# SAFETY DATA SHEET

## Cat# BN00976 Thioredoxin Reductase Activity Colorimetric Assay Kit

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **Thioredoxin Reductase Activity Colorimetric Assay Kit**

**PRODUCT CODES:** **Cat# BN00976**

**MANUFACTURER:** **Assay Genie (brand of Reagent Genie Ltd.)**

**ADDRESS:** **G1 The Steelworks, Foley Street, Dublin 1**

**EMERGENCY PHONE:** **+353 1 8879802**

### SECTION 2: HAZARDS IDENTIFICATION

| Component | Description | Volume | Safety Information |
|---|---|---|---|
| TrxR Assay Buffer | Proprietary Buffer | 25 ml | No hazards |
| TNB Standard | Lyophilized | 1 vial | No hazards |
| DTNB | Lyophilized | 1 vial | See below |
| NADPH | Lyophilized | 1 vial | No hazards |
| TrxR Positive Control | Lyophilized protein | 1 vial | No hazards |
| TrxR Inhibitor | Lyophilized | 1 vial | No hazards |

**DTNB:**

**Emergency Overview**

**OSHA Hazards:** Irritant

**GHS Classification:** Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity – single exposure (Category 3)

**GHS Label elements, including precautionary statements**

**Pictogram:**

**Signal word:** Warning

**Hazard statement(s):** H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

**Precautionary statement(s):** P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

**HMIS Classification**

- **Health hazard**: 2
- **Flammability**: 0
- **Physical hazards**: 0

**NFPA Rating**

- **Health Hazard:** 2
- **Fire**: 0
- **Reactivity Hazard**: 0

**Potential Health Effects**

- **Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.
- **Skin:** May be harmful if absorbed through skin. Causes skin irritation.
- **Eyes:** Causes eye irritation.
- **Ingestion:** May be harmful if swallowed.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS Number | EC-No. | Molecular Weight | Chemical Formula |
|---|---|---|---|---|
| 5,5'-Dithiobis(2-nitrobenzoic acid) [DTNB] | 69-78-3 | 200-714-4 | 396.35 | C14H8N2O8S2 |
| Ethanol | 64-17-5 | 200-578-6 | 46.07 | $C_2H_6O$ |

### SECTION 4: FIRST AID MEASURES

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
**If inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
**In case of skin contact:** Wash off with soap and plenty of water. Consult a physician.
**In case of eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
**If swallowed:** DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### SECTION 5: FIRE-FIGHTING MEASURES

**Condition of flammability:** Not flammable or combustible.
**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
**Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus for firefighting if necessary.
**Hazardous combustion products:** Hazardous combustion products formed under fire conditions— carbon oxides, nitrogen oxides.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
**Methods for cleaning up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### SECTION 7: HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Flash back possible over considerable distance. Container explosion may occur under fire conditions. Use explosion-proof equipment. Keep away from sources of ignition – no smoking. Take measures to prevent the build up of electrostatic charge.
**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Recommended storage temperature: -20 °C.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**DTNB:**
Contain no substances with occupational exposure limit values.
**Personal protective equipment**
**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
**Hand protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
**Skin and body protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| Property | DTNB |
|---|---|
| **Appearance:** | Light yellow powder |
| **pH:** | No data available |
| **Water Solubility:** | No data available |
| **Other Solubility:** | No data available |
| **Boiling Point (°C):** | No data available |
| **Melting Point (°C):** | 240-250 °C (464-473 oF) |
| **Flash Point (°C):** | No data available |
| **Ignition Temperature (°C):** | No data available |
| **Density:** | No data available |

### SECTION 10: STABILITY AND REACTIVITY

| Property | DTNB |
|---|---|
| **Chemical stability:** | Stable under recommended storage conditions |
| **Conditions to avoid:** | No data available |
| **Materials to avoid:** | Strong oxidizing agents, strong bases |
| **Hazardous decomposition products:** | Carbon oxides, nitrogen oxides, sulfur oxides |

### SECTION 11: TOXICOLOGICAL INFORMATION

**DTNB:**

**Acute toxicity:** LD50 Intraperitoneal – mouse – 2,080 mg/kg
**Skin corrosion/irritation:** no data available
**Serious eye damage/eye irritation:** no data available
**Respiratory or skin sensitization:** no data available
**Germ cell mutagenicity:** no data available
**Carcinogenicity:**

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available
**Teratogenicity:** no data available
**Specific target organ toxicity – single exposure (GHS):** no data available
**Specific target organ toxicity – repeated exposure (GHS):** no data available
**Potential Health Effects**

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.
**Skin:** May be harmful if absorbed through skin. Causes skin irritation.
**Eyes:** Causes eye irritation.
**Ingestion:** May be harmful if swallowed.

**Signs and Symptoms of Exposure:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
**Additional information:** RTECS: DG9650000

### SECTION 12: ECOLOGICAL INFORMATION

**Persistence and degradability:** no data available
**Toxicity:** no data available
**Bioaccumulative potential:** no data available
**Mobility in soil:** no data available
**PBT and vPvB assessment:** no data available
**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal

## SECTION 13: DISPOSAL CONSIDERATIONS

**Product:** Observe all federal, state, and local environmental regulations.
**Contaminated packaging:** Dispose of as unused product.

## SECTION 14: TRANSPORT INFORMATION

**DTNB:**
**DOT (US):** Not dangerous goods.
**IMDG:** Not dangerous goods.
**IATA:** Not dangerous goods

## SECTION 15: REGULATORY INFORMATION

**SARA 302 Components:** SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
**SARA 313 Components:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
**SARA 311/312 Hazards:**
DTNB: Acute Health Hazard
**Massachusetts Right To Know Components:** No components are subject to the Massachusetts Right to Know Act.
**Pennsylvania Right To Know Components:**
DTNB, CAS-No. 69-78-3
**New Jersey Right To Know Components:**
DTNB, CAS-No. 69-78-3
**California Prop. 65 Components:** This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other
reproductive harm.

**EU regulations:**

| Component | Risk Phrases | Safety Phrases |
|---|---|---|
| DTNB | R36/37/38 | S22, S24/25, S36/37/39, S45 |

## SECTION 16: OTHER INFORMATION

**DISCLAIMER:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Assay Genie shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.