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Material Safety Data Sheet for Proteins

1a. Identification of the substance/preparation

Product Group Code: Various (BA-…., PA-…., RA-…., SA-….)

Product Description: Purified and recombinant Proteins

1b. Supplier

Acris GmbH
Im Himmelreich 11
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Internet: www.acris-antibodies.com

2. Composition/ Information on ingredients

Chemical name: None. CAS number: None. EEC-No: No data available.

This product contains protein of animal origin (as specified on the product data sheet). Bovine serum albumin is added to some purified proteins, and a chemical preservative is also usually added (see individual product data sheet for information and refer to guidance below.) Where a protein is conjugated refer to specific hazard data below.

3. Hazards identification

The following safety data sheet identifies the hazards related to the protein product, and constituent chemicals in undiluted form that make up the buffer. Where the ingredients are used in a diluted form the risk of harm being caused by certain ingredients during handling of this product may be reduced compared with the undiluted ingredient. However, the hazards are still present and users should handle the product with care accordingly. This assessment should be used as a guide only and does not represent an all inclusive study of the product.

This product contains material of animal origin (as specified on product data sheet) and should be handled as a potential **biohazard**. As with all biological material, reduce direct handling to a minimum and wear appropriate protective clothing.

All human source materials have tested negative for HIV 1 and HIV 2, and non-reactive for anti-HCV, anti-HBc and HBsAg. No test guarantees a product to be non-infectious. Therefore, all material derived from human fluids or tissues should be considered as potentially infectious.

A **Chemical hazard** may be associated with this product where a preservative has been added. (see individual product data sheet for information and refer to guidance below.)

Buffers - All constituents of the buffers in which proteins are supplied contain chemicals designated as non-regulated (NR) by BDH Hazard Class System that corresponds to UN Hazard Classification.

Bovine Serum Albumin is added to some purified protein preparations as a preservative / stabilising agent- usually at a level of 1% w/v.
Note: Bovine serum albumin used carries a North American certificate of origin

Preservatives

Sodium Azide - Some proteins contain sodium azide as a preservative at a maximum level of 0.1% w/v , see individual product data sheet. Sodium azide is highly toxic by inhalation, in contact with the skin and if swallowed. May cause heritable genetic damage, readily absorbed through skin, avoid contact with metals. Target organs: nerves, heart. Avoid ingestion or contact with skin and eyes. Wear appropriate protective clothing (goggles or face shield, protective gloves and long sleeve laboratory coat).

Thiomersal - Also referred to as Thimerosal (SIGMA) and Merthiolate (Eli Lilly and Co). Some protein products (eg peroxidase conjugates) contain thiomersal as a preservative at a level of 0.01% w/v, see individual product data sheet. Thiomersal is a toxic substance and an irritant to eyes and skin. Avoid ingestion or contact with skin and eyes. Wear appropriate protective clothing.

Bronidox - Bronidox is suitable for use in surface cosmetics which do not remain in contact with the skin including child shampoos and cleansing creams and that the toxicological risk associated with this chemical is low. It is advised that direct contact of the concentrated chemical with the skin and mucous membrane should be avoided. The level present in our products is usually 0.02% w/v.

'Stabilzyme' HRP Conjugate Stabiliser - Some peroxidase conjugates are supplied in the aqueous 'Stabilzyme' HRP Conjugate Stabiliser - Though complete toxicity information on Stabilzyme HRP Conjugate Stabiliser is not available, none of its components are known to be toxic or hazardous at use concentrations. Stabilzyme contains three mercury free preservatives ProClin 300 (20 ppm), methylisothiazolone (0.02%) and bromonitrodioxane (0.02%), all of which can produce adverse health effects in their concentrated form. For more specific toxicity data refer to supplier safety data on these components from Boehringer Mannheim Corporation and Rohm and Haas respectively.

ProClin 300 - is a corrosive substance when in concentrated form, which can cause eye damage, skin burns and allergic skin reaction. See product data sheet for preservative concentration. May cause allergic skin reaction. Avoid ingestion or contact with skin and eyes. Wear appropriate protective clothing (goggles or face shield, rubber gloves and long sleeve laboratory coat).

RTECS Number: Not assigned

4. First-aid measures

Skin	In case of contact wash off skin thoroughly with soap and water. Remove contaminated clothing and wash before re-use. In severe cases obtain medical attention.
Eye	Ensure adequate flushing of eye contamination for at least 15 minutes separating eyelids with fingers. If discomfort persists obtain medical attention.
Lungs	If inhaled , remove from exposure, rest and keep warm. In severe cases seek medical attention.
Mouth	If ingested, wash out mouth thoroughly with water and give plenty of water to drink. Obtain medical attention giving details of product constituents and any notable hazards.

5. Fire fighting measures

Suitable extinguishing media: Water spray, carbon dioxide, dry chemical powder or appropriate foam.
Special considerations: -
Hazardous combustion products: Stabilzyme HRP Conjugate Stabiliser emits toxic fumes of carbon monoxide, carbon dioxide and nitrogen oxides. May emit toxic fumes in fire.

6. Accidental release measures

Wear appropriate protective clothing. Mop up with absorbent cloth and arrange removal by disposal company. Wash site of spillage thoroughly with water and detergent.

7. Handling and storage

Store protein as directed on individual product data sheet.

8. Exposure controls/personal protection
As appropriate to quantity handled. Ventilation: Extraction hood. Gloves: Rubber or plastic. Eye protection: Use goggles or face shield. Other protection: Use plastic apron, sleeves, boots - if handling large quantities.

9. Physical and chemical properties

Form: Proteins and their conjugates are supplied either as a liquid or lyophilised powder. Colour: Unconjugated - colourless to pale yellow. (See attached sheet for conjugates.). Odour: almost odourless. Solubility in water: miscible in all proportions. No further data available

10. Stability and reactivity

Stable under normal handling conditions. No further data

11. Toxicological information

The toxicology of this material has not been fully tested. See information under preservatives.

12. Ecological information

The preservative Proclin 300 contained in some protein preperations is toxic to fish and wildlife and therefore should not be discharged where treated effluent will leak into lakes, streams and ponds or public water. No further data available

13. Disposal considerations

This product should be disposed of in accordance with local waste disposal authority guidelines or passed to a chemical disposal company.

14. Transport information

Observe storage requirements. Hazard Class: None. ICAO/IATA class: None

15. Regulatory information

Caution: substance not yet fully tested. Contact Acris for further information

16. Other information

Additional notes regarding protein conjugates

Proteins may be found conjugated to the following labels and the hazard assessment for each label can be found below:

Fluorescein Isothiocyanate (FITC)
Hazard class NR + UN NO / CAS No 2321-07-5 in pure crystalline powder form. Supplied as: Pale fluorescent green/yellow colour conjugate in solution. Fluorescein isothiocyanate is present in conjugated products at very low levels (less than 0.002% w/v maximum) at 1mg/ml concentration. There are no extra special requirements for product handling of fluorescein conjugates other than those already listed for unconjugated antibody.

Phycoerythrin (PE)
Hazard class: NR. Non- hazardous phycobilliprotein extracted from seaweed. Supplied as: Fluorescent pink colour conjugate in solution. There are no extra special requirements for product handling.

Alkaline Phosphatase (AP)
Hazard class: NR. CAS No. 9001-78-9 in cream powder form. Supplied as: Pale yellow colour conjugate in solution. Alkaline Phosphatase is present in the product at very low levels. In concentrated powder form Alkaline phosphatase may irritate eyes and cause allergic reactions in sensitive individuals therefore it is advisable to be aware of this information and avoid contact of these conjugates with eyes and skin and wear protective disposable gloves.

Horseradish peroxidase (HRP)
Hazard class: NR. Supplied as: Pale brown colour conjugate in solution. Horseradish peroxidase is present in conjugated products at very low levels. In powder form it is a possible irritant therefore it is advisable to be aware of this information and avoid contact of these conjugates with eyes and skin and wear protective disposable gloves.

Biotin
Hazard class: NR CAS No. 58-85-5 as white crystalline powder form. Supplied as: Colourless conjugate solution. Biotin is present in conjugated products at very low levels. There are no extra special requirements for product handling.

Allophycocyanaine (APC)
Supplied as: Lyophilised pale blue powder or blue conjugate solution. APC is present in the conjugated product at very low levels (less than 0.1%).

Idotricarbocyanine (PE-Cy5)
Supplied as: Straw coloured conjugate solution. The concentrated unconjugated Cy5 dye is a harmful irritant. Therefore, although PE-Cy5 is present in the conjugated product at very low levels, it is advisable to be aware of this information and avoid contact with skin, eyes and respiratory system, or by inhalation or ingestion.

Texas red™ (TR)
Supplied as: pale red conjugate solution. Texas red is present in the conjugated product at very low levels. In concentrated solid form, Texas red is toxic and a possible carcinogen, therefore although Texas red is present in the conjugated product at very low levels, it is advisable to be aware of this information, and avoid contact by inhalation, eyes, skin or ingestion and wear protective disposable gloves.

Reference

BDH Hazard sheets (1989) Black Bear Press Limited, Cambridge, England. + conjugate manufacturer safety information.

This document has been produced to provide health and safety information in accordance with Control of Substances Hazardous to Health Regulations (1999) COSHH, Personal Protective Equipment (PPE) Regulations (1992) and Management of Health and Safety at Work Regulations (1992).

The information contained in this safety data sheet is believed to provide relevant information that will aid the safe handling and use of all these products and their related conjugates. However, it does not claim to be an all inclusive assessment and should be used as a guide only. Acris GmbH shall not be held liable for any damage resulting from contact with this product.