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Material Safety Data Sheet

Products: All products containing thimerosal and/or sodium azide as preservatives. Products in this category include:

- Alkaline phosphatase-conjugated products
- Allophycocyanin (APC) fluorescent protein-conjugated products
- Aminomethylcoumarin (AMCA) fluorescent dye-conjugated products
- Antiserums
- Biotin-SP-conjugated products
- Colloidal gold-antibody complexes
- Cyanine (CyTM2, CyTM3, or CyTM5) fluorescent dye-conjugated products
- Dichlorotriazinylamino fluorescein (DTAF) fluorescent dye-conjugated products
- DyLight fluorescent dye-conjugated products
- Fluorescein isothiocyanate (FITC)-conjugated products
- Horseradish peroxidase-conjugated products
- Normal serums
- Phycoerythrin (R-PE) fluorescent protein-conjugated products
- Purified proteins coupled to agarose
- Rhodamine isothiocyanate (TRITC) fluorescent dye-conjugated products
- Rhodamine Red-X (RR-X) fluorescent dye-conjugated products
- Texas Red® (TR) fluorescent dye-conjugated products

Description of Contents: Components common to all of these products are buffer salts and human, animal, plant, or microbial proteins. Some products also contain fluorescent dyes, biotin, colloidal gold particles, or agarose beads. None of these components are considered to be hazardous. The hazardous substances, thimerosal and/or sodium azide, are present in these products in very small amounts as anti-microbial preservatives.

Concentration of Hazardous Components: 0.1 mg thimerosal/ml (0.01%) and 0.5 mg sodium azide/ml (0.05%) of reconstituted product. According to the OSHA Hazard Communications Standard (CFR 1910.1200), if a mixture contains less than 1% of a hazardous chemical or 0.1% of a carcinogen, the mixture shall not be considered hazardous. However, precautions for handling potentially dangerous reagents should be practiced when using these products. To aid in determining handling procedures, we offer the following additional information.

Toxicity Data: LD 50 (thimerosal) = 75 mg/kg (rat-oral), LD 50 (sodium azide) = 27 mg/kg (rat-oral)

Potential Hazard: The only hazards identified with this product are those associated with thimerosal and sodium azide, which are present at very low concentrations.

Fire Hazard: Sodium azide emits toxic fumes under fire conditions.

Explosion Hazard: Sodium Azide reacts with many heavy metals, including copper and lead, to form explosive compounds. Use large volumes of water to flush this product through any plumbing containing these heavy metals.

Biological Hazard: The source materials for products of human origin (ChromPure human serum proteins, human gamma globulin, and normal human serum) were tested according to FDA guidelines for the detection of Hepatitis B surface antigen, antibodies to HIV, antibodies to Hepatitis C, HIV-1 antigens, and Syphilis. Each donor blood unit was negative for each test. However, no test method can provide total assurance that these or other infectious agents are absent. Therefore all products of human origin should be handled by procedures recommended in the CDC/NIH manual: "Biosafety in Microbiological and Biomedical Laboratories (BMBL)", U.S. Department of Health and Human Services, CDC, and NIH. The manual is available from the U.S. Government Printing Office or online at <http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4toc.htm>.

Protective Clothing: None

Method of Disposal: Thimerosal and sodium azide are hazardous chemicals. Disposal of even small amounts of these chemicals may be subject to federal, state, or local laws.

Special Precautions: These products are for *in vitro* research use only, not for household, diagnostic, or therapeutic use.

They are not medical devices.

Health and First Aid:

Eye Contact: May cause irritation or permanent damage. Irrigate with a copious amount of water. Contact physician immediately.

Skin Contact: May cause irritation. Wash affected areas with water or soap and water.

Inhalation: Remove to fresh air. Contact poison control center or physician immediately for first aid instructions if necessary.

Ingestion: Contact poison control center or physician immediately for potential thimerosal (merthiolate) and sodium azide poisoning.

Date: November 7, 2009

The above information is believed to be correct but does not purport to be all inclusive and is intended to be used only as a guide. Jackson ImmunoResearch Laboratories, Inc. will not be held responsible for any damage from handling or from contact with the above products.

*Cy is a trademark of GE Healthcare Bio-Sciences Ltd. Jackson ImmunoResearch is licensed to manufacture and sell conjugates of Cy2, Cy3, and Cy5 reactive dyes under US Patent Number 5,268,486 and other patents pending.

*Rhodamine Red-X is a trademark of Molecular Probes, Inc. Jackson ImmunoResearch is licensed by Molecular Probes, Inc. to manufacture and sell conjugates of Rhodamine Red-X reactive dye.

*Texas Red is a trademark of Molecular Probes, Inc. and is registered with the U.S. Patent and Trademark Office.