

according to UK REACH Regulation

Boc-DAP

Revision date: 28.06.2024 Product code: BNN1052 Page 1 of 12

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

1.1. Product identifier

Boc-DAP

Further trade names

N-t-Butyloxycarbonyl-1,3-diaminopropane tert-Butyl N-(3-aminopropyl)carbamate

N-Boc-1,3-diaminopropane

Substance name: N-t-Butyloxycarbonyl-1,3-diaminopropane

CAS No: 75178-96-0 EC No: 628-600-3

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). Restrictions on use: Pharmaceutical substance

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: Health & Safety 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 +49 (0)89 19240 (POISON CENTER Munich: 24 h)

number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Acute Tox. 4; H302 Skin Corr. 1B; H314

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal word: Danger

Pictograms:





Hazard statements

H302 Harmful if swallowed.



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H314 Causes severe skin burns and eye damage.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing

protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with

water or shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

Additional advice on labelling

Warning - substance not yet tested completely.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:





Hazard statements

H314

Precautionary statements

P260-P264-P280-P303+P361+P353-P305+P351+P338-P310

2.3. Other hazards

Product is not dust explosive in its original delivery form. The addition of particulate matter, however, results in a dust explosion risk.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

N-t-Butyloxycarbonyl-1,3-diaminopropane
Sum formula: C8H18N2O2
Molecular weight: 174,24 g/mol

Relevant ingredients

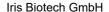
CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
75178-96-0	N-t-Butyloxycarbonyl-1,3-diaminopropane			100 %
	628-600-3			
	Acute Tox. 4, Skin Corr. 1B; H302 H314			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. L	Specific Conc. Limits, M-factors and ATE	
75178-96-0	628-600-3	N-t-Butyloxycarbonyl-1,3-diaminopropane	100 %
	oral: LD50 = 500,1 mg/kg		

SECTION 4: First aid measures





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4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

After inhalation

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

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes

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

After ingestion

Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person or a person with cramps.

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. 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 (NOx).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

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 advice

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.



Iris Biotech GmbH

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For non-emergency personnel

Remove all sources of ignition. Provide adequate ventilation.

Use personal protection equipment.

For emergency responders

Wear personal protection equipment (refer to section 8).

Take up mechanically, placing in appropriate containers for disposal. Take up dust-free and set down

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

For containment

Avoid dust formation.

For cleaning up

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

Other information

Take up mechanically, placing in appropriate containers for disposal. Avoid dust formation.

Clear contaminated areas thoroughly.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

Treat the recovered material as prescribed in the section on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation. Do not breathe dust. Provide adequate ventilation.

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, drink, smoke, sniff. Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Keep container tightly closed in a cool, well-ventilated place.

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

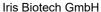
storage temperature: +2°C - 8°C

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.





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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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust. 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.

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Skin protection

Use of 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.

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards

No data available

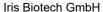
Environmental exposure controls

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/ liquid
Colour: whitish/ light yellow





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Odour: No data available
Odour threshold: No data available

Test method

Melting point/freezing point:

Boiling point or initial boiling point and

22 °C

203 °C

boiling range:

Flammability: not determined Lower explosion limits: No data available Upper explosion limits: No data available

Flash point: 109 °C closed cup

Auto-ignition temperature:

Decomposition temperature:

PH-Value:

Viscosity / kinematic:

Water solubility:

No data available

not applicable

No data available

No data available

Solubility in other solvents

not determined

Dissolution rate: No data available Partition coefficient n-octanol/water: No data available Dispersion stability: No data available Vapour pressure: No data available Density (at 20 °C): 0.998 a/cm³ Relative density: No data available No data available Bulk density: Relative vapour density: No data available Particle characteristics: No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive. Product is not dust explosive in its original delivery form. The addition of particulate matter, however, results in a dust explosion risk.

Sustaining combustion: No data available

Self-ignition temperature

Solid: No data available Gas: not applicable

Oxidizing properties

No data available

Other safety characteristics

Solvent content:

Viscosity / dynamic:

Flow time:

No data available
not applicable
not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Explosive mixtures with air are possible in the event of excessive heating.

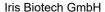
A range from approx. 15 Kelvin below the flash point is to be rated as critical. No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available





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10.4. Conditions to avoid

Protect from moisture. Keep away from heat.

10.5. Incompatible materials

Oxidizing agents, strong.

Acids

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 (NOx).

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

Harmful if swallowed.

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
75178-96-0	N-t-Butyloxycarbonyl-1,3-diaminopropane					
	oral	LD50 500,1 mg/kg		(External SDS)		

Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/eye irritation: Causes serious eye damage.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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.

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.

Aspiration hazard

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

Information on likely routes of exposure

No data available

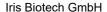
Specific effects in experiment on an animal

No data available

Practical experience

No data available

11.2. Information on other hazards





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Endocrine disrupting properties

No data available

Other information

This substance is classified as hazardous according to Regulation (EC) No 1272 (2008).

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Coughing, shortage of breath, Nausea.

Further information

RTECS: No data available

To our knowledge, the chemical, physical and toxicological properties have not been extensively studied. Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

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

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
75178-96-0	N-t-Butyloxycarbonyl-1,3-diaminopropane	1,094

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

The product has not been tested.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

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.

Avoid release to the environment.

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.

Consult the appropriate local waste disposal expert about waste disposal.

Handle contaminated packages in the same way as the substance itself.

Contaminated packaging

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

SECTION 14: Transport information





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Land transport (ADR/RID)

14.1. UN number or ID number: UN 3259

14.2. UN proper shipping name: AMINES, SOLID, CORROSIVE, N.O.S.

(N-t-Butyloxycarbonyl-1,3-diaminopropane)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8



Classification code:

Special Provisions:

Limited quantity:

Excepted quantity:

Transport category:

Hazard No:

Tunnel restriction code:

C8

Special Provisions:

274

Limited quantity:

5 kg

E1

Transport category:

3

Hazard No:

80

Tunnel restriction code:

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 3259

14.2. UN proper shipping name: AMINES, SOLID, CORROSIVE, N.O.S. (N-Boc-1,3-diaminopropane)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8



Classification code: C8
Special Provisions: 274
Limited quantity: 5 kg
Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 3259

14.2. UN proper shipping name: AMINES, SOLID, CORROSIVE, N.O.S. (N-Boc-1,3-diaminopropane)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8



Special Provisions: 223 274
Limited quantity: 5 kg
Excepted quantity: E1
EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3259

14.2. UN proper shipping name: AMINES, SOLID, CORROSIVE, N.O.S. (N-Boc-1,3-diaminopropane)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8





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Special Provisions:

Limited quantity Passenger:

Passenger LQ:

Excepted quantity:

A3 A803

5 kg

Y845

Excepted quantity:

E1

IATA-packing instructions - Passenger:860IATA-max. quantity - Passenger:25 kgIATA-packing instructions - Cargo:864IATA-max. quantity - Cargo:100 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: strongly corrosive.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

Other applicable information

Hazchem code: 2X

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Directive 2004/42/EC on VOC in 100 %

paints and varnishes:

Information according to Directive

2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile

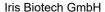
work protection guideline' (94/33/EC).

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





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Abbreviations and acronyms

Acute Tox: Acute toxicity Skin Corr: Skin corrosion Eye Dam: Eye damage

ADR: Accord relatif au transport international des marchandises dangereuses par route (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

CAS: Chemical Abstracts Service LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate LL50: Lethal loading, 50% EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic vPvB: very persistent, very bioaccumulative

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

EmS: Emergency Schedules MFAG: Medical First Aid Guide

IATA: International Air Transport Association ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at http://abbrev.esdscom.eu EC/EEC: European Community/European Economic Community

EU: European Union
M-factor: Multiplying factor

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IATA: International Air Transport Association

DGR: Dangerous Goods Regulations

ICAO: International Civil Aviation Organization

TI: Technical Instructions

VOC: volatile organic compound

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).





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Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

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.