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# MATERIAL SAFETY DATA SHEET

EMERGENCY # FOR NATIONAL RESPONSE CENTER (800) 424-8802

Prepared 12/1/08

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SECTION 1. CHEMICAL IDENTIFICATION Product Name:

**Fluoro NAD/NADH Kit**

Part No: 5056

Components:

- |                            |             |
|----------------------------|-------------|
| 1. NAD/NADH Lysis Buffer:  | Part # 3045 |
| 2. Enzyme Mix:             | Part # 6021 |
| 3. Reaction Buffer:        | Part # 3044 |
| 4. NADH Detection Reagent: | Part# 4018. |
| 5. NADH Standard:          | Part# 7013  |
| 6. NAD Extraction Buffer   | Part # 3046 |
| 7. NADH Extraction Buffer  | Part # 3047 |
| 8. NADH Standard Diluent   | Part # 3051 |

## Part# 6021

Synonyms: NA

CAS #: NA

Chemical Formula: NA

SECTION 2. HAZARDS IDENTIFICATION Not known.

SECTION 3. CHARACTERISTICS white brown powder.

Boiling point °f: No data available.

Vapor pressure (mm Hg): No data available.

Vapor density: No data available.

Solubility in water: Very low.

Specific gravity: Not applicable.

% Volatile by volume: Not applicable.

Evaporation rate: No data available.

pH: Not applicable to a powder.

SECTION 4. STORAGE, HANDLING, STABILITY : The material is air sensitive. Store dry material at 4°C.

SECTION 5. SAFETY CONTROL MEASURES Gloves and standard laboratory protective clothing and eyewear are recommended. Safe laboratory practices should be followed.

SECTION 6. HEALTH HAZARD DATA: May enter the body through inhalation, ingestion, eye, and skin contact. To our knowledge the hazards of this material have not been fully tested. Handle material with caution.

**RTECS Number:** None known

**Toxicity:** We are not aware of any toxicity data for this product.

**Health Hazards:** We are not aware of any reported health hazards for this product. We recommend treating all chemicals with caution.

**Potential Hazards:** To our knowledge, the health hazards have not been thoroughly investigated.

**Carcinogenicity:** Not listed by NTP, IARC or OSHA.

SECTION 7. FIRST AID MEASURES Avoid prolonged or repeated exposure. Remove contaminated clothing and shoes, and wash before reuse.

Skin: Wash skin thoroughly with soap and water.

Eyes: Flush with water for at least 15 minutes.

Ingestion: Seek medical attention.

Inhalation: Remove to fresh air. Seek medical attention.

SECTION 8. FIRE/EXPLOSION HAZARD DATA. Use any means suitable for extinguishing surrounding fire. It is not necessary to use any special firefighting procedures. Water spray, carbon dioxide, dry chemical powder or appropriate foam can all be used.

**Thermal Decomposition:** No decomposition if used according to specifications.

**Dangerous Reactions:** None identified.

**Dangerous Products of Decomposition:** No dangerous decomposition products identified.

SECTION 9. ACCIDENTAL RELEASE MEASURES For release of large amounts of material, wear safety glasses and rubber gloves. Stop source of leak and isolate spill area. Collect material in an appropriate container and dispose all waste in accordance with applicable laws. Dispose of all waste in accordance with all national, state, and local regulations.

## Section 1. Identification

**Synonyms:** Part # 3044. NAD/NADH 5X Reaction Buffer: 15 ml of buffer, pH 7.4

Part # 7013. NADH Standard

Part # 4018. NADH Detection Reagent.

Part # 3045 NAD/NADH Lysis Buffer.

**CAS No.:** NA

**Molecular Weight:** NA

**Chemical Formula:** NA

## Section 2 Hazard Identification

Harmful if swallowed. May cause irritation. Avoid breathing vapors, or dusts. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed

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## Section 3 First Aid Measures

Harmful if swallowed. May cause irritation. Avoid breathing vapors, or dusts. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed

FIRST AID: SKIN: Wash exposed area with soap and water. If irritation persists, seek medical attention.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

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## Section 4 Fire Fighting Measures

Fire Extinguisher Type: Any means suitable for extinguishing surrounding fire

Fire/Explosion Hazards: Thermal decomposition produces highly toxic fumes.

Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

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## Section 5 Accidental Release Measures

Absorb spill with inert material, then place in a chemical waste container. Dispose of in a manner consistent with federal, local law.

## Section 6 Handling and Storage

Store in a cool dry place. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling

## Section 7 Exposure Controls & Personal Protection

Ventilation:: Local Exhaust

Use Gloves, Safty Glasses with side shield.

Other Protective Equipment: Use safe laboratory handling procedures.

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## Section 8 Stability and Reactivity Information

Stability: Stable                      Conditions to Avoid: Avoid contact with incompatible materials.

Materials to Avoid:

Strong acids, aluminum and steel

Hazardous Decomposition Products:

Thermal decomposition may produce toxic gases.

Hazardous Polymerization: Will Not Occur

Condition to Avoid: None known

## Section 9 Additional Information

Conditions aggravated/target organs: Persons with pre-existing eye and skin conditions will be more susceptible. Acute: Skin irritation, mild eye irritation, ingestion of large quantities may cause potassium poisoning. Chronic: Dermatitis, eye damage.

DOT Classification: Not Regulated

## Section 1. Identification

**Synonyms: Part # 3046. NAD Extraction Buffer ( 0.2 M HCL).**

**Part # 3047. NADH Extration Buffer ( 0.2M NaOH).**

**Part # 3051. NADH Standard Diluent.**

**CAS No.:** NA

**Molecular Weight:** NA

**Chemical Formula:** NA

## Section 2 - Hazards Identification

**Part # 3046. NAD Extraction Buffer.**

EMERGENCY OVERVIEW

Corrosive.

Causes burns.

HMIS RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

NFPA RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

**Part # 3047. NADH Extraction Buffer.**

EMERGENCY OVERVIEW

Corrosive.

Causes burns.

HMIS RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 1

NFPA RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 1

**Section 3 - First Aid Measures**

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes.

Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of vapors.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

**Section 4- Handling and Storage**

HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing.

#### STORAGE

Suitable: Keep tightly closed.

#### SPECIAL REQUIREMENTS

May develop pressure. Open carefully.

### Section 5 - Stability and Reactivity

#### Part # 3046. NAD Extraction Buffer

##### STABILITY

Stable: Stable.

Materials to Avoid: Bases, Amines, Alkali metals, Metals.

##### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Hydrogen chloride gas.

##### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur.

#### Part # 3047. NADH Extraction Buffer.

Stable: Stable.

Conditions of Instability: Absorbs carbon dioxide from air.

Materials to Avoid: Acids, Organic materials, Chlorinated solvents, Aluminum, Phosphorus, Tin/tin oxides, Zinc.

##### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Sodium/sodium oxides.

##### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

### Section 6 - Toxicological Information

#### ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

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. Safety shower and eye bath. Mechanical exhaust required.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Discard contaminated shoes. Wash

### Section 7 - Disposal Considerations

#### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

UN#: 1789

Class: 8

Packing Group: Packing Group III

Hazard Label: Corrosive

PIH: Not PIH

IATA

IATA UN Number: 1789

Hazard Class: 8

Packing Group: III

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

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