




Material Safety Data Sheet

MSDS/SDS Number: 00000041MSDS
Latest Revision Date: May 18, 2009
Revision: A

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

Product Name: Anti-NR2B (Rabbit Polyclonal IgG)
Catalogue Number(s): 06-600
Chemical Name: Aqueous solution of Sodium Azide, Sodium Chloride, Protein, and Phosphate Buffer.
Synonyms: None
Intended Product Use: Cellular Research
Manufacturer/Distributor: Millipore Corporation (Corporate Headquarters) Millipore S.A.S. (European Headquarters)
Postal Address: 290 Concord Road Billerica MA, USA Boite Postale 116 67124 Molsheim Cedex, France
Telephone Number: +1-978-715-1335 +33(0)3 90 46 90 00
Hours of Operation: 9:00 am to 4:00 pm ET (GMT -3) 9:00 am to 4:00 pm EU CT (GMT +1)
Email: msds@millipore.com
CHEMTREC Emergency Telephone Number: International +1-703-527-3887 (collect) North America 1-800-424-9300 (toll free)

SECTION 2 HAZARDS IDENTIFICATION

GHS Hazard Class: Eye Irritation: Category 2B
Skin Irritation: Category 3
Signal Word and Hazard Statement: Warning: Causes Eye Irritation
Warning: Causes Mild Skin Irritation
EU Hazard Symbol Pictogram:  Xi: Irritant (R36/38)

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Identification of Dangerous Components: This product contains the substances listed below, which are defined as 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.

Dangerous Component	EINECS or ELINCS No.	CAS No.	Content (weight percent)	EU Hazard Symbol Letters*†	R Phrases** †
Sodium Chloride	231-598-3	7647-14-5	< 2 %	N/A	N/A
Sodium Azide	247-852-1	26628-22-8	0.1 %	T+ N	R28 R32 R50/53

Identification of Components Not Classified as Dangerous:

This product contains the substances listed below, which are not defined as 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.

Non-Dangerous Component	EINECS or ELINCS No.	CAS No.	Content (weight percent)	EU Hazard Symbol Letters *	R Phrases**
Protein	N/A	N/A	Proprietary	N/A	N/A
Phosphate Buffer	N/A	N/A	Proprietary	N/A	N/A
Water	231-791-2	7732-18-5	< 95 %	N/A	N/A

* 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 R phrase is listed in Section 2.

† Symbols letters and R Phrases are assigned to each dangerous component for the highest concentration range as defined in 67/548/EEC and 1999/45/EC.

SECTION 4 FIRST AID MEASURES

	Treatment Measures:	Symptoms of Exposure:
Contact with Eyes:	If the product contacts the eyes, promptly wash (irrigate) the eyes with large amounts of tepid water for at least 15 minutes, occasionally lifting the lower and upper lids. Seek medical attention immediately.	Possible eye irritation
Ingestion:	Seek medical attention immediately. Never give an unconscious person anything by mouth.	Possible gastrointestinal irritation causing nausea and vomiting.
Inhalation:	If a person inhales large amounts of the product move the exposed person to fresh air at once. If breathing is difficult or stops seek immediate medical attention.	Possible respiratory tract and mucous membrane irritation.
Skin Contact:	If the product contacts the skin, immediately flush the contaminated skin with mild soap and water. If this chemical penetrates clothing immediately remove the clothing and flush the skin with water. Seek medical	Possible skin irritation.

attention immediately.

SECTION 5 FIRE FIGHTING MEASURES

- Suitable Extinguishing Media:** Use extinguishing media appropriate for the surrounding fire. This product is compatible with commercially available extinguishing media.
- Special Exposure Hazards:** Hazardous decomposition products that form when the substance or mixture burns
- Special Protective Equipment for Firefighters:** This product does not require the use of any additional fire fighting equipment beyond what is appropriate to the surrounding fire.

SECTION 6 ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Wear chemical resistant boots, clothing, eye protection, and gloves to prevent skin contact. (See Section 8)
- Small Spills:** Identify the spilled material(s). Barricade the spill area and notify others in the surrounding areas. Control all sources of ignition if the substance is flammable. Don the appropriate personal protective equipment (See section 8). Control the movement of the spilled product (into drains, soil, across floors etc.) with absorbent spill materials. Collect contaminated spill material and place in container meeting appropriate U.N. packaging requirements. Decontaminate used equipment and affected spill area appropriately.
- Large Spills:** In addition to small spill precautions, determine personnel evacuation distances. Notify appropriate authorities if necessary.
- Environmental Precautions:** Collect and dispose of contaminated materials according to international, federal, state and local regulations. Keep away from surface and ground water, drains, and soil.

SECTION 7 HANDLING AND STORAGE

- Handling:** Seek appropriate training to safely handle this product under normal conditions. Use the recommended personal protective equipment (See Section 8) to prevent chemical exposures. Wash hands with soap and water before eating, drinking, or touching common items (phone, computer, etc.) to prevent cross contamination. Use this product with adequate ventilation. See product technical data sheet for details.
- Storage:** See product technical data sheet for details.
- Specific use:** See product technical data sheet for details.

SECTION 8 EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limit Values:	OSHA PEL	NIOSH REL	ACGIH TLV	Other
Sodium Chloride:	Not Listed	Not Listed	Not Listed	None
	0.3 mg/m ³ as sodium azide (Ceiling)	0.1 ppm skin as HN ₃ , 0.3 mg/m ³ skin as NaN ₃ (Ceilings)	0.11 ppm as HN ₃ , 0.29 mg/m ³ as NaN ₃ (Ceilings), A4 Not classifiable as	See Below
Sodium Azide:	0.1 ppm as hydrazoic acid (Ceiling)			

a human
carcinogen.

Australia: TWA 0.1 ppm (0.3 mg/m³), JAN1993
 Belgium: STEL 0.11 ppm (0.3 mg/m³), JAN1993
 Finland: TWA 0.1 ppm (0.3 mg/m³), STEL 0.3 ppm (0.9 mg/m³), JAN1999
 France: VME 0.1 mg/m³, VLE 0.3 mg/m³, Skin, FEB2006
 Germany: MAK 0.2 mg/m³ (Inhalable), 2005

United Kingdom: TWA 0.1 mg/m³;
 STEL 0.3 mg/m³ (skin), 2005

	Normal Handling Conditions	Emergency Response Conditions
Engineering Controls:	General room ventilation is adequate for the use of this product.	Provide negative pressure ventilation.
Respiratory Protection	Use appropriate respiratory protection.	Use appropriate respiratory protection.
Eye Protection:	Safety glasses with side shields.	Chemical splash goggles or other face protection as appropriate.
Skin Protection:	Laboratory coat, adequate chemical-resistant gloves.	Chemically resistant boots, clothes, and impermeable gloves as appropriate.
Environmental Exposure Controls:	Not available.	Not available.
Other Equipment:	Safety shower, eyewash stations, and hand washing equipment should be available close to the work area as needed.	

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear Colorless Liquid	
Odor:	None	
Odor Threshold:	Not Available	
pH:	Not Available	
Melting Point/Freezing point:	Not Available	
Initial boiling point and boiling range:	Not Available	
Flash Point:	Not Available	
Evaporation Rate, 20 °C:	Not Available	
Flammability (Solid/Gas):	Not Available	
Explosive Limits:	LEL: Not Available	UEL: Not Available
Vapor Pressure:	Not Available	
Vapor Density, 20 °C:	Not Available	
Relative Density (Water = 1.0):	Not Available	
Solubility:	Not Available	

Partition coefficient (n-octanol/water):	Not Available
Auto Ignition Temperature (ASTM D1929):	Not Available
Decomposition temperature:	Not Available
Oxidizing Properties:	Not Available
Viscosity, centipoise:	Not Available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability:	Product is stable under normal operating conditions and use as described in the product technical data sheet.
Conditions to Avoid:	See product technical data sheet for details.
Incompatible Materials to Avoid:	Strong acids or bases, strong oxidizers, extreme temperatures, barium carbonate, trifluoroacetyl fluoride, chromyl chloride, benzoyl chloride, dimethyl sulfate, dibromomalononitrile, ammonium chloride, and trichloroacetonitrile.
Hazardous Decomposition Products:	Sodium azide forms explosion-sensitive materials with some metals such as lead, silver, mercury, and copper. Carbon disulfide and aqueous solutions of metal azides interact to produce metal azidodithioformates most of which are explosive, with varying degrees of power and sensitivity to shock or heat metal azides.

SECTION 11 TOXICOLOGICAL INFORMATION

Toxicology Data: Toxicological information for this product as a whole does not exist, below is data for the individual components.

Sodium Chloride: RTECS Number #VZ4725000

Sodium Azide: RTECS # VY8050000

	Toxicity Test	Exposure Route	Dose	Observed Effect
Acute Toxicity:	LD ₅₀ (Rat)	Oral	3,000 mg/kg	N/A ¹
Sodium Chloride:				
Sodium Azide:	LC ₅₀ (Rat)	Inhalation	37 mg/m ³	Eye: Other eye effects Behavioral: Convulsions or effect on seizure threshold Lung, Thorax, or Respiration: Structural or functional change in trachea or bronchi ²
	LD ₁₀ (Human)	Oral	29 mg/kg	Brain and Coverings: Increased intracranial pressure Cardiac: Pulse rate decreased with fall in BP Lung, Thorax, or Respiration: Acute

				pulmonary edema ³
	LD ₅₀ (Rat)	Skin	50 mg/kg	N/A ³
	LD ₅₀ (Rabbit)	Skin	20 mg/kg	N/A ⁴
Skin Corrosion/Irritation:	Skin Irritation (Rabbit)	Skin	500 mg/24 Hours	Mild ⁵
Sodium Chloride:				
Serious Eye Damage/Eye Irritation:	Eye Irritation (Rabbit)	Eye	100 mg/24 Hours	Moderate ⁵
Sodium Chloride:				
Respiratory or Skin Sensitization:	Not Available			
Germ Cell Mutagenicity:	Not Available			
Reproductive Toxicity:	Not Available			
STOST-Single Exposure:	Not Available			
STOST-Repeated Exposure:	Not Available			
Aspiration Hazard:	Not Available			
Carcinogenicity:	Carcinogenetic information for this product as a whole does not exist, below is data for the individual components.			
Research Agency:	OSHA:	NTP:	IARC:	
Sodium Chloride	Not Listed	Not Listed	Not Listed	
Sodium Azide	Not Listed	Not Listed	Not Listed	

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: Ecotoxicity information for this product as a whole does not exist, below is data for the individual components.

Sodium Chloride:

LC₅₀ Carassius Auratus 24 Hours 9,750,000 ug/L⁶

LC₅₀ Poecilia Latipinna 48 Hours 16,595,000 ug/L⁷

LC₅₀ Lepomis Macrochirus 96 Hours 1,294,600 ug/L⁸

Sodium Azide:

LC₅₀ Lepomis Macrochirus 24 Hours 2,100 ug/L⁹

LC₅₀ Oncorhynchus Mykiss 96 Hours 2,750 ug/L¹⁰

LC₅₀ Pimephales Promelas 96 Hours 5,460 ug/L¹¹

Mobility: Aquatic Fate: Photolysis of sodium azide may result in metal nitrides initially, with the eventual formation of the free metal and nitrogen gas.¹²

Sodium Azide:

Persistence and Degradation: Environmental Abiotic Degradation: The dissipation of azides in soil is not by microbial action but is strictly a chemical process accelerated by increasing acidity and elevated temperatures. Azides rapidly dissipate in soils by oxidation or by reaction of hydrozoic acid with soil organic acids to form azides of these acids which decompose by the Curtius rearrangement¹³.

Sodium Azide:

Bio Accumulative Not Available

Potential:**Results of PBT Assessment:** Not Available**Other adverse effects:** None**SECTION 13 DISPOSAL INFORMATION****Substance:** Dispose of unused contents in accordance with international, federal, state, and local regulations.**Contaminated Packaging:** Dispose of container in accordance with international, federal, state and local requirements.**SECTION 14 TRANSPORTATION INFORMATION****UN Number:** Not Listed**Class:** Not Listed**Proper Shipping Name:** Not Listed**Packing Group:** Not Listed**Marine Pollutant:** Not Listed**Other Applicable Information:** None**SECTION 15 REGULATORY INFORMATION****Australia:** Hazchem Code: Not Listed

Poisons Schedule Number: Not Listed

California: Proposition 65 Listed: Not Listed**Canada:** WHMIS: D2B**European Union:** Indication if Chemical Safety Assessment has been carried out for the substance or substances in the preparation: Not Required

Category of danger: Xi: Irritant

T+: Very Toxic

N: Dangerous for the Environment

Risk phrases: R28: Very toxic if swallowed.

R32: Contact with acids liberates very toxic gas.

R36/38: Irritating to eyes and skin.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases: S7/9: Keep container tightly

closed and in a well-ventilated place.

S20/21: When using do not eat, drink or smoke.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27/28: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and tepid water.

S28: After contact with skin, wash immediately with plenty of soap and tepid water.

S29/35: Do not empty into drains; dispose of this material and its container in a safe way.

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

S45: In case of accident or if you feel unwell, seek medical advice immediately.

S60: This material and its container must be disposed of as hazardous waste.

S61: Avoid release to the environment. Refer to special instructions/safety data sheets.

OECD/High Production Volume (HPV) chemicals: Not Listed

RoHS: Not Available

Japan: Poisonous and Deleterious Substances Control Law: Not Listed

United Kingdom Control of Substances Hazardous to Health Regulations 2002 (COSHH) Rating: Not Listed

SECTION 16 ADDITIONAL INFORMATION

Training Advice: Seek effective chemical handling training to reduce the hazards associated with this product prior to use.

Technical Contact: <http://www.millipore.com/support>

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 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
LEL	Lower Explosive Limit
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)
STOST	Specific Target Organ Systemic Toxicity
UEL	Upper Explosive Limit
WHMIS	Workplace Hazardous Materials Information System (Canada)

This safety data sheet has been prepared to comply with the requirements of the European Union regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) 1906/2006 and ANSI standard Z400.1-1998.

Millipore, the M mark [and name of product] are registered trademarks of Millipore Corporation.

© 2009 Millipore Corporation. All rights reserved. The above information is believed to be current and accurate; however, Millipore makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

¹ Vrednie chemicheskcie veshstva. Neorganicheskie soedinenia elementov I-IV groopp (Hazardous substances. Inorganic substances containing I-IV group elements), Filov V.A., *Chimia*, 1988.

² "Spravochnik po Toksikologii i Gigienicheskim Normativam (PDK) Potentsial'no Opasnykh Khimicheskikh Veshchestv" Kushneva, V.S., and R.B. Gorshkova, eds. 46, Zhivopisnaya St., 123182, Moscow, Russia, Izdat 1999.

³ Medical Toxicology and Adverse Drug Experience. (Adis International Ltd., Private Bag 65901, Mairangi Bay, Auckland 10, N.Z.) V.4- 1989.

⁴ Farm Chemicals Handbook. (Meister Pub., 37841 Euclid Ave., Willoughy, OH 44094).

⁵ Toxicology and Applied Pharmacology. Academic Press, Inc., 1 E. First St., Duluth, MN 55802 V.1- 1959.

⁶ Adelman, I.R.Jr., Standard Test Fish Development. Part I. Fathead Minnows (*Pimephales promelas*) and Goldfish (*Carassius auratus*) as Standard Fish in, EPA-600/3-76-061A, U.S.EPA, Duluth, MN :77 p, 1976.

⁷ Dowden, B.F., and H.J. Bennett, Toxicity of Selected Chemicals to Certain Animals, *J.Water Pollut.Control Fed.* 37(9):1308-1316, 1965.

⁸ Trama, F.B., The Acute Toxicity of Some Common Salts of Sodium, Potassium and Calcium to the Common Bluegill, *Proc.Acad.Nat.Sci.Philadelphia* 106:185-205, 1954.

⁹ Mayer, F.L.Jr., and M.R. Ellersieck, Manual of Acute Toxicity: Interpretation and Data Base for 410 Chemicals and 66 Species of Freshwater Animals, *Resour.Publ.No.160*, U.S.Dep.Interior, Fish Wildl.Serv., Washington, DC :505 p. (USGS Data File), 1986.

¹⁰ Klaverkamp, J.F., A. Kenney, S.E. Harrison, and R. Danell, An Evaluation of Phenol and Sodium Azide as Reference Toxicants in Rainbow Trout, In: *Proc.2nd Annual Aquatic Toxicity Workshop*, 1975, Ontario Ministry of the Environ., Freshwater Inst., Winnipeg, Manitoba, Canada :73-92, 1975.

¹¹ Geiger, D.L., L.T. Brooke, and D.J. Call, Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), *Ctr.for Lake Superior Environ.Stud., Univ.of Wisconsin-Superior*, Superior, WI 5:332 p., 1990.

¹² USEPA; Chemical Hazard Information Profile: Sodium Azide p.242 (1977) EPA-560/11-80-011.

¹³ Weed Science Society of America. Herbicide Handbook. 5th ed. Champaign, Illinois: Weed Science Society of America, 1983., p. 440.