

**1. Identification of the substance/preparation and of the company/undertaking**

Biotinylated monoclonal antibody presented in phosphate buffered saline containing 15 mM sodium azide.

Biotinylated monoclonal antibodies sold under the AntibodyShop brand are intended by BioPorto Diagnostics to be used in *in vitro* research activities only – not for use in diagnostic procedures and not the therapeutic use.



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**2. Hazards identification**

Sodium azide is not present in an amount that qualifies the products as hazardous according to Directive 67/548/EC.

However exposure to large amounts and/or ingestion can potentially be hazardous.

**Hazard to man**

Harmful by inhalation, harmful in contact with skin and if swallowed, risk of percutaneous absorption.

**Hazard to the environment**

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**3. Composition/information on ingredients**

The vial contains purified biotinylated monoclonal antibody supplied in a buffer consisting of 0.01 M phosphate buffer, pH 7.4, with 0.13 M NaCl and 15 mM sodium azide

No hazardous ingredient is present in an amount that requires labeling. The contents of ingredients listed as hazardous are given below:

Component	Ingredient	Concentration	CAS#	EC#	Classification (pure ingredient)	Classification (antibody preparation)
Monoclonal antibody, Biotinylated	Sodium azide	0.0985% (w/v)	26628-22-8	247-852-1	Tx; R28, R38 N; R50/53	NA

**4. First aid measures**

First aid personnel should ensure self protection.

After inhalation: Immediately remove the casualty from exposure and move to fresh air. If breathing stops, immediately apply mechanical ventilation and apply an oxygen mask if available. Arrange medical treatment.

After skin contact: Wash off with plenty of water. Remove contaminated clothing. If necessary arrange medical treatment.

After eye contact: Rinse out with plenty of water with the eyelids held wide open. Arrange medical treatment.

After swallowing: Immediately make casualty drink plenty of water, induce vomiting (not if acid is ingested and never in an unconscious patient). Immediately arrange medical treatment.

**5. Fire-fighting measures**

Data for biotinylated antibody preparation. Not for individual ingredients.

**Suitable extinguishing media**

Use water spray, dry sand, carbon dioxide or foam depending on the surrounding materials and equipment.

**Special risks**

Non-combustible. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: nitrous gases.

**6. Accidental release measures****Person-related precautionary measures**

Do not inhale aerosols. Immediately change contaminated clothing.

**Environmental-precautionary measures**

Do not allow to enter sewerage system. Contain spill.

**Procedures for cleaning/absorption**

Take up with liquid-absorbent material. Forward for disposal. Clean up affected area.

**7. Handling and storage****Handling**

General good laboratory practice should be maintained.

Take care to keep workplace clean and dry. The substances used should not be present at the place of work in quantities above those required for carrying out the work. Do not leave containers open. Avoid general contact by handling. Compatible materials: glass, plastic.

**Storage**

Store vials with the lids tightly closed at 4-8°C preferably in the dark.

**Specific use**

The product is intended for *in vitro* research use only.

Intended for professional use only.

**8. Exposure controls/personal protection**

Data for biotinylated antibody preparation (not for individual ingredients).

**Personal protective clothing**

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

**Respiratory protection**

Required only in unintentional release of the substance.

**Eye protection**

Required.

**Skin protection**

Required. Wear laboratory coat and protective gloves. The glove material must be sufficient impermeable and resistant to the substance. Check the tightness before wear. Protect the skin. The following material is suitable for protective gloves: Nitrile rubber.

**General protective and hygienic measures**

Foods and beverages should not be consumed in the vicinity of the work area. Wash hands before work breaks and on finishing the work.

**9. Physical and chemical properties**

Data for biotinylated antibody preparation (not for individual ingredients)

Appearance: Clear solution, odorless

pH: 7.4

Boiling point: NA

Flash point: NA

Flammability: NA

Explosive properties: NA

Oxidizing properties: NA

Vapor pressure:	NA
Relative density:	NA
Solubility:	Soluble in water
Viscosity:	NA
Vapor density:	NA
Evaporation rate:	NA
Additional parameters:	Specific biotinylated antibody concentration: 1 mg/mL, total antibody concentration may be higher.

## 10. Stability and reactivity

**Stability:** Stable. Store at 4-8°C and replace at this temperature at the end of the working procedure.

**Conditions to avoid:** Heating above room temperature, freezing, contaminating.

**Materials to avoid:** Generally use only clean glass and plastic suitable for laboratory use for handling the biotinylated antibody preparation.

Note that individual ingredients are incompatible with acids, heavy metals, metallic salts, bromine, dimethylsulfate, copper, dichloromethane, carbondisulfide and peptidases.

**Dangerous reactions:** In the case of fire see chapter 5.

## 11. Toxicological information

Because of the small size of the vial and the low concentration of hazardous ingredients, the toxicological risks are minor.

Toxicological experiments have not been done on the biotinylated antibody preparation.

The following toxicological information is for the hazardous ingredient in pure form from ChemIDplus:

### Sodium azide

Sodium azide is a cytochrome oxidase inhibitor which is a nitridizing agent and an inhibitor of terminal oxidation (Merck Index, 12th ed). Sodium azide acts as a fungicide, bactericide, herbicide, insecticide and nematocide.

### Acute toxicity

After inhalation: Severe irritation of mucous membranes, respiratory tract. Possible damages: pulmonary edema. Latency time until onset of action.

After swallowing: Irritations of mucous membranes in the mouth, pharynx, esophagus and gastrointestinal tract.

After skin contact: Slight irritations. Danger of skin absorption.

After eye contact: Eye irritation test (rabbit): Slight irritation of the eye.

**Systemic effects of azide exposure:** CNS disorders (tremor on long-term exposure), cardiovascular failure, tachycardia, drop in blood pressure, coughing, dyspnea, spasms, headache, dizziness, nausea, vomiting, collapse, unconsciousness.

**Animal toxicity data:** LD<sub>50</sub> (dermal, rabbit): 20 mg/kg, LD<sub>50</sub> (oral, rat): 27 mg/kg.

**Human toxicity data:** An oral dose of 0.71 mg/kg caused general anesthetic effect and depressed activity as well as changed activity in the kidney, ureter and bladder.

An oral dose of 29 mg/kg caused increased intracranial pressure, change in pulse rate and acute pulmonary edema.

An oral dose of 129 mg/kg caused coma and death within 4 hours.

**Further toxicological information:** No teratogenic effect in animal experiments.

**12. Ecological information****Sodium azide**

Highly toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. Forms toxic mixtures in water, dilution measures notwithstanding. Herbicidal effect. Nematocidal effect.

*NCLASS data:*

Toxicity: Proposed 0.1 mg/L < L(E)C50 < 1 mg/L

Degradation: Readily degradable = No

Bioaccumulation: Log Pow = NA, BCF = NA

*ECOTOX data*

Algal toxicity: *Dunaliella tertiolecta* (green algae) EC<sub>50</sub>: 2 mg/L (24 h), *Macrocystis pyrifera* (giant kelp) EC<sub>50</sub>: 1.1 mg/L (24 h)

Crustacean toxicity: *Daphnia pulex* (water flea) EC<sub>50</sub>: 4.2 mg/L (48 h)

Fish toxicity: *Lepomis macrochirus* (bluegill) LC<sub>50</sub>: 0.7 mg/L (96 h)

Plant toxicity: *Lemna minor* (duckweed): 64 ug/L (24 h)

Insect toxicity: *Pteronarcys californicus* (stonefly) LC<sub>50</sub>: 9 mg/L (96 h)

Invertebrate toxicity: *Microregma* sp. (ciliated protozoa): 3 mg/L

Mollusc toxicity: *Mytilus californianus* (mussel): EC<sub>50</sub>: 13.2 mg/L (96 h)

**Further ecological information**

Do not allow to enter waters, waste water or soil.

Due to the small size of the vial and the low concentrations of hazardous ingredients, ecological risks are minor.

**13. Disposal considerations**

Product: Must be disposed in compliance with the respective national regulations.

Packaging: Must be disposed in compliance with the respective national regulations.

**14. Transport information**

No special transport regulations

ADR (road)/ RID (rail): NA

IMDG (sea): NA

ICAO / IATA (air): NA

**15. Regulatory information**

The product does not contain a hazardous ingredient in an amount that requires identification and labeling according to EC directives.

**16. Other information**

For research use only.

Read Product Specification before using the product. Observe the general safety regulations when handling chemicals. Good laboratory practice is the best preventive measure to avoid hazards.

The information above is believed to be accurate and represents the best information currently available to us. Data are predominantly from the NCLASS, Ecotox and ChemIdplus databases and the Merck Index.

Prepared by: \_\_\_\_\_

CR 

QA & RA Manager BioPorto Diagnostics A/S

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