN proper shipping name**
  - ADG, ADN, IMDG, IATA: Not regulated

- **Transport hazard class(es)**
  - ADG, ADN, IMDG, IATA: Not regulated

- **Class**
  - Not regulated

- **Packing group**
  - ADG, IMDG, IATA: Not regulated

- **Environmental hazards:**
  - Not applicable.

- **Special precautions for user**
  - Not applicable.

- **Transport in bulk according to Annex II of Marpol and the IBC Code**
  - Not applicable.

- **UN "Model Regulation":**
  - Not regulated

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### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - Australian Inventory of Chemical Substances: Substance is not listed.
  - Standard for the Uniform Scheduling of Medicines and Poisons: Substance is not listed.

- **GHS label elements**
  - The substance is classified and labelled according to the Globally Harmonised System (GHS).

- **Hazard pictograms**
  - GHS07: Warning

- **Signal word** Warning

- **Hazard statements**
  - Causes skin irritation.
  - Causes serious eye irritation.
  - May cause respiratory irritation.

- **Precautionary statements**
  - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - Wear protective gloves.
  - Wear eye protection / face protection.
  - Wash thoroughly after handling.
  - Use only outdoors or in a well-ventilated area.
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· Directive 2012/18/EU
· Named dangerous substances - ANNEX I Substance is not listed.
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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: Quality Control Dept.
· Abbreviations and acronyms:
  ADR: Accord européen sur le transport 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
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3