

# Material Safety Data Sheet

## 1 Identification of the substance or mixture and name of the company

Product name	Botulinum Neurotoxin A1, purified P-BoNT/A1
Product number	#3101
MSDS number	MF511-033
Company	miprolab GmbH Marie-Curie-Str. 7 37079 Göttingen Germany
Telephone	+49 (0)551 495668-0
Fax	+49 (0)551 495668-11
Emergency telephone	+49 (0)551 495668-0
Email	info@miprolab.com

## 3 Hazards identification

Hazard	May be fatal by inhalation, swallowing, and skin contact
Target organ	Cholinergic nerve endings

## 11 Toxicological data

Acute toxicity	$LD_{50\text{parenteral}} 1 \text{ ng kg}^{-1}$ $LD_{50\text{oral}} 1 \text{ } \mu\text{g kg}^{-1}$
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.