



## Material Safety Data Sheet

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**Revision:** --

### SECTION 1 PRODUCT AND COMPANY INFORMATION

**Trade Name:** Antibody with Sodium Azide and Bovine Serum Albumin  
**Catalogue Number(s):** See Section 16 for products covered by this material safety data sheet.  
**Chemical Name:** Aqueous solutions containing antibodies, sodium azide and bovine serum albumin.  
**Other trade names and synonyms:** See Section 16 for product identity for individual products  
**Manufacturer/Distributor:** Millipore Corporation (Corporate Headquarters)      Millipore S.A.S. (European Headquarters)  
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### SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Component	EINECS or ELINCS No.	CAS No.	Content (weight percent)	Symbol letters*	R Phrases**
Sodium azide	247-852-1	26628-22-8	0.1 – 0.2%	T+, N	R28, R32, R50/53

These products also contain water, antibodies and bovine serum albumin that are not dangerous substances or hazardous chemicals as defined in European Community Directives 67/548/EEC or 1999/45/EC, and Hazard Communication Standard (29 CFR 1910.1200).

Bovine serum albumin (BSA) and all other blood products should be treated as potentially infectious.

\* Symbol letters and categories of danger: **T+** = Very toxic, **T** = Toxic, **C** = Corrosive, **Xn** = Harmful, **Xi** = Irritant, **E** = Explosive, **F+** = Extremely flammable, **F** = Very flammable, **N** = Dangerous for the environment, **O** = Oxidising.

\*\* The full text of each phrase is listed in Section 16.

### SECTION 3 HAZARD IDENTIFICATION / EMERGENCY OVERVIEW

**Appearance:** Colorless liquid

**Classification:** These products are classified as harmful, Xn according to Directive 1999/45/EC.

#### Adverse human health effects

**Contact with Eyes:** Mild eye irritant

**Ingestion:** Neurological toxin with hypotensive, visual, and acute cerebral effects.

**Inhalation (Short Term):** Possible respiratory tract and mucous membrane irritant, with symptoms similar to those by ingestion.

**Inhalation (Long Term):** Prolonged or repeated exposure to sodium azide solution aerosols may result in permanent neurological damage, collapse, or death.

**Skin Contact:** Possible skin irritant. Sodium azide may be absorbed through the skin with systemic toxicity. Sensitive individuals may experience an allergic reaction to the polypeptide or bovine serum albumin components of this product.

**Target Organs:** Sodium azide: Central nervous system, lungs, cardiovascular system, eyes, skin.

**Medical conditions aggravated by exposure:** Exposure to sodium azide will exacerbate existing hypotensive conditions. Anaphylactic allergic reactions in sensitized individuals.

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

**Adverse physiochemical effects:** Sodium azide may react with lead and copper plumbing to form highly explosive metal azides.

### SECTION 4 FIRST AID MEASURES

**Contact with Eyes:** In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. If irritation persists, seek immediate medical attention.

**Ingestion:** If swallowed, summon medical assistance, and then wash out mouth with water provided person is conscious. Do not induce vomiting unless directed to do so by a health care provider.

**Inhalation:** Sodium azide solution aerosols are poisonous. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Skin Contact:** In case of contact, immediately wash skin with soap and copious amounts of water. If irritation or redness occurs, seek medical attention

## SECTION 5 FIRE FIGHTING MEASURES

- Flash Ignition Temperature:** None; Not considered to be a fire hazard.
- Autoignition Temperature (ASTM D1929):** 572<sup>o</sup>F (solid sodium azide)
- Suitable extinguishing media:** Water spray, carbon dioxide, dry chemical powder or foam.
- Unsuitable extinguishing media:** None reported.
- Special protective equipment for firefighters:** In a fire, large quantities of sodium azide solution may generate significant quantities of hazardous aerosols. Self contained breath apparatus is required.
- Special exposure hazards:** Approach first from upwind direction to avoid sodium azide aerosols.

## SECTION 6 ACCIDENTAL RELEASE

- Personal precautions:** Area evacuation is not required. Eliminate unnecessary traffic in area of the spill. Wear chemically resistant boots, clothing and gloves (nitrile, neoprene) to prevent skin contact, since sodium azide may be absorbed through the skin.
- Small spills:** Clean up spills immediately. Wear appropriate protective clothing and if necessary breathing apparatus. Contain spill and absorb with sand, earth, inert material or vermiculite. Collect residues and place in labeled plastic containers. Avoid breathing vapors and contact with skin and eyes.
- Large spills:** In addition to Small Spill precautions, clear area of all unnecessary personnel and move upwind, if aerosol formation is possible.
- Environmental precautions:** Do not wash material into sewer, or industrial waste water systems. Collect and dispose according to federal, state and local regulations. Sodium azide is considered to have adverse effects on aquatic life.
- Clean up measures:** Small spills may be adsorbed on paper towels, and stored in closed containers pending final disposition. Larger spill may be absorbed in sand, sawdust or vermiculite, and stored in closed containers pending final disposition (See section 13). Wash spill area with detergent and water to remove residual contamination. This water may be disposed to the sanitary sewer.

## SECTION 7 HANDLING AND STORAGE

- Handling:** Avoid contact with eyes and skin. Wear gloves. Do not inhale aerosols or vapors. May be harmful if swallowed. Use personal protective equipment outlined in section 8. Wash thoroughly after handling. Use with adequate ventilation
- Storage:** Store frozen at -20 <sup>o</sup>C, unless directed otherwise by the product data sheet. Avoid repeated freeze/thaw cycles.

## SECTION 8 EXPOSURE CONTROL AND PERSONAL PROTECTION

<b>Specific Protection</b>	Normal Handling Conditions	Emergency Response Conditions
<b>Respiratory protection:</b>	Not normally required for normal use.	If aerosols are present – air purifying respirator with organic cartridges
<b>Ventilation:</b>	General room ventilation	If aerosols are present, provide exhaust ventilation
<b>Eye protection:</b>	Safety glasses with side shields	Chemical splash goggles
<b>Skin protection:</b>	Nitrile gloves and laboratory coat.	Chemically resistant jacket, pants, gloves, boots and head covering

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Colorless liquid
<b>Odor:</b>	None
<b>Odor Threshold:</b>	No data have been found
<b>pH:</b>	7.0 – 8.0
<b>Melting Point:</b>	-2 to -5°C
<b>Boiling Point:</b>	103 to 106°C
<b>Flash Ignition Point:</b>	None; Not considered to be a fire hazard.
<b>Explosive Properties:</b>	May form explosive compounds with metals including copper, lead and mercury.
<b>Oxidizing Properties:</b>	Not considered to have oxidising properties.
<b>Vapor pressure, 20 °C:</b>	<1 mm Hg
<b>Solubility:</b>	Miscible with water.
<b>Specific Gravity (Water = 1.0):</b>	1.0 – 1.2
<b>Vapor Density, 20 °C:</b>	Essentially that of water
<b>Viscosity, centipoise:</b>	Not available
<b>Partition coefficient (n-octanol/water):</b>	Not available

## SECTION 10 STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal temperatures and pressures. If boiled to dryness, the remaining sodium azide residue may rapidly decompose.
<b>Incompatible With:</b>	Strong oxidizing agents, copper, lead, mercury
<b>Hazardous Decomposition Products:</b>	Nitrogen gas, sodium oxide fumes, oxides of carbon and nitrogen.
<b>Conditions to Avoid:</b>	Elevated temperature, heating to dryness.
<b>Hazardous Polymerization:</b>	Will not occur

## SECTION 11 TOXICOLOGICAL INFORMATION

- Inhalation:** May cause respiratory tract and mucous membrane irritation, with symptoms similar to those by ingestion.
- Ingestion:** May cause toxic neurological effects including hypotension, visual, and acute cerebral effects.
- Skin Contact:** May cause skin irritation or chronic dermatitis. Sodium azide may be absorbed through the skin with systemic toxicity. May cause anaphylactic allergic reactions in sensitized individuals.
- Eye Contact:** May cause mild eye irritation.
- Carcinogenicity:** Sodium azide is not listed as carcinogenic by ACGIH, IARC, NTP, OSHA or California proposition 65.
- Chronic Toxicity:** Chronic exposure to sodium azide may result in symptoms similar to acute ingestion.
- Toxicology Data:** Toxicological information for this product as a whole does not exist, below is data for the individual components.

Component Sodium azide (RTECS # VY8050000)

LD <sub>50</sub> , oral, rat	27 mg/kg
LD <sub>50</sub> , oral, mouse	27 mg/kg
LD <sub>50</sub> , inhalation, rat	37 mg/m <sup>3</sup>
LD <sub>50</sub> , inhalation, mouse	32.4 mg/m <sup>3</sup>
LD <sub>50</sub> , skin, rat	50 mg/kg
LD <sub>50</sub> , skin, rabbit	20 mg/kg

Sodium azide has been investigated as a Mutagen and Tumorigen.

## ECOLOGICAL INFORMATION

- Ecotoxicity:** calculated for a 0.1% by weight aqueous sodium azide solution
- LC50 Rainbow Trout 0.8 – 1.6 ml product/l test water (96 H, 13°C)
- LC50, Bluegill/Sunfish 0.7 – 0.8 ml product/l test water (96 H, 18 °C)
- Environmental Fate:** Aquatic fate: Initially, photolysis of sodium azide will result in the formation of metallic nitrides with metals found in natural waters. These nitrides will decompose over time into nitrogen gas and free metals.

## SECTION 13 DISPOSAL INFORMATION

- European Community:** When disposal is required, this product be considered according to the European Waste catalogue (European commission decision of 03/05/01 modifying directives 94/3/CE and 75/442/CE) as part of the following category:  
16 10 01\* - aqueous liquid wastes containing dangerous substances
- United States:** Dilute aqueous solutions of sodium azide may meet the definition of a US Environmental Protection Agency RCRA D003 (Reactive) hazardous waste. Unused product should be disposed of in a manner consistent with federal, state and local regulations.

## SECTION 14 TRANSPORTATION INFORMATION

The transportation of these products is not regulated by IMDG (sea), ADR (road), RID (rail), ICAO/IATA (air), or USDOT as a dangerous goods or hazardous material.

## SECTION 15 REGULATORY INFORMATION

<b>Australia</b>	Hazchem Code:	Sodium Azide: 2X
	Poisons Schedule Number:	None Allocated
<b>California</b>	No Significant Risk Level:	None of the chemicals in these products are known to Millipore Corporation to be listed.
<b>Canada</b>	WHMIS:	These products have WHMIS classifications of D1A, D2B, F.
<b>European Union</b>	Symbols:	Xn
	Category of danger:	Harmful
	Risk phrases:	R22 Harmful if swallowed
	Safety phrases:	S1/2 Keep locked up and out of the reach of children.
		S28 After contact with skin, wash immediately with plenty of water
		S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	OECD/High Production Volume (HPV) chemicals:	Sodium azide is listed as a Low Volume Production chemical.
	WEEE & RoHS::	The WEEE and RoHS Directives are not applicable to these products.
<b>Japan</b>	Poisonous and Deleterious Substances Control Law:	Sodium azide is listed as a Poisonous Substance under the Poisonous and Deleterious Substances Control Law
<b>United States</b>	Toxic Substances Control Act (TSCA):	One or more of the components of these products are not listed on the EPA Toxic Substances Control Act (TSCA) Inventory. In the United States, their use is restricted to research and development or FDA regulated activities

## Section 15 (continued)

Occupational Exposure Limits	Component	OSHA PEL	NIOSH REL	ACGIH TLV
	Sodium Azide	None	0.30 mg/m <sup>3</sup> (skin)	C 0.29 mg/m <sup>3</sup>
Other Occupational Exposure Limits:				
	The Netherlands MAC-TGG		0.1 mg/m <sup>3</sup>	
	Austria, MAK, Germany MAK, Switzerland MAK		0.2 mg/m <sup>3</sup>	
	Belgium STEL, United Kingdom STEL		0.3 TWA	
	Australia, Denmark, Finland, France VLE		0.3 TWA	
	Finland STEL		0.9 TWA	
	Hydrazoic Acid	None	0.1 ppm (as HN <sub>3</sub> ) [skin]	None

**SECTION 16 ADDITIONAL INFORMATION**

The following products are covered by this Material Safety Data Sheet:

<u>Catalogue Numbers:</u>	<u>Product Description</u>
MAB1386	MOUSE ANTI HUMAN CD11a MONOCLONAL ANTIBODY
MAB1404F	MOUSE ANTI-CD11b MONOCLONAL ANTIBODY
MAB1755	MOUSE ANTI-LEUKOCYTE COMMON ANTIGEN RESTRICTED (CD45R) MONOCLONAL ANTIBODY
MAB2241	RAT ANTI MOUSE INTEGRIN $\alpha$ 2 (CD18) ONOCLONAL ANTIBODY
MAB3070	MOUSE ANTI-GRANZYME B MONOCLONAL ANTIBODY
MAB3218	MOUSE ANTI-HUMAN p34cdc-2 NUCLEAR PROTEIN MONOCLONAL ANTIBODY
MAB4120	MOUSE ANTI HUMAN MDR-1 [P-GLYCOPROTEIN (Pgp)] MONOCLONAL ANTIBODY
MAB4122	MOUSE ANTI-MULTIDRUG RESISTANCE-RELATED PROTEIN (MRP) MONOCLONAL ANTIBODY
MAB4124	RAT ANTI MULTIDRUG RESISTANCE-RELATED PROTEIN (MRP) MONOCLONAL ANTIBODY
MAB4126	MOUSE ANTI LRP (LUNG RESISTANCE PROTEIN) MONOCLONAL ANTIBODY
MAB4128	RAT ANTI LRP (LUNG RESISTANCE PROTEIN) MONOCLONAL ANTIBODY
MAB4140	MOUSE ANTI-MDR3 P-GLYCOPROTEIN MONOCLONAL ANTIBODY
MAB4141	MOUSE ANTI-LRP [MVP] MONOCLONAL ANTIBODY
MAB4141	MOUSE ANTI-LRP [MVP] MONOCLONAL ANTIBODY
MAB4142	MOUSE ANTI-MRP1 MONOCLONAL ANTIBODY
MAB4143	MOUSE ANTI-VPARP [p193] MONOCLONAL ANTIBODY
MAB4144	MOUSE ANTI-VPARP [p193] MONOCLONAL ANTIBODY
MAB4145	MOUSE ANTI-BCRP MONOCLONAL ANTIBODY
MAB4146	MOUSE ANTI-BCRP MONOCLONAL ANTIBODY
MAB4147	MOUSE ANTI-VPARP [p193] MONOCLONAL ANTIBODY
MAB4148	MOUSE ANTI-MRP2 [cMOAT] MONOCLONAL ANTIBODY
MAB4149	MOUSE ANTI-MRP2 [cMOAT] MONOCLONAL ANTIBODY
MAB4150	MOUSE ANTI-MRP2 [cMOAT] MONOCLONAL ANTIBODY
MAB4151	MOUSE ANTI-MRP3 MONOCLONAL ANTIBODY

## Section 16 (continued)

<u>Catalogue Numbers:</u>	<u>Product Description</u>
MAB4152	MOUSE ANTI-MRP3 MONOCLONAL ANTIBODY
MAB4153	RAT ANTI-MRP5 MONOCLONAL ANTIBODY
MAB4154	RAT ANTI-MRP5 MONOCLONAL ANTIBODY
AB3294P	RABBIT ANTI-Na <sup>+</sup> -HCO <sub>3</sub> <sup>-</sup> COTRANSPORTER 2 (NBC2) AFFINITY PURIFIED POLYCLONAL ANTIBODY
AB5028	RABBIT ANTI-BETA-ENDORPHIN POLYCLONAL ANTIBODY
AB5102	RABBIT ANTI-ENDOMORPHIN-1 AFFINITY PURIFIED POLYCLONAL ANTIBODY
AB5104	RABBIT ANTI-ENDOMORPHIN-2 AFFINITY PURIFIED POLYCLONAL ANTIBODY
AB5106	RABBIT ANTI-ENDOMORPHIN-1 AND ENDOMORPHIN-2 AFFINITY PURIFIED POLYCLONAL ANTIBODY
AB9318	RABBIT ANTI-ACTH AFFINITY PURIFIED POLYCLONAL ANTIBODY
AB9322	RABBIT ANTI-SEROTONIN TRANSPORTER POLYCLONAL ANTIBODY

**Abbreviations Used**

ACGIH	American Conference of Government Industrial Hygienists
ADR	European agreement on the international carriage of dangerous goods on road
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EPA	United States Environmental Protection Agency
IARC	International Agency for Research in Cancer.
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	Regulations regarding the transportation of dangerous goods on ocean-going vessels issued by the International Maritime Organization.
LC <sub>50</sub>	Lethal Concentration 50% is the concentration of a chemical which kills 50% of a sample population
LD <sub>50</sub>	Lethal Dose 50% is the dose of a chemical which kills 50% of a sample population.
LDLo	Lowest observed lethal dose
MSFU	Manufacture, Formulation, Supply and Use (Section 13)
NIOSH	National Institute of Occupational Safety and Health (US)
NTP	National Toxicology Program (US)
OSHA	United States Occupational Safety and Health Administration
RID	International regulations concerning the international carriage of dangerous goods by rail.
RTECS	Registry of Toxic Effects of Chemical Substances (US)
WHMIS	Workplace Hazardous Materials Information System (Canada)

Section 16 (continued)

This safety data sheet has been prepared to comply with the requirements of European Union Directive 2001/58/EC and ANSI Z400.1-1998.

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