

## SAFETY DATA SHEET

### 1. Identification of Product

Product Identifier

Product Name: **(1S,3S,4R)-2-(tert-Butoxycarbonyl)-2-azabicyclo[2.2.1]heptane-3-carboxylic acid**  
 Product Code: CA099162  
 CAS Number: 134877-62-6  
 MFCD Number MFCD11656160

Relevant Identified Uses of Substance or Mixture and Uses Advised Against  
 Research and Development use

Supplier Details of the Safety Data Sheet

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### 2. Hazards Identification

Classification of the Substance or Mixture

Skin irritation (Category 2)  
 Eye irritation (Category 2)  
 Specific target organ toxicity - single exposure (Category 3)  
 Acute aquatic toxicity (Category 1)

Label Elements



Signal Word: Warning

Hazard Statements

H400 - Very toxic to aquatic life.  
 H315 - Causes skin irritation.  
 H319 - Causes serious eye irritation.  
 H335 - May cause respiratory irritation.

Precautionary Statements

P273 - Avoid release to the environment.  
 P501 - Dispose of contents/ container to an approved waste disposal plant.  
 P260 - Do not breathe dust/fumes/gas/mist/vapours/spray.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.  
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do, continue rinsing.

Other Hazards

No information available.

### 3. Composition/Information on Ingredients

Substances

(1S,3S,4R)-2-(tert-Butoxycarbonyl)-2-azabicyclo[2.2.1]heptane-3-carboxylic acid  
 CAS number: 134877-62-6

Mixtures

Concentration	Product Name	CAS number:	EC/EINECS:

### 4. First Aid Measures

Description of First Aid Measures

*Skin Contact* IF ON SKIN: Wash with plenty of soap and water. Get medical advice/attention.  
*Eye Contact* Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.  
*Ingestion* IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Never give anything by mouth to an unconscious person. Rinse mouth with water.  
*Inhalation* IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.

Most Important Symptoms and Effects

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No data.

Indication of any Immediate Medical Attention

No additional measures required.

### 5. Fire Fighting Measures

Extinguishing Media

*Suitable* Carbon dioxide.  
Dry chemical powder or foam.  
Sand.  
Water spray.

*Unsuitable* Water jet.

Special Hazards Arising from the Substance or mixture

In combustion emits carbon oxides and nitrogen oxides.

Advice for Fire Fighters

Wear self contained breathing apparatus.  
Wear protective clothing to prevent contact with skin and eyes.

### 6. Accidental Released Measures

Personal Precautions

Do not attempt to take action without suitable protective clothing – see section 8 of SDS.

Do not create dust.

Evacuate the area immediately.

Environmental Precautions

Do not discharge into drains or rivers.

Discharge into the environment must be avoided.

Methods & Materials

Mix with sand or vermiculite.

Transfer to a closable, labelled salvage container for disposal by an appropriate method.

### 7. Handling and Storage

Personal Precautions

*Safe Handling*

Ensure there is sufficient ventilation of the area.

Avoid breathing vapors, mist or gas.

Avoid exposure - obtain special instructions before use.

*Protection against*

Do not eat, drink or smoke when using this product.

*explosions and fires*

Remove/take off immediately all contaminated clothing.

Take off contaminated clothing and wash before reuse.

Wash hands thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

*Managing storage risks*

Store in a cool, well ventilated area.

Keep container tightly closed.

*Storage controls*

Do not store in conditions of high (or highly fluctuating) temperature.

*Maintaining integrity*

Keep container tightly closed.

*Other advice*

Store in a well ventilated place.

Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

### 8. Exposure Controls/Personal Protection

Control Parameters

No data available.

Exposure Controls

*General protective and hygiene measures*

Wear protective gloves/protective clothing/eye protection/face protection.

Wash hands during breaks and at the end of handling the material.

Immediately remove any contaminated clothing.

*Engineering measures*

Use only outdoors or in a well ventilated area.

*Eye/face protection*

Safety glasses with side shields.

*Hand protection*

Protective gloves.

*Respiratory protection*

Do not breathe dust/fumes/gas/vapours/spray.

Use breathing protection with high concentration.

*Skin protection*

Handle with gloves.

Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice.

Wash and dry hands.

Protective clothing.

*Other personal protection* No data.

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advice

### 9. Physical and Chemical Properties

#### Physical and Chemical Properties

Molecular formula: C<sub>12</sub> H<sub>19</sub> N O<sub>4</sub>

Molecular weight: 241.285

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

- |  |          |
|--|----------|
| a) Appearance:                                   | Solid    |
| b) Odour:  | No data. |
| c) Odour threshold:                              | No data. |
| d) pH:   | No data. |
| e) Melting point/freezing point:                 | No data. |
| f) Initial boiling point and boiling range:      | No data. |
| g) Flash point:                                  | No data. |
| h) Evaporation rate:                             | No data. |
| i) Flammability (solid, gas):                    | No data. |
| j) Upper/lower flammability or explosive limits: | No data. |
| k) Vapour pressure:                              | No data. |
| l) Vapour density:                               | No data. |
| m) Relative density:                             | No data. |
| n) Water solubility:                             | No data. |
| o) Partition coefficient: n-octanol/ water:      | No data. |
| p) Auto-ignition temperature:                    | No data. |
| q) Decomposition temperature:                    | No data. |
| r) Viscosity:                                    | No data. |
| s) Explosive properties:                         | No data. |
| t) Oxidizing properties:                         | No data. |

#### Other Information

No additional information.

### 10. Stability and Reactivity

#### Reactivity

No unusual reactivity.

#### Stability

Stable under normal conditions.

#### Possibility of Hazardous Reactions

No hazardous reactions known.

#### Conditions to avoid

Do not expose material to any source of ignition.

Avoid moist atmosphere.

#### Incompatible Materials

Strong oxidising agents.

Strong acids.

Bases

#### Hazardous Decomposition Products

In combustion emits carbon oxides and nitrogen oxides.

### 11. Toxicology Information

#### Information

*Acute toxicity:* No data.

*Skin corrosion/irritation:* No data.

*Serious eye damage:* No data.

#### *Respiratory or skin*

*sensitisation:* No data.

*Germ cell mutagenicity:* Not known.

*Carcinogenicity:* Not known.

*Reproductive toxicity:* Presumed human reproductive toxicant.

*Aspiration hazard:* Not known.

#### Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

### 12. Ecological Information

#### Toxicity

Not known.

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### Persistence and Degradability

Not known.

### Bio-Accumulative Potential

Not known.

### Mobility in Soil

Not known.

### Results of PBT & PvB Assessment

Not known.

### Other Adverse Effects

Very toxic to aquatic life.

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

## 13. Exposure Controls/Personal Protection

### Waste Treatment Methods

*Disposal operations* Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

*Disposal of packaging* Disposal must be made according to official regulations.

## 14. Transport Information

### Air (ICAO)

- |                                  |  |
|----------------------------------|--|
| 1. UN Number:                    | UN3077   |
| 2. UN Proper shipping name:      | Environmentally hazardous substance, solid, n.o.s. |
| 3. Transport hazard class(es):   | 9  |
| 4. Packing group:                | III  |
| 5. Environmental hazards:        | Yes.   |
| 6. Special precautions for user: | Not applicable.                                    |
| 7. Transport in bulk:            | Not applicable.                                    |

### Road (ADR)

- |                                  |  |
|----------------------------------|--|
| 1. UN Number:                    | UN3077   |
| 2. UN Proper shipping name:      | Environmentally hazardous substance, solid, n.o.s. |
| 3. Transport hazard class(es):   | 9  |
| 4. Packing group:                | III  |
| 5. Environmental hazards:        | Yes.   |
| 6. Special precautions for user: | Not applicable.                                    |
| 7. Transport in bulk:            | Not applicable.                                    |

### Sea (IMDG)

- |                                  |  |
|----------------------------------|--|
| 1. UN Number:                    | UN3077   |
| 2. UN Proper shipping name:      | Environmentally hazardous substance, solid, n.o.s. |
| 3. Transport hazard class(es):   | 9  |
| 4. Packing group:                | III  |
| 5. Environmental hazards:        | Marine pollutant: yes.                             |
| 6. Special precautions for user: | Not applicable.                                    |
| 7. Transport in bulk:            | Not applicable.                                    |

### Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

## 15. Safety, Health and Environmental Regulations

### Safety, Health and Environmental Regulations:

Product is not subject to any additional regulations.

### Safety Assessment

No chemical Safety Assessment

## 16. Other Information

ADR: Accord Européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the ICAO

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service

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Associated Risk Phrases According to European Directives 67/548/EEC

R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R36/37/38	Irritating to eyes, respiratory system and skin
R61	R61 May cause harm to the unborn child

### Disclaimer

The product is listed for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this safety data sheet, or in combination with any other product or process is the responsibility of the user.