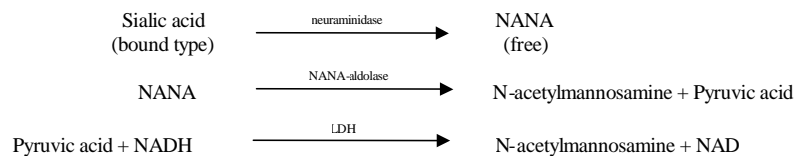


## Sialic Acid Quantitative Determination Kit #2

(Cat. No.: SAQD-02)

### Principle of Procedure

The glycosidically bound sialic acid is hydrolyzed by neuraminidase to release free N-acetylneuraminic acid (NANA), which is converted to N-acetylmannosamine and pyruvic acid by the action of NANA-aldolase. Lactate dehydrogenase (LDH), in the presence of NADH, converts the pyruvic acid to lactic acid. In this reaction, there is a decrease in absorbance at 340nm as the NADH is oxidized to NAD. The concentration of NANA is proportional to the rate of decrease of NADH over a limited time interval. The influence of endogenous pyruvic acid present in the sample is eliminated by the preincubation of the specimen with Reagent A which contains LDH and NADH.



### Kit Contents

Reagent A	Neuraminidase + LDH + NADH	4 x 20ml
Reagent B	NANA - aldolase	2 x 10ml
Buffer Solution A	Tris - HCl buffer	4 x 20ml
Buffer Solution B	Tris - HCl buffer	2 x 10ml
Standard Solution	NANA (1mg/ml)	5 x 3ml

### Reagent Preparation

Reagent A: Reconstitute 1 vial of Reagent A by adding one bottle of solution A. This solution is stable for **14 days** when stored in the dark between 2-10°C.

Reagent B: Reconstitute 1 vial of Reagent B by adding one bottle of solution B. This solution is stable for **14 days** when stored in the dark between 2-10°C.

### Procedure

	Sample	Standard	Blank
Unknown	40 µl	-	-
Standard Solution	-	40 µl	-
Water	-	-	40 µl
Reagent A	1.2 ml	1.2 ml	1.2 ml
Warm in a water bath at 37°C for 5 minutes			
Reagent B	0.3 ml	0.3 ml	0.3 ml
Mix and warm at 37°C. Read the absorbance at 340nm at exactly 2 minutes and again at 3 minutes after the addition of Reagent B.			

### Calculation

$$\frac{\Delta OD_{340} \text{ sample} - \Delta OD_{340} \text{ blank}}{\Delta OD_{340} \text{ standard} - \Delta OD_{340} \text{ blank}} = \text{mg NANA / ml sample}$$

$$\begin{array}{l}
 \Delta OD_{340} \text{ Sample} = OD_{340} \text{ at 3 minutes} - OD_{340} \text{ at 2 minutes} \\
 \Delta OD_{340} \text{ Standard} = OD_{340} \text{ at 3 minutes} - OD_{340} \text{ at 2 minutes} \\
 \Delta OD_{340} \text{ Blank} = OD_{340} \text{ at 3 minutes} - OD_{340} \text{ at 2 minutes} \\
 \text{Detection Range} = 0 - 2\text{mg NANA/ml sample}
 \end{array}$$

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# MATERIAL SAFETY DATA SHEET

Effective Date: March 31, 2006

Revision 5

Page 1 of 2

MSDS for Crude and Purified Proteins and Enzymes Continued - page 2 of 2.

## PRODUCT IDENTIFICATION

Name: Crude and purified protein and enzymes.  
Catalog Number (s): P-01, 2402, 2404, EC-32118, EC-32118S, E-34424, EC-34424, BA-000, BA-002, NP-01 to NP-05, B-1201 to B-4601, L-1102 to L-9000, AT-2100 to AT-2701, AF-001 to AF-2354, AL-1104 to AL-4701, 13-600 to 13-607, DM1011P to DM1064P, LGS-01, SAQD-01, SAQD-02.  
Formula: Complex polypeptides.  
Synonyms: Protein A, Horseradish Peroxidase, Laminin (mouse), Neuraminidase, Bromelain, Avidin (egg white), Glycosylated Bovine Serum Albumin, Lectins, Secondary and Monoclonal Antibodies, other Antisera.

## EMERGENCY INFORMATION

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## HAZARDOUS COMPONENTS

Specific protein (s) as listed on the vial label. Solutions are at a concentration generally greater than 0.5mg protein/ml. Powders are generally greater than 95% specific protein unless otherwise indicated on the vial label or product information sheet. Biological activity of these proteins will vary. Although these materials are not generally considered to be hazardous they may cause allergic responses in sensitive individuals if inhaled or allowed to contact skin.

## HEALTH HAZARD INFORMATION

EXPOSURE LIMITS: None established. The toxicological properties of these products have not been thoroughly investigated. Care should be taken when handling any of these materials.  
EFFECTS OF OVEREXPOSURE: Any of these proteins may cause acute localized eye, skin, or mucous membrane irritation. Some sensitive individuals may develop a chronic allergic reaction with exposure.  
ROUTES OF EXPOSURE: Inhalation of powders and skin contact with liquids are the primary routes of exposure. Care should be taken to avoid the formation of aerosols when handling any of the solutions.

## PHYSICAL CHARACTERISTICS

APPEARANCE: Powders may be white to amber brown in color. Solutions may be translucent to a clear brown  
SOLUBILITY: Powders are completely soluble in many biological buffers. Some are soluble in water. All liquids are completely miscible in water and biological buffers.

## FIRE AND EXPLOSION HAZARDS

EXTINGUISHING MEDIA: Not considered to be a fire hazard.  
SPECIAL FIRE FIGHTING PRECAUTIONS: Water spray or CO<sub>2</sub>.  
None required.

NOTE: Most solutions contain 0.05% sodium azide as a preservative. Azide may react with lead and copper plumbing to form explosive metal azides. Flush with copious amounts of water when disposing material in the sink.

## REACTIVITY DATA

STABILITY: Stable. Decomposition products are not known to be hazardous.  
HAZARDOUS POLYMERIZATION: Will NOT occur.  
INCOMPATIBILITY: None known. (Lead and copper may react with sodium azide).

## SPILL / LEAK PROCEDURES

MATERIAL RELEASE / SPILL: Avoid contact with powder or liquid. Clean up spill with a paper towel soaked in household bleach. Do not allow solutions to dry on environmental surfaces. Wash affected area with detergent after the area has been treated with bleach.  
WASTE DISPOSAL: Incinerate, autoclave, or dispose of paper waste in accordance with all Local, State, and Federal regulations. Due to the small quantities of material involved these products are generally not considered to be environmental hazards. All of these proteins are fully biodegradable.

## EMERGENCY FIRST AID PROCEDURES

May be harmful if swallowed, inhaled, or allowed to absorb through the skin. Wash contacted area with water for 15 minutes. If inhaled remove to fresh air. Report exposure to the appropriate safety official. Consult a physician if irritation occurs or if there is any indication of an allergic response such as watering eyes, sneezing, or difficulty breathing

## SPECIAL HANDLING PRECAUTIONS

VENTILATION: No special ventilation is required but it is recommended to handle these reagents in a fume hood when possible.  
EYE PROTECTION: Not required under most circumstances but recommended as a safety precaution.  
RESPIRATORY PROTECTION: Recommended as a safety precaution, specifically when working with powders. An approved respirator may be required for those individuals already known to be sensitive to these materials.  
PROTECTIVE GLOVES: Required when handling any of these materials.

## SPECIAL PRECAUTIONS

This material is for research and experimental application only. It is not intended for food, drug, household, agricultural, or cosmetic use. All materials should be handled only by technically qualified individuals experienced with working with potentially hazardous chemicals. The above information is correct to the best of our knowledge. The user should make independent decisions regarding completeness of the information, based on all sources available. EY Laboratories, Inc. shall not be held liable for any damage resulting from handling or contact with the above product.

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Sample Only

# MATERIAL SAFETY DATA SHEET

Effective Date: March 31, 2006

Revision 6

Page 1 of 2

## PRODUCT IDENTIFICATION

Name: Monosaccharides, Disaccharides, and Polysaccharides.  
Catalog Number (s): C-6000 to C-8006, LGS-01, SAQD-01, SAQD-02.  
CAS Numbers: 14215-68-0, 10036-64-3, 6696-41-9, 59-23-4, 6363-53-7, 3458-28-4, 585-99-9, 492-62-6, 131-48-6, 617-04-9, 5989-81-1, 70431-34-4, 11040-27-0, 32181-59-2.  
Synonyms: N-Acetyl-D-Galactosamine, N-Acetyl-D-Glucosamine,  $\alpha$ -L-Fucose, D-Galactose, Maltose, D-Mannose, Melibiose, D-Glucose, N-Acetylneuraminic Acid (sialic acid and oligomers of sialic acid), Methyl  $\alpha$ -D-Mannopyranoside,  $\alpha$ -Lactose, Colominic Acid, N-Acetylneuraminyl Lactose (sialyllactose), Chitobiose (diacetyl chitobiose), chitotriose (triacetyl chitotriose), N-acetyllactosamine, Methyl  $\beta$ -D-Mannopyranoside Isopropylate.

## EMERGENCY INFORMATION

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**EMERGENCY PHONE:  
650-342-3296**

## HAZARDOUS COMPONENTS

These carbohydrates are not considered to be hazardous but they may cause irritation or an allergic response in sensitive individuals.

## HEALTH HAZARD INFORMATION

EXPOSURE LIMITS: None established. The toxicological properties of these products have not been thoroughly investigated. Care should be taken when handling any of these materials.

EFFECTS OF OVEREXPOSURE: No effects of overexposure have been documented. The carbohydrates may cause irritation or an allergic reaction

ROUTES OF EXPOSURE: Ingestion, inhalation, or contact with skin. Contact with the eyes may also present a hazard.

## PHYSICAL CHARACTERISTICS

APPEARANCE: White to tan powder.  
SOLUBILITY: Soluble in water.

## FIRE AND EXPLOSION HAZARDS

EXTINGUISHING MEDIA: Not considered to be a fire hazard.  
Water spray or CO<sub>2</sub>.  
SPECIAL FIRE FIGHTING PRECAUTIONS: None required.

NOTE: Most solutions contain 0.05% sodium azide as a preservative. Azide may react with lead and copper plumbing to form explosive metal azides. Flush with copious amounts of water when disposing material in the sink.

MSDS for Monosaccharides, Disaccharide and Polysaccharides Continued - page 2 of 2.

## REACTIVITY DATA

STABILITY: Stable. Decomposition products are not known to be hazardous.  
HAZARDOUS POLYMERIZATION: Will NOT occur.  
INCOMPATIBILITY: None known.

## SPILL / LEAK PROCEDURES

MATERIAL RELEASE / SPILL: Clean up spill with soap and water.  
WASTE DISPOSAL: Incinerate, autoclave, or dispose of paper waste in accordance with all Local, State, and Federal regulations. These materials are fully biodegradable.

## EMERGENCY FIRST AID PROCEDURES

May be harmful if swallowed, injected, or allowed to contact the eyes. Wash contacted area with water for 15 minutes. If inhaled remove to fresh air. Report exposure to the appropriate safety official. Consult a physician if irritation occurs or if there is any indication of an allergic response, such as watering eyes, sneezing, or difficulty breathing. Any eye contact should be reported to a physician immediately.

## SPECIAL HANDLING PRECAUTIONS

VENTILATION: No special ventilation is required.  
EYE PROTECTION: Recommended but not required for most applications.  
RESPIRATORY PROTECTION: Recommended to prevent inhalation of powders. An approved respirator may be required for those individuals already known to be sensitive to these materials.  
PROTECTIVE GLOVES: Recommended but not required for most applications. Required for those individuals known to be sensitive to any of these materials.

## SPECIAL PRECAUTIONS

This material is for research and experimental application only. It is not intended for food, drug, household, agricultural, or cosmetic use. All materials should be handled only by technically qualified individuals experienced with working with potentially hazardous chemicals. The above information is correct to the best of our knowledge. The user should make independent decisions regarding completeness of the information, based on all sources available. EY Laboratories, Inc. shall not be held liable for any damage resulting from handling or contact with the above product.

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