



## OXFORD BIOMEDICAL RESEARCH

P.O. Box 522, Oxford MI 48371 • USA  
USA: 800-692-4633 • Fax: 248-852-4466  
[www.oxfordbiomed.com](http://www.oxfordbiomed.com)

### Material Safety Data Sheet Colorimetric Enzymatic Nitric Oxide Assay Kit Product #NB 98

The information contained herein is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Oxford Biomedical Research, Inc. shall not be held liable for any damage resulting from handling or from contact with this product.

See our catalog for additional terms and conditions of sale.

#### Component Information

**NB 98a Nitrate Reductase Enzyme**

CAS Registry Number: 9013-03-0

**NB 98a-1 Nitrate Reductase Buffer -glycerol**

CAS Registry Number: 56-81-5

**NB 98b Buffer (MOPS reagent)**

CAS Registry Number: 1132-34-2

**NB 98c NADH**

CAS Registry Number: 104809-32-7

**NB 98d Color Reagent #1 -Sulfanilamide in 3N HCl**

CAS Registry Number(sulfanilamide): 63-74-1

CAS Registry Number (HCl): 7647-01-0

**NB 98e Color Reagent #2 -N-(1-Naphthyl) ethylenediamine dihydrochloride**

CAS Registry Number: 1465-25-4

**NB 98f Nitrate Standard -potassium nitrate**

CAS Registry Number: 7757-79-1

#### Hazardous Identification:

**NB 98a Nitrate Reductase Enzyme:** Avoid contact and inhalation.

**NB 98a-1 Nitrate Reductase Buffer -glycerol:** Avoid contact and inhalation. Target = kidneys.

**NB 98b Buffer (MOPS reagent):** Irritant to the eyes, respiratory system and skin.

**NB 98c NADH:** Irritant to eyes, respiratory and skin. Target = eyes and nervous system.

**NB 98d Color Reagent #1 -Sulfanilamide in 3N HCl:**

**Hydrochloric Acid-**Material is extremely destructive to the eyes, skin, mucous membranes, and the upper respiratory tract. Inhalation of material may be fatal due to the following: spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Exposure to material may cause the following: burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

**Sulfanilamide-** May be harmful by ingestion, inhalation or absorption through skin. Material may cause irritation to the eyes, skin, mucous membranes, and the upper respiratory tract. Exposure to material may cause sensitization. Exposure to material may cause the following: nausea, vomiting, fever, cyanosis, dizziness, dermatitis, acidosis, hepatitis, acute renal tubular necrosis, and psychosis.

**NB 98e Color Reagent #2 -N-(1-Naphthyl) ethylenediamine dihydrochloride:** Material may cause irritation to the eyes, skin, mucous membranes, and the upper respiratory tract.

**NB 98f Nitrate Standard -potassium nitrate:** Contact with combustible material may cause fire.

#### First Aid Measures (all components applicable):

In cases of skin contact, wash immediately with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes and wash before wearing. Consult a physician. In cases of eye contact, flush immediately with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Consult a physician. In cases of inhalation, remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen and consult a physician. If breathing stops, give artificial respiration and consult a physician. In cases of ingestion, wash mouth with water and consult the local poison center and a physician.

**Fire-Fighting Measure (all components applicable):**

Extinguishing Media: Dry chemical powder, carbon dioxide, water spray, alcohol or polymer foam. Upon thermal decomposition, it may emit toxic gases. Extinguishing material should be appropriate for surroundings.

**Accidental Release Measures (all components applicable):**

Steps taken if material is released or spilled: Evacuate area. Wear a self-contained breathing apparatus, rubber boots, and heavy rubber gloves. For the vial containing Hydrochloric Acid, cover with dry lime or soda ash and sweep up using non-sparking tools and place in a suitable container. For all other vials, absorb material on sand or vermiculite. Sweep up and place in a suitable container. Avoid raising dust. Hold for appropriate disposal. Wash spill site and ventilate area after material pickup is complete.

**Handling and Storage (all components applicable):**

Store kit components according to the instructions included in the product insert. Reaction buffer is an irritant. Color Reagent #1 is harmful, corrosive, and an irritant. May cause sensitization. Possible mutagen. Color Reagent #2 is an irritant. Avoid contact with material. Avoid prolonged or repeated exposure. Lab should be equipped with a safety shower and an eye wash station. Wash thoroughly after handling material.

Avoid contact with eyes, skin and clothing. Do not inhale. Avoid repeated exposure.

**Stability and Reactivity:**

**NB 98a Nitrate Reductase Enzyme:** Stable; avoid strong oxidizing agents; polymerization will not occur

**NB 98a-1 Nitrate Reductase Buffer –glycerol:** Stable; protect from moisture; avoid strong oxidizing agents and strong bases; decomposition products = carbon dioxide and carbon monoxide; polymerization will not occur

**NB 98b Buffer (MOPS reagent):** Stable; avoid strong oxidizing agents and strong bases; decomposition products = carbon dioxide, carbon monoxide, nitrogen oxides and sulfur dioxides; polymerization will not occur

**NB 98c NADH:** Stable; protect from moisture; avoid strong oxidizing agents and strong bases; decomposition products = phosphine carbon monoxide, carbon dioxide, phosphorus oxides, and nitrogen oxides – fumes to be regarded as toxic; polymerization will not occur

**NB 98d Color Reagent #1 -Sulfanilamide in 3N HCl:** Stable; Avoid contact with strong acids and bases, amines, alkali metals, copper, copper alloys, and aluminum. Material corrodes steel. Addition of water to container may cause a violent reaction; decomposition products = carbon dioxide, carbon monoxide, sulfur oxides; polymerization will not occur

**NB 98e Color Reagent #2 -N-(1-Naphthyl) ethylenediamine dihydrochloride:** Stable; avoid strong oxidizing agents; decomposition products = carbon dioxide, carbon monoxide; polymerization will not occur

**NB 98f Nitrate Standard –potassium nitrate:** Stable; protect from moisture; avoid strong reducing agents, fine powdered metals and strong acids; decomposition products = potassium oxides, and nitrogen oxides; polymerization will not occur

**Ecological Information (all components applicable):**

No information available.

**Toxicological Information (all components applicable):**

May cause skin and eye irritation, be harmful if absorbed through the skin, inhaled or if swallowed.

**Other Information (all components applicable):**

Material should only be handled by qualified, experienced professionals. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide for experienced personnel. Oxford Biomedical Research, Inc. shall not be held liable for any damage resulting from the handling or from contact with the above product.