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Section 1 – Identification of the substance or mixture and name of the company

1.1 Product identifier

Product name	Botulinum Neurotoxin A1 from Clostridium botulinum, purified P-BoNT/A1
Product number	#3101

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemical
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1.3 Details of the supplier of the safety data sheet

Company	mipro lab GmbH Marie-Curie-Straße 8 37079 Göttingen Germany
Telephone	+49 (0)551 495668-0
Fax	+49 (0)551 495668-11
Email	info@mipro lab.com

1.4 Emergency telephone number

Emergency telephone	+49 (0)151 15398407
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Section 2 – Hazards identification

2.1 Classification of the substance or mixture

Classification according to regulation (EU) No. 1272/2008

Acute toxicity, oral (Category 1), H300


2.2 Label elements

Labelling according to regulation (EU) No. 1272/2008

Pictogram



Signal word	Danger
Hazard statements	
H300 + H 310 + H330	Fatal if swallowed or in contact with skin or inhaled.
Precautionary statements	
P202	Do not handle until all safety precautions have been read and understood.
P260	Avoid breathing dust/fume/gas/vapours/spray.
P262	Do not get in eyes, on skin or on clothing.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

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P271	Use in a well-ventilated area.
P280	Wear protective gloves/protective clothing.
P301 + P314 + P330	IF SWALLOWED immediately call a poison centre or doctor/physician. Rinse mouth.
P302 + P351	IF ON SKIN: Rinse cautiously with water for several minutes.
P304 + P351	IF IN EYES: Rinse cautiously with water for several minutes.
P320 + P313	Specific treatment is urgent (see SECTION First Aid Measures on this label). Get medical advice/attention.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P233	Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an approved decontamination procedure.

Section 3 – Composition/information on ingredients

3.1 Mixtures

Hazardous ingredients according to Regulation (EU) No. 1272/2008

3.1 Mixtures

Component	Classification	Concentration
Botulinum Toxin A, from Clostridium botulinum CAS-No. 93384-43-1 EC-No. 297-253-4	Acute toxicity 1 H300	0.01 to < 0.25 %

Section 4 – First aid measures


4.1 Description of first aid measures

General advice

Move affected person out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

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In case of skin contact

Wash off with plenty of water. Take affected person immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

Section 5 – Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing media appropriate to surrounding fire conditions

5.2 Special hazards arising from the substance or mixture

Not flammable or combustible.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

Section 6 – Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures


Wear appropriate laboratory clothing including lab coat, gloves and safety glasses. Avoid formation of dust and aerosols. Ensure adequate ventilation. Avoid breathing dust, vapours, mist or gas. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover with paper towels. Flood the towels with 0.1 N NaOH- or 5 % NaClO-solution. If a larger volume was spilled, take up the towels and dispose of them properly (see below). Cover the area with paper towels again, and then flood with the decontaminating solutions. Leave the decontaminating agents for 1 h. Then wipe the area and autoclave the paper towels at 121 °C for 30 min. Ensure supply of fresh air in rooms and clean the surfaces.

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Section 7 – Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Wear appropriate laboratory clothing including lab coat, gloves and safety glasses. Avoid formation of dust and aerosols. Ensure adequate ventilation. It is recommended to handle the toxins in biosafety class II or III cabinets, only. Highly diluted solutions may be used outside the cabinets if protective equipment is used.

7.2 Conditions for safe storage, including any incompatibilities

recommended -80 °C, possible at -20 °C, ready-to-use dilutions at +4 °C, temperature sensitive

Section 8 – Exposure control and personal protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limits.

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as EN 166 (EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Remove gloves without touching the outer surface to avoid skin contact. Wear appropriate lab coat.


The selected protective gloves must meet common regulations and standards like EU directive 89/686/EEC and the standard EN 374 derived from it.

Body protection

Complete suite protecting against chemicals. The type of protective equipment should be chosen according to the concentration and amount of the substance at the workplace.

Respiratory protection

Biosafety class II or III cabinets are recommended. Where risk assessment shows individual respirators are appropriate, use systems meeting all relevant requirements and standards.


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Section 9 - Physical and chemical properties

a)	Appearance	Form at +20 °C: liquid; Colour: colourless
b)	Molecular mass	150,000
c)	Odour	Odourless
d)	Odour threshold	No data available
e)	pH	No data available
f)	Melting point/freezing point	No data available
g)	Initial boiling point and boiling range	No data available
h)	Flash point	No data available
i)	Evaporation rate	No data available
j)	Flammability (solid, gas)	No data available
k)	Upper/lower flammability or explosive limits	No data available
l)	Vapour pressure	No data available
m)	Vapour density	No data available
n)	Relative density	No data available
o)	Water solubility	No data available
p)	Partition coefficient: n-octanol/water	No data available
q)	Auto-ignition temperature	No data available
r)	Decomposition temperature	No data available
s)	Viscosity	No data available
t)	Explosive properties	No data available
u)	Oxidizing properties	No data available

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**
No data available
- 10.5 Incompatible materials**
No data available

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10.6 Hazardous decomposition products

No data available

Section 11 – Toxicological data

11.1 Information on toxicological effects

Acute toxicity

LD₅₀ parenteral ~1 ng kg⁻¹

LD₅₀ oral ~1 µg kg⁻¹

Skin corrosion/irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

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.

Reproductive toxicology

No data available

Specific target organ toxicity – single exposure

Peripheral nervous system – cholinergic synapses

Specific target organ toxicity – repeated exposure

Peripheral nervous system – cholinergic synapses

Aspiration hazard

No data available

Clinical signs after exposition

Botulinum neurotoxins are extremely potent. After uptake, the toxins reach the cholinergic synapses at the neuro-muscular junction. There they inhibit the transmitter release, leading to a flaccid muscular paralysis, which can affect the respiratory muscles. Clinical signs can usually be seen within several hours and include nausea, dizziness, blurred vision, difficulty swallowing, constipation/diarrhea, muscle weakness and difficulty breathing.

Additional information

RTECS: Not available

Section 12 – Ecological data

12.1 Toxicity


No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

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12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This product contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels ≤ 0.1 %.

Section 13 – Disposal considerations

13.1 Waste treatment methods

Dispose of waste in accordance with local, state or government regulations.

In general dispose of product by autoclaving (121 °C, > 30 min).

All materials in contact with the product like glassware and pipettes must be autoclaved (121 °C, > 30 min). If this is not possible, e.g. lab surfaces, decontaminate with NaOH or NaClO (see section 6).

Section 14 --Transport information

14.1 UN number

ADR/RID: 3172

IATA: 3172

IMDG: 3172

14.2 UN proper shipping name

ADR/RID

Toxins, extracted from living sources, liquid, n.o.s. (Botulinum toxin A, from Clostridium botulinum)

IATA

Toxins, extracted from living sources, liquid, n.o.s. (Botulinum toxin A, from Clostridium botulinum)

IMDG

Toxins, extracted from living sources, liquid, n.o.s. (Botulinum toxin A, from Clostridium botulinum)

14.3 Transport hazard class(es)

ADR/RID: 6.1

IATA: 6.1

IMDG: 6.1

14.4 Packaging group

ADR/RID: I

IATA: I


IMDG: I

14.5 Environmental hazards

ADR/RID: no

IATA: no

IMDG: Marine pollutant - no

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14.6 Special precautions for user

No data available

Section 15 – Regulatory information

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

This safety data sheet complies with the requirements of Regulation (EU) No. 1907/2006.

15.2 Chemical safety assessment

The chemical safety of this product has not been assessed.

Section 16 – Other information

All handling and storage of Botulinum neurotoxins must comply with national/local guidelines and law.

The above information is believed to be accurate to the best of our knowledge.

However, miprolab cannot be held liable for accuracy and completeness of the data as well as for any damage that might occur from using or handling the product.

The product is intended for research use by the designated end-user, only. It must not be used in man and animal.

Please check at <http://www.mipro lab.com> for the current version of the material safety data sheet.

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