Material Safety Data Sheet

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SECTION 1 IDENTIFICATION OF THE SUBSTANCE OR PREPARATION AND OF THE COMPANY / UNDERTAKING
CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Trade Name: Human APO AV Standards for ELISA, Lyophilized

Catalogue Number(s): E8071-K
A component in EZHAP0AV71K, Human Apolipoprotein AV (APO AV) ELISA Kit

Chemical Name: Lyophilized powder containing human APO AV protein, tetrasodium ethylenediaminetetraacetate, sodium azide, polyoxyethylene(10) octylphenyl ether, phosphate buffered saline, and bovine serum albumin.

Product use: Biological research reagent

Other trade names and synonyms: None

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**
Tetrasodium ethylenediaminetetraacetate,	Unlisted	10378-23-1	10-40%	Xi	R36/37/38
Sodium azide	247-852-1	26628-22-8	1-6%	T+ N	R28, R32 R50/53
Polyoxyethylene(10) octylphenyl ether	Unlisted	9002-93-1	1-2%	Xn	R 22 R41 R52/53

- This product also contain bovine serum albumin, sodium and potassium hydrogen phosphates, and sodium chloride 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, **X**i = 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: White to off-white powder.

Classification: These products are classified as Toxic, T and Dangerous for the environment, N, according to Directive 1999/45/EC.

Adverse human health effects:

Contact with Eyes: Eye irritant

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

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

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

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

Target Organs: 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: Sodium azide is toxic 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. 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: 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. Seek medical attention if irritation or redness occurs.

SECTION 5 FIRE FIGHTING MEASURES

Flash Ignition Temperature: Not known; Not considered to be a fire hazard.

Autoignition Temperature (ASTM D1929): Not known.

Flammability Limits: Not applicable

Suitable extinguishing media: Water spray, carbon dioxide, dry chemical powder or foam.

Unsuitable extinguishing media: None known.

Special protective equipment for firefighters: In a fire, large quantities of sodium azide containing solids may generate significant quantities of hazardous fumes and aerosols. Self contained breath apparatus is required.

Special exposure hazards: Approach first from upwind direction to avoid sodium azide fumes and aerosols.

SECTION 6 ACCIDENTAL RELEASE MEASURES

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.

Small spills: Clean up spills immediately. Avoid clean up techniques that will create and disperse dust. Wear appropriate protective clothing and if necessary, breathing apparatus. Collect residues and place in labeled plastic containers. Avoid breathing dust and contact with skin and eyes.

Large spills: In addition to Small Spill precautions, clear area of all unnecessary personnel and move upwind, if dust formation is possible..

Environmental precautions: These products may not be discharged into sewer, or industrial waste water systems. Collect and dispose according to federal, state and local regulations. Sodium azide will have adverse effects on aquatic life.

Clean up measures: Small spills may be immobilized with the aid of sand or granules 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 should not be disposed to the sanitary sewer.

SECTION 7 HANDLING AND STORAGE

Handling: Avoid contact with eyes and skin. Wear gloves.
Do not inhale dust.
May be harmful if swallowed.
Use personal protective equipment outlined in section 8.
Wash thoroughly after handling
Use with adequate ventilation

Storage: Store refrigerated at +2 to +8°C, unless directed otherwise by the product data sheet.

SECTION 8 EXPOSURE CONTROL AND PERSONAL PROTECTION

	Normal Handling Conditions	Emergency Response Conditions
Respiratory protection:	Not normally required for normal use.	If dust is present - air purifying respirator with organic cartridges and HEPA prefilters.
Ventilation:	General room ventilation	If dust is present, provide exhaust ventilation
Eye protection:	Safety glasses with side shields	Chemical splash goggles.
Skin protection:	Nitrile gloves and laboratory coat.	Chemically resistant jacket, pants, gloves, boots and head covering

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to off-white powder
Odor:	None
Odor Threshold:	No data have been found
pH:	7.0 – 8.0, after reconstitution with water
Melting Point:	Sodium azide melts at approximately 275°C, with decomposition.
Boiling Point:	Not applicable.
Flash Ignition Point:	None; Not considered to be a fire hazard.
Explosive Properties:	Sodium azide containing mixtures may form explosive compounds with metals including copper, lead and mercury.
Oxidizing Properties:	Not considered to have oxidising properties.
Vapor pressure, 20 ºC:	Not available
Specific Gravity (Water = 1.0):	Not available
Solubility	Soluble in water
Vapor Density, 20 ºC:	Not applicable
Viscosity, centipoise:	Not applicable
Partition coefficient (n-octanol/water):	Not available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Elevated temperature,

Incompatible With: Strong oxidizing agents, copper, lead, mercury.

Hazardous Decomposition Products: Nitrogen gas, sodium oxide fumes, oxides of carbon.

Hazardous Polymerization : Will not occur

SECTION 11 TOXICOLOGICAL INFORMATION

Inhalation: Will cause respiratory tract and mucous membrane irritation, with symptoms similar to those by ingestion.

Ingestion: May be toxic, possibly fatal if swallowed. Will cause toxic neurological effects including hypotension, visual, and acute cerebral effects.

Skin Contact: May cause skin irritation. Sodium azide may be absorbed through the skin with systemic toxicity. May cause anaphylactic allergic reactions is sensitized individuals.

Eye Contact: Will cause eye irritation.

Carcinogenicity: None of the components of these products are 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;

Selected data for the individual components:

Compound: Tetrasodium ethylenediaminetetra-acetate — RTECS#: Not listed

LD_{50}, oral, rat: 3,030 mg/kg

Teratogenic effects in laboratory animals appeared only at doses that proved to be toxic to the mother animals.

Selected RTECS data for components

Compound: Sodium Azide (100%) — RTECS#: VY8050000

LD_{50}, oral, rat:	27 mg/kg
LD_{50}, oral, mouse:	27 mg/kg
LC_{50}, inhalation, rat:	37 mg/m^3
LC_{50}, inhalation, mouse:	32.4 mg/m^3
LD_{50}, skin, rat:	50 mg/kg
LD_{50}, skin, rabbit:	20 mg/kg

Sodium azide has been investigated as a Mutagen and Tumorigen

Compound: Polyoxyethylene(10) octylphenyl ether (100%) — RTECS#: TR7400000

LD_{50}, oral, rat:	36.7 ml/kg
LD_{50}, oral, mouse:	>33 gm/kg

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: - calculated for a 6 % by weight sodium azide containing solid product.

LC50 Rainbow Trout	13 – 27 mg product/liter test water (96 H, 13oC)
LC50, Bluegill/Sunfish	12 – 13 mg product/liter test water (96 H, 18oC),
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

MAB products containing sodium azide may not be disposed to an industrial sewer system, and must be disposed in a manner consistent with national, state, and local regulations.

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:

18 01 06* chemicals consisting of or containing dangerous substances

United States: Products containing 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

Australia:	Hazchem Code:	Sodium Azide: 2X
	Poisons Schedule Number:	None Allocated
California:	No Significant Risk Le	None of the chemicals in these products are known to Millipore Corporation to be listed.
Canada:	WHMIS:	These products have WHMIS classifications of D1A, D2B, F.

Section 15 – Regulatory Information (continued)

European Community:	Symbols:	T, N	
	Category of danger:	Toxic, Dangerous for the Environment.	
	Risk phrases:	R25	Toxic if swallowed
		R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
	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 and RoHS:	The WEEE and RoHS Directives are not applicable to these products.	
Japan:	Poisonous and Deleterious Substances Control Law:	Sodium Azide is listed as a Poisonous Substance under the Poisonous and Deleterious Substances Control Law	
United States	Toxic Substances Control Act:.	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	

Occupational Exposure Limits

Component	**Occupational Exposure Limits, mg/m^3**	
Sodium Azide	The Netherlands MAC-TGG	0.1
	Austria, MAK, Germany MAK, Switzerland MAK	0.2
	ACGIH: TLV	C0.29
	NIOSH REL:	0.30[skin]
	Belgium STEL, United Kingdom STEL	0.3 TWA
	Australia, Denmark, Finland, France VLE,	0.3 TWA
	Finland STEL	0.9 TWA
Hydrazoic acid	NIOSH REL	0.1 ppm (as HN_3) [skin]

SECTION 16 ADDITIONAL INFORMATION

Risk phrases referred to under Section 2:

R 26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R33	Danger of cumulative effects.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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.
IUCLID	International Uniform Chemical Information Database
LC_{50}	Lethal Concentration 50% is the concentration of a chemical which kills 50% of a sample population
LD_{50}	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)
VLE	15 minute short term exposure limit (France)
WEL	Workplace Exposure Limit (EU)
WHMIS	Workplace Hazardous Materials Information System (Canada)

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