Section 1 - Product and Company Information

Product Name                        (1R,3S)-(+)-CAMPHORIC ACID, 99%
Product Number                      C409
Brand                                ALDRICH
Company                              Sigma-Aldrich
Street Address                      3050 Spruce Street
City, State, Zip, Country           SAINT LOUIS MO 63103 US
Technical Phone:                    314 771 5765
Emergency Phone:                    414 273 3850 Ext. 5996
Fax:                                 800 325 5052

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+)-CAMPHORIC ACID, NATURAL</td>
<td>124-83-4</td>
<td>No</td>
</tr>
</tbody>
</table>

Formula                          C10H16O4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Harmful.
Harmful if swallowed.

HMIS RATING
HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.
EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT
Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties
Appearance
  Color: Faintly beige
  Form: Powder

Property | Value | At Temperature or Pressure
--------|-------|---------------------------
Molecular Weight | 200.23 AMU |
PH | N/A |
BP/BP Range | N/A |
MP/MP Range | 186 °C |
Freezing Point | N/A |
Vapor Pressure | N/A |
Vapor Density | N/A |
Saturated Vapor Conc. | N/A |
SG/Density | N/A |
Bulk Density | N/A |
Odor Threshold | N/A |
Volatile% | N/A |
VOC Content | N/A |
Water Content | N/A |
Solvent Content | N/A |
Evaporation Rate | N/A |
Viscosity | N/A |
Surface Tension | N/A |
Partition Coefficient | Log Kow: 2.326 |
Decomposition Temp. | N/A |
Flash Point | N/A |
Explosion Limits | N/A |
flammability | N/A |
Autoignition Temp | N/A |
Refractive Index | N/A |
Optical Rotation | Degree of Rotation: 10 g/l Solvent: EtOH +55 - +46 (+/-2) |
Miscellaneous Data | N/A |
Solubility | N/A |

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
  Stable: Stable.
  Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
  Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION
  Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
  Skin Contact: May cause skin irritation.
  Skin Absorption: May be harmful if absorbed through the skin.
  Eye Contact: May cause eye irritation.
  Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
  Ingestion: Harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE
  Exposure can cause central respiratory stimulation.
CONDITIONS AGGRAVATED BY EXPOSURE

The toxicological properties have not been thoroughly investigated.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 22
Risk Statements: Harmful if swallowed.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.
Risk Statements: Harmful if swallowed.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: Yes

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any...
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