

Safety Data Sheet

according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 1 of 10

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Boc-3,4-dehydroPro-OH

Further trade names

N-alpha-t-Butyloxycarbonyl-3,4-dehydro-L-proline

Boc-3,4-dehydro-L-proline

(S)-1-t-Butyloxycarbonyl-2,5-dihydro-1H-pyrrole-2-carboxylic acid

(S)-1-(tert-Butoxycarbonyl)-2,5-dihydro-1H-pyrrole-2-carboxylic acid

CAS No: 51154-06-4

EC No: 637-090-1

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Laboratory chemical. Manufacture of the substance.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	Iris Biotech GmbH	
Street:	Adalbert-Zoellner-Straße 1	
Place:	D-95615 Marktredwitz, Germany	
Post-office box:	568	
	D-95605 Marktredwitz, Germany	
Telephone:	+49 9231 97121 0	Telefax: +49 9231 97121 99
e-mail:	info@iris-biotech.de	
Contact person:	Compliance Department	Telephone: +49 9231 97121 0
e-mail:	sds@iris-biotech.de	
Internet:	www.iris-biotech.de	
Responsible Department:	Only available during office hours.	

1.4. Emergency telephone number: +49 (0)89 19240 (POISON CENTER Munich: 24 h)**Further Information**

Emergency telephone: 24 h

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GB CLP Regulation**

Hazard categories:

Serious eye damage/eye irritation: Eye Irrit. 2

Hazardous to the aquatic environment: Aquatic Acute 1

Hazard Statements:

Causes serious eye irritation.

Very toxic to aquatic life.

2.2. Label elements**GB CLP Regulation****Signal word:** Warning

Safety Data Sheet

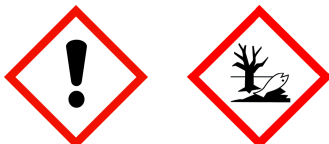
according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 2 of 10

Pictograms:

Hazard statements

H319 Causes serious eye irritation.
 H400 Very toxic to aquatic life.

Precautionary statements

P264 Wash hands thoroughly after handling.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
 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.
 P391 Collect spillage.
 P501 Dispose of contents/container to an approved disposal site.

Additional advice on labelling

Warning - substance not yet tested completely.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients
3.1. Substances
Chemical characterization

(S)-1-(tert-Butoxycarbonyl)-2,5-dihydro-1H-pyrrole-2-carboxylic acid

 Sum formula: C₁₀H₁₅NO₄

Molecular weight: 213,23 g/mol

Hazardous components

CAS No	Chemical name	Quantity		
	EC No	Index No	REACH No	
	GHS Classification			
51154-06-4	Boc-3,4-dehydroPro-OH			<= 100 %
	637-090-1			
	Eye Irrit. 2, Aquatic Acute 1; H319 H400			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

In all cases of doubt, or when symptoms persist, seek medical advice.

Safety Data Sheet

according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 3 of 10

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. After contact with skin, wash immediately with plenty of water and soap.

In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person or a person with cramps.

In all cases of doubt, or when symptoms persist, seek medical advice.

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings. Water spray. alcohol resistant foam. Dry extinguishing powder. Carbon dioxide (CO₂). Sand.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours.

In case of fire may be liberated: Carbon dioxide (CO₂). Carbon monoxide (CO). Nitrogen oxides (NO_x).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water. Usual measures for fire prevention.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General measures**

Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid contact with skin, eyes and clothes.

Wear personal protection equipment.

In case of fire: Evacuate area.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up**Other information**

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Take up mechanically, placing in appropriate containers for disposal. Avoid dust formation.

Clear contaminated areas thoroughly.

Safety Data Sheet

according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 4 of 10

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Provide adequate ventilation.

Avoid dust formation. Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or

drink. Avoid contact with skin, eyes and clothes. Provide adequate ventilation. When using do not eat, drink

or smoke. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep container tightly closed in a cool, well-ventilated place.

Handle and store contents under inert gas. Protect from moisture.

storage temperature: +2°C - +8°C

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

8.2. Exposure controls**Appropriate engineering controls**

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Suitable eye protection: goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Wear suitable gloves.

Safety Data Sheet

according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 5 of 10

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Environmental exposure controls

Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	white/ whitish
Odour:	No data available
Changes in the physical state	
Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Flash point:	No data available
Flammability	
Solid/liquid:	not determined
Gas:	not applicable
Explosive properties	
No data available	
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	not determined
Self-ignition temperature	
Solid:	not determined
Gas:	not applicable
Decomposition temperature:	not determined
Oxidizing properties	
No data available	
pH-Value:	not determined
Water solubility:	No data available
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density:	not determined
Relative vapour density:	not determined

Safety Data Sheet

according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 6 of 10

9.2. Other information**Information with regard to physical hazard classes**

Sustaining combustion: No data available

Other safety characteristics

Solvent separation test: log Pow: 1,711

Solvent content: No data available

Solid content: not determined

Evaporation rate: not determined

Further Information**SECTION 10: Stability and reactivity****10.1. Reactivity**

No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Protect from moisture.

Keep away from heat.

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

Thermal decomposition can lead to the escape of irritating gases and vapours.

In case of fire may be liberated: Carbon dioxide (CO₂). Carbon monoxide (CO). Nitrogen oxides (NO_x).**Further information**

In case of fire: See chapter 5.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicocinetics, metabolism and distribution**

No data available

Acute toxicity

Based on available data, the classification criteria are not met.

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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.

Safety Data Sheet

according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 7 of 10

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available

Additional information on tests

Classification according to Regulation (EC) No 1272/2008 [CLP]: health hazard properties

Practical experience

No data available

Further information

RTECS: No data available

Caution! To the best of our knowledge the toxicological properties of this material have not been thoroughly investigated.

SECTION 12: Ecological information**12.1. Toxicity**

No data available

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
51154-06-4	Boc-3,4-dehydroPro-OH	1,711

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.7. Other adverse effects

Very toxic to aquatic organisms.

Warning - substance not yet tested completely.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Dispose of waste according to applicable legislation.

Consult the appropriate local waste disposal expert about waste disposal.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

Safety Data Sheet

according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 8 of 10

14.1. UN number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Boc-3,4-dehydro-L-proline)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9



Classification code: M7
Special Provisions: 274 335 375 601
Limited quantity: 5 kg
Excepted quantity: E1
Transport category: 3
Hazard No: 90
Tunnel restriction code: -

Inland waterways transport (ADN)

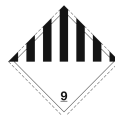
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14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9



Classification code: M7
Special Provisions: 274 335 375 601
Limited quantity: 5 kg
Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Boc-3,4-dehydro-L-proline)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9



Special Provisions: 274, 335, 966, 967, 969
Limited quantity: 5 kg
Excepted quantity: E1
EmS: F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
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Safety Data Sheet

according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 9 of 10

14.3. Transport hazard class(es):

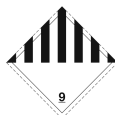
9

14.4. Packing group:

III

Hazard label:

9



Special Provisions:

A97 A158 A179 A197

Limited quantity Passenger:

30 kg G

Passenger LQ:

Y956

Excepted quantity:

E1

IATA-packing instructions - Passenger:

956

IATA-max. quantity - Passenger:

400 kg

IATA-packing instructions - Cargo:

956

IATA-max. quantity - Cargo:

400 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:

Yes


14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

Other applicable 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

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulatory information

Information according to 2012/18/EU (SEVESO III):

E1 Hazardous to the Aquatic Environment

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

3 - highly hazardous to water

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information
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

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

Safety Data Sheet

according to UK REACH Regulation

Boc-3,4-dehydroPro-OH

Revision date: 26.03.2019

Product code: BAA1460

Page 10 of 10

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.