



09/29/2011

Kit Components

Product code	Description
1610308 1610308EDU	Biotinylated SDS-PAGE Standards, Low A-AP

Components:

1706533	Avidin-AP Conjugate
1610306	Biotinylated SDS-PAGE Standards Low Range

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

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

- **Product identifier**
- **Trade name:** Avidin-AP Conjugate
- **Catalog or product number:** 1706533, 1706533EDU
- **Application of the substance / the preparation** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547 (510)741-1000
- **Information department:** Technical services, customer support.
- **Emergency telephone number:**
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.
510-741-1000
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.

2 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description:**
7732-18-5 water
- **Identification number(s):**
- **EC number:** 231-791-2
- **Additional information:** For the wording of the listed risk phrases refer to section 15.
- **Chemical characterization: Mixtures**

Listing of dangerous and non-hazardous components:

90604-29-8	Albumins, blood plasma, Cohn fraction V		0.1-1.0%
26628-22-8	sodium azide	T+ R28 N R50/5 3 R32	0.01-0.1%

3 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Xn; Harmful
R22: Harmful if swallowed.
- **Information concerning particular hazards for human and environment:** not applicable
- **Classification system:**
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **Label elements**
- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

(Contd. on page 2)

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Avidin-AP Conjugate

(Contd. of page 1)

· **Code letter and hazard designation of product:**

Xn Harmful

· **Risk phrases:**

22 Harmful if swallowed.

· **Safety phrases:**

36 Wear suitable protective clothing.

60 This material and its container must be disposed of as hazardous waste.

· **Emergency overview:**· **Routes of exposure:** Ingestion**4 First aid measures**· **General information**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation** Supply fresh air; consult doctor in case of complaints.· **After skin contact** Generally the product does not irritate the skin.· **After eye contact** Rinse opened eye for several minutes under running water.· **After swallowing** Immediately call a doctor.**5 Firefighting measures**· **Suitable extinguishing agents**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.· **Special hazards arising from the substance or mixture** No further relevant information available.· **Protective equipment:** No special measures required.**6 Accidental release measures**· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment (See section 8). Keep unprotected persons away.

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

· **Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage· **Handling**· **Precautions for safe handling** No special precautions are necessary if used correctly.

(Contd. on page 3)

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Avidin-AP Conjugate

(Contd. of page 2)

- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** According to product specification
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

Components with limit values that require monitoring at the workplace:

26628-22-8 sodium azide

REL () Short-term value: C 0.3** mg/m³, C 0.1* ppm
 *as HN₃ vapor; **as NaN₃; Skin

TLV () Short-term value: C 0.29** mg/m³, C 0.11* ppm
 *as HN₃ vapor **as NaN₃

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
 Keep away from foodstuffs, beverages and feed.
 Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Synthetic gloves
- **Penetration time of glove material**
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

9 Physical and chemical properties

General Information

Appearance:

Form: liquid
Color: Colorless
Odor: Odorless

pH-value at 20°C: 8

Change in condition

Melting point/Melting range: 0°C
Boiling point/Boiling range: 100°C

Flash point: Not applicable

Danger of explosion: Product does not present an explosion hazard.

Vapor pressure at 20°C: 23 hPa

Density at 20°C: 1 g/cm³

(Contd. on page 4)

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Avidin-AP Conjugate

(Contd. of page 3)

- | | |
|--------------------------------------------------|--------------------------------------------|
| · Solubility in / Miscibility with Water: | Fully miscible |
| · Solvent content: | |
| Organic solvents: | 0.0 % |
| Water: | 98.0 % |
| · Solids content: | 2.0 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effects known.

12 Ecological information

- **Acquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Hand over to hazardous waste disposers.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

USA

(Contd. on page 5)

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Avidin-AP Conjugate

(Contd. of page 4)

14 Transport information

· UN-Number	Void
· DOT, ADR, ADN, IMDG, IATA	Void
· UN proper shipping name	Void
· DOT, ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es)	Void
· DOT, ADR, ADN, IMDG, IATA	Void
· Class	Void
· Packing group	Void
· DOT, ADR, IMDG, IATA	Void
· Environmental hazards:	No
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

15 Regulatory information

· **SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)**

· **Section 302/304 (40CFR355.30 / 40CFR355.40):**

26628-22-8 sodium azide

· **Section 313 (40CFR372.65):**

26628-22-8 sodium azide

· **TSCA (Toxic Substances Control Act):**

7732-18-5 water

7647-14-5 sodium chloride

26628-22-8 sodium azide

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

26628-22-8 sodium azide

A4

· **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

(Contd. on page 6)

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Avidin-AP Conjugate

(Contd. of page 5)

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **National regulations**· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Environmental Health and Safety.· **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· * **Data compared to the previous version altered.**

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

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

- **Product identifier**
- **Trade name:** Biotinylated SDS-PAGE Standards Low Range
- **Catalog or product number:** 1610306, 1610306EDU
- **Application of the substance / the preparation** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547 (510)741-1000
- **Information department:** Technical services, customer support.
- **Emergency telephone number:**
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.
510-741-1000

2 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with non-hazardous additions.

· **Listing of dangerous and non-hazardous components:**

56-81-5	glycerol	35-50%
7732-18-5	water	35-50%

- **Additional information** For the wording of the listed risk phrases refer to section 15.

3 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Void
- **Information concerning particular hazards for human and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals
The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (GefStoffV).
- **Safety phrases:**
60 This material and its container must be disposed of as hazardous waste.

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Biotinylated SDS-PAGE Standards Low Range

(Contd. of page 1)

4 First aid measures

- **General information** No special measures required.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Induce vomiting and call for medical help.

5 Firefighting measures

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment (See section 8). Keep unprotected persons away.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections** No dangerous substances are released.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
No special measures required.
No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** According to product specification
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with limit values that require monitoring at the workplace:**

56-81-5 glycerol

PEL ()	15* 5** mg/m ³ *total dust **respirable fraction
TLV ()	10* ppm *Mist

- **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 3)

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Biotinylated SDS-PAGE Standards Low Range

(Contd. of page 2)

- **Personal protective equipment**
- **General protective and hygienic measures** *The usual precautionary measures for handling chemicals should be followed.*
- **Breathing equipment:** *Not required.*
- **Protection of hands:** *Protective gloves.*
- **Material of gloves** *Synthetic gloves*
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** *Safety glasses*

9 Physical and chemical properties

· **General Information**

· **Appearance:**

Form: liquid
Color: Colorless
Odor: Odorless

· **Change in condition**

Melting point/Melting range: *undetermined*
Boiling point/Boiling range: *100°C*

· **Flash point:** > 100°C

· **Ignition temperature:** 400°C

· **Auto igniting:** *Product is not selfigniting.*

· **Danger of explosion:** *Product does not present an explosion hazard.*

· **Explosion limits:**

Lower: 0.9 Vol %

· **Vapor pressure at 20°C:** 23 hPa

· **Density:** *Not determined*

· **Solubility in / Miscibility with**

Water: *Fully miscible*

· **Solvent content:**

Organic solvents: 50.0 %
Water: 49.6 %

Solids content: 0.4 %

· **Other information** *No further relevant information available.*

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *No dangerous decomposition products known*

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Biotinylated SDS-PAGE Standards Low Range

(Contd. of page 3)

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
 The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
 When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Target organs:** Not applicable.

12 Ecological information

- **Acquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
 Hand over to hazardous waste disposers.
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|-------------------------------------|------|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |

(Contd. on page 5)

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Biotinylated SDS-PAGE Standards Low Range

(Contd. of page 4)

· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

15 Regulatory information

· **SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)**

· **Section 302/304 (40CFR355.30 / 40CFR355.40):**

None of the ingredients is listed.

· **Section 313 (40CFR372.65):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

56-81-5 glycerol

7732-18-5 water

9006-59-1 Albumin from hen egg white

27565-41-9 (R*,R*)-(±)-1,4-dimercaptobutane-2,3-diol

77-86-1 Tris(hydroxymethyl)aminomethane

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **National regulations**

· **Technical instructions (air):**

Class	Share in %
NK	35-50

(Contd. on page 6)

Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: Biotinylated SDS-PAGE Standards Low Range

(Contd. of page 5)

- **Water hazard class:** Generally not hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing MSDS:** Environmental Health and Safety.

- **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

- * **Data compared to the previous version altered.**