

# SAFETY DATA SHEET

Cat# K252-200, Nitric Oxide Fluorometric Assay Kit

SDS DATE: 14APR2015

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Nitric Oxide Fluorometric Assay Kit  
**PRODUCT CODES:** Cat# K252-200  
**MANUFACTURER:** BioVision, Inc.  
**DIVISION:**  
**ADDRESS:** 155 S. Milpitas Blvd. Milpitas, CA 95035  
**EMERGENCY PHONE:** 858-373-8066  
**CHEMTREC PHONE:**  
**OTHER CALLS:** 408-493-1800  
**FAX PHONE:** 408-493-1801

## SECTION 2: HAZARDS IDENTIFICATION

| Component         | Description                           | Volume   | Safety Information |
|-------------------|---------------------------------------|----------|--------------------|
| Assay Buffer      | Proprietary Buffer                    | 30 ml    | No hazards         |
| Enzyme Cofactor   | Lyophilized                           | 1 vial   | No hazards         |
| Enhancer          | Lyophilized                           | 1 vial   | No hazards         |
| Nitrate Reductase | Lyophilized                           | 1 vial   | No hazards         |
| Nitrate Standard  | Lyophilized (contains Sodium nitrate) | 1 vial   | See below          |
| Nitrite Standard  | Lyophilized (contains Sodium nitrite) | 1 vial   | See below          |
| DAN Probe         | Solution (4% HCl)                     | 1 ml     | See below          |
| Sodium Hydroxide  | Solution                              | 1 ml     | See below          |
| Microtiter Plate  | --                                    | 2 plates | No hazards         |
| Plate Cover       | --                                    | 2 covers | No hazards         |

### EDTA:

#### Emergency Overview

**OSHA Hazards:** Irritant

#### GHS Classification:

Acute toxicity, Oral (Category 5)  
Eye irritation (Category 2A)  
Acute aquatic toxicity (Category 3)

#### GHS Label elements, including precautionary statements

**Pictogram:**

none

**Signal word:**

none

**Hazard statement(s):**

none.

**Precautionary statement(s):**

P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.  
P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a POISON CENTER or doctor/physician if you feel unwell.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P501 Dispose of contents/container to an approved waste disposal plant.

#### 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.

### Sodium nitrate:

#### Emergency Overview

**OSHA Hazards:** Target organ effect, Oxidizer, Harmful by ingestion, Irritant

**Target Organs:** Blood, Central nervous system

**GHS Classification:**

Oxidizing liquids (Category 1)  
Acute toxicity, Oral (Category 4)

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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):

H272 May intensify fire; oxidizer.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

Precautionary statement(s):

P220 Keep/store away from clothing/combustible materials.  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 1

Flammability: 0

Physical hazards: 1

NFPA Rating

Health Hazard: 1

Fire: 0

Reactivity Hazard: 1

Special Hazard: OX

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:** Harmful if swallowed.

Sodium nitrite:

Emergency Overview

OSHA Hazards: Oxidizer, Carcinogen, Target organ effect, Toxic by ingestion, Irritant

Target Organs: Blood, Cardiovascular system, Smooth muscle

GHS Classification:

Oxidizing solids (Category 3)  
Acute toxicity, Oral (Category 3)  
Eye irritation (Category 2A)  
Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Danger

Hazard statement(s):

H272 May intensify fire; oxidizer.  
H301 Toxic if swallowed.  
H319 Causes serious eye irritation.  
H350: May cause cancer  
H400 Very toxic to aquatic life..

Precautionary statement(s):

P220 Keep/store away from clothing/combustible materials.  
P273 Avoid release to the environment.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 2

Chronic health hazard: \*

Flammability: 0

Physical hazards: 1

NFPA Rating

Health Hazard: 2

Fire: 0

Reactivity Hazard: 1

Special Hazard: OX

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:** Toxic if swallowed.

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## DAN:

### Emergency Overview

OSHA Hazards: Harmful by ingestion, Irritant

GHS Classification: Acute toxicity, Oral (Category 4)  
Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Specific target organ toxicity – single exposure (Category 3)

### GHS Label elements, including precautionary statements

Pictogram: none

Signal word: none

Hazard statement(s): none

Precautionary statement(s): P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### 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: Harmful if swallowed.

## HCl:

### Emergency Overview

OSHA Hazards: Corrosive

GHS Classification: Skin Corrosion/Irritation (Category 2)  
Serious Eye Damage/Eye Irritation (Category 2)  
Specific target organ toxicity (single exposure) (category 3)  
Target Organs- Respiratory system

### 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): P280 Wear protective gloves/eye protection/face protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

## Sodium hydroxide:

### Emergency Overview

OSHA Hazards: Corrosive

GHS Classification: Skin corrosion (Category 1A)  
Serious eye damage (Category 1)  
Acute aquatic toxicity (Category 3)

### GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Danger

Hazard statement(s):

H290: May be corrosive to metals

H314 Causes severe skin burns and eye damage.

H402 Harmful to aquatic life.

Precautionary statement(s): P280 Wear protective gloves/eye protection/face protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

### HMIS Classification

Health hazard: 3

Flammability: 0

Physical hazards: 1

### NFPA Rating

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Health hazard: 3  
Fire: 0  
Reactivity hazard: 2  
Special hazard: W

## Potential Health Effects

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Skin:** May be harmful if absorbed through skin. Causes skin burns.

**Eyes:** Causes eye burns. Causes severe eye burns.

**Ingestion:** May be harmful if swallowed.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component  | CAS Number | EC-No.    | Molecular Weight | Chemical Formula  |
|--|------------|-----------|------------------|---|
| 1-Methoxy-5-methylphenazinium methyl sulfate (PMS) | 65162-13-2 | 265-579-6 | 336.36           | C <sub>15</sub> H <sub>16</sub> N <sub>2</sub> O <sub>5</sub> S |
| Sodium nitrate                                     | 7631-99-4  | 231-554-3 | 84.99            | NNaO <sub>3</sub>   |
| Sodium nitrite                                     | 7632-00-00 | 231-555-9 | 69.00            | NNaO <sub>2</sub>   |
| 2,3-Diaminonaphthalene (DAN)                       | 771-97-1   | 212-241-0 | 158.2            | C <sub>10</sub> H <sub>10</sub> N <sub>2</sub>                  |
| Sodium hydroxide (NaOH)                            | 1310-73-2  | 215-185-5 | 40.00            | NaOH  |

## 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 decomposition products formed under fire conditions— no data available.

**Further information:** Use water spray to cool unopened containers.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**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 formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: -20 °C

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Sodium hydroxide:

| Components       | CAS-No.   | Value | Control parameters  | Basis   |
|------------------|---|-------|---------------------|---|
| Sodium hydroxide | 1310-73-2   | CEIL  | 2 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV)   |
|                  |   | C     | 2 mg/m <sup>3</sup> | USA. OSHA – Table Z-1: Limits for Air Contaminants – 1910.1000                    |
|                  |   | TWA   | 2 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) – Table Z-1: Limits for Air Contaminants |
|                  |   | C     | 2 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV)   |
| Remarks:         | Eyes, skin, & upper respiratory tract irritation. |       |                     |   |
|                  |   | C     | 2 mg/m <sup>3</sup> | USA. NIOSH Recommended Exposure Limits  |

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**PMS, Sodium nitrate, Sodium nitrite, & DAN:**

Contains 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.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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| Property             | PMS               | Sodium nitrate                |
|----------------------|-------------------|-------------------------------|
| Appearance:          | Solid             | Solid                         |
| pH:                  | No data available | 9 at 100 g/l at 20 °C (68 °F) |
| Water Solubility:    | No data available | 874 g/l at 20 °C (68 °F)      |
| Other Solubility:    | No data available | No data available             |
| Boiling Point (°C):  | No data available | 380 °C (716 °F)               |
| Melting Point (°C):  | No data available | 306 °C (583 °F)               |
| Flash Point (°C):    | No data available | No data available             |
| Ignition Temp. (°C): | No data available | No data available             |
| Density:             | No data available | 2.261 g/cm <sup>3</sup>       |

| Property             | Sodium nitrite           | DAN                     | Sodium hydroxide        |
|----------------------|--------------------------|-------------------------|-------------------------|
| Appearance:          | Solid                    | Solid                   | White pellets           |
| pH:                  | 9                        | No data available       | 13-14                   |
| Water Solubility:    | 820 g/l at 20 °C (68 °F) | No data available       | No data available       |
| Other Solubility:    | No data available        | No data available       | No data available       |
| Boiling Point (°C):  | 320 °C (608 °F)          | No data available       | 1,390 °C (2,534 °F)     |
| Melting Point (°C):  | 271 °C (520 °F)          | 197-203 °C (387-397 °F) | 318 °C (604 °F)         |
| Flash Point (°C):    | No data available        | No data available       | No data available       |
| Ignition Temp. (°C): | No data available        | No data available       | No data available       |
| Density:             | 2.168 g/cm <sup>3</sup>  | No data available       | 2.130 g/cm <sup>3</sup> |

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**SECTION 10: STABILITY AND REACTIVITY**

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| Property                          | PMS   | Sodium nitrate   |
|-----------------------------------|---|--|
| Chemical stability:               | Stable under recommended storage conditions   |  |
| Conditions to avoid:              | No data available                             | Fusion of mixtures of metal cyanides, including lead thiocyanate, with metal chlorates, perchlorates, nitrates or nitrites causes violent explosion. Addition of one solid component (even as a residue in small amount) to another molten component is also highly dangerous. Heat. |
| Materials to avoid:               | Oxidizing agents                              | Strong acids, strong reducing agents, powdered metals, organic materials, alkali metals, alkaline earth metals, cyanides, thiocyanates   |
| Hazardous decomposition products: | Carbon oxides, nitrogen oxides, sulfur oxides | Nitrogen oxides, sodium oxides   |

| Property             | Sodium nitrite                              | DAN                     | Sodium hydroxide                |
|----------------------|---|-------------------------|---------------------------------|
| Chemical stability:  | Stable under recommended storage conditions |                         |                                 |
| Conditions to avoid: | Exposure to moisture                        | No data available       | No data available               |
| Materials to avoid:  | Acids, powdered metals,                     | Strong oxidizing agents | Strong oxidizing agents, strong |

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|  |   |                                |                          |
|--|---|--------------------------------|--------------------------|
|  | ammonia, cyanides, amines, activated carbon |                                | acids, organic materials |
| <b>Hazardous decomposition products:</b> | Nitrogen oxides, sodium oxides              | Carbon oxides, nitrogen oxides | Sodium oxides            |

## SECTION 11: TOXICOLOGICAL INFORMATION

### PMS:

**Acute toxicity:** no data available

**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:** Limited evidence of carcinogenicity in animal studies.

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

**Specific target organ toxicity - single exposure (GHS):** no data available

**Specific target organ toxicity - repeated exposure (GHS):** no data available

**Aspiration hazard:** 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:** Harmful if swallowed.

**Signs and Symptoms of Exposure:** Exposure may cause sneezing. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional information:** RTECS: not available

### Sodium nitrate:

**Acute toxicity:** LD50 Oral – rat – 1,267 mg/kg

LD50 Oral – rabbit – 2,680 mg/kg

LDLo Oral – child – 22.5 mg/kg

LD50 Intravenous – mouse – 175 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:** Genotoxicity in vitro – hamster – Fibroblast → Cytogenetic analysis

Genotoxicity in vitro – hamster – Embryo → host-mediated assay

Genotoxicity in vitro – human – HeLa cell → unscheduled DNA synthesis

Genotoxicity in vivo – mouse – Oral → Micronucleus test

Genotoxicity in vivo – mouse – Oral → Cytogenetic analysis

Genotoxicity in vivo – mouse – Oral → Sperm

**Carcinogenicity:** Carcinogenicity – rat – Oral → Tumorigenic: Equivocal tumorigenic agent by RTECs criteria. Liver: Tumors. Skin and Appendages: Other: Tumors. Tumorigenic Effects: Testicular tumors.

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:** Reproductive toxicity – mouse – male – Oral → Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

**Specific target organ toxicity - single exposure (GHS):** no data available

**Specific target organ toxicity - repeated exposure (GHS):** no data available

**Aspiration hazard:** 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:** Harmful if swallowed

**Signs and Symptoms of Exposure:** Absorption into the body leads to the formation of the methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

**Additional information:** RTECS: WC560000

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## Sodium nitrite:

**Acute toxicity:** LD50 Oral – rat – 157.9 mg/kg

LD50 Oral – mouse – 175 mg/kg → Remarks: Vascular: BP lowering not characterized in autonomic section. Vascular: Regional or general arteriolar or venous dilation.

**Skin corrosion/irritation:** Skin – rabbit – no skin irritation – 48 h – OECD Test Guideline 404

**Serious eye damage/eye irritation:** Eyes – rabbit – moderate eye irritation – 24 h – OECD Test Guideline 405

**Respiratory or skin sensitization:** no data available

**Germ cell mutagenicity:** no data available

**Carcinogenicity:** Limited evidence of carcinogenicity in animal studies.

IARC: 2A – Group 2A: Probably carcinogenic to humans (Sodium nitrite).

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

**Specific target organ toxicity - single exposure (GHS):** no data available

**Specific target organ toxicity - repeated exposure (GHS):** no data available

**Aspiration hazard:** 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:** Toxic 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: RA1225000

## DAN:

**Acute toxicity:** no data available

**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

**Specific target organ toxicity - single exposure (GHS):** Inhalation – May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure (GHS):** no data available

**Aspiration hazard:** 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:** 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: not available

## Sodium hydroxide:

**Acute toxicity:** no data available

**Skin corrosion/irritation:** Skin – rabbit – causes severe burns – 24 h

**Serious eye damage/eye irritation:** Eyes – rabbit – severe eye irritation – 24 h

**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

**Specific target organ toxicity - single exposure (GHS):** no data available

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Specific target organ toxicity - repeated exposure (GHS): no data available

Aspiration hazard: no data available

## Potential health effects

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Skin:** May be harmful if absorbed through skin. Causes skin burns.

**Eyes:** Causes eye burns. Causes severe eye burns.

**Ingestion:** May be harmful if swallowed.

**Signs and Symptoms of Exposure:** Exposure may cause spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

**Additional information:** RTECS: WB4900000

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## SECTION 12: ECOLOGICAL INFORMATION

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### Sodium nitrate:

**Persistence and degradability:** no data available

**Toxicity: Toxicity to fish:** static test LC50 – Gambusia affinis (Mosquito fish) – 6,650 mg/l – 96 h

**Toxicity to daphnia and other aquatic invertebrates:** EC50 – Daphnia magna (Water flea) – 6,000 mg/l – 24 h

**Bioaccumulative potential:** no data available

**Mobility in soil:** no data available

**PBT and vPvB assessment:** no data available

**Other adverse effects:** no data available

### Sodium nitrite:

**Persistence and degradability:** no data available

**Toxicity: Toxicity to fish:** flow-through test LC50 – Oncorhynchus mykiss (rainbow trout) – 0.94-1.92 mg/l – 96.0 h

Mortality NOEC – Oncorhynchus mykiss (rainbow trout) – 0.54 mg/l – 96.0 h

**Toxicity to daphnia and other aquatic invertebrates:** EC50 – Daphnia magna (Water flea) – 12.5 mg/l – 48 h

**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. Very toxic to aquatic life.

### Sodium hydroxide:

**Persistence and degradability:** no data available

**Toxicity: Toxicity to fish:** LC50 – Gambusia affinis (Mosquito fish) – 125 mg/l – 96 h

**Toxicity to daphnia and other aquatic invertebrates:** Immobilization EC50 – Daphnia magna (Water flea) – 40.38 mg/l – 48 h

**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. Harmful to aquatic life.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging:** Dispose of as unused product.

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## SECTION 14: TRANSPORT INFORMATION

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### PMS & DAN:

**DOT (US):** Not dangerous goods.

**IMDG:** Not dangerous goods.

**IATA:** Not dangerous goods.

### Sodium nitrate:

**DOT (US):** UN-number: 1498, Class: 5.1, Packing group: III; Proper shipping name: Sodium nitrate; Marine pollutant: No; Poison Inhalation Hazard: No

**IMDG:** UN-number: 1498, Class: 5.1, Packing group: III; EMS-No: F-A, S-Q; Proper shipping name: SODIUM NITRATE; Marine pollutant: No

**IATA:** UN-number: 1498, Class: 5.1, Packing group: III; Proper shipping name: Sodium nitrate

### Sodium nitrite:

**DOT (US):** UN-number: 1500, Class: 5.1(6.1), Packing group: III; Proper shipping name: Sodium nitrite; Reportable Quantity (RQ): 100 lbs.; Marine pollutant: No; Poison Inhalation Hazard: No

**IMDG:** UN-number: 1500, Class: 5.1(6.1), Packing group: III; EMS-No: F-A, S-Q; Proper shipping name: SODIUM NITRITE; Marine pollutant: No

**IATA:** UN-number: 1500, Class: 5.1(6.1), Packing group: III; Proper shipping name: Sodium nitrite

### Sodium hydroxide:



# SAFETY DATA SHEET

Cat# K252-200, Nitric Oxide Fluorometric Assay Kit

SDS DATE: 14APR2015

DOT (US): UN-number: 1823, Class: 8, Packing group: II; Proper shipping name: Sodium hydroxide, solid; Reportable Quantity (RQ): 1000 lbs.; Marine pollutant: No; Poison Inhalation Hazard: No

IMDG: UN-number: 1823, Class: 8, Packing group: II; EMS-No: F-A, S-B; Proper shipping name: SODIUM HYDROXIDE, SOLID; Marine pollutant: No

IATA: UN-number: 1823, Class: 8, Packing group: II; Proper shipping name: Sodium hydroxide

## SECTION 15: REGULATORY INFORMATION

**OSHA Hazards:** PMS: Irritant

Sodium nitrate: Target organ effect, Oxidizer, Harmful by ingestion, Irritant

Sodium nitrite: Oxidizer, Carcinogen, Target organ effect, Toxic by ingestion, Irritant

DAN: Harmful by ingestion, Irritant

Sodium hydroxide: Corrosive

**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:** The following components are subject to reporting levels established by SARA Title III, Section 313:

Sodium nitrite, CAS-No. 7632-00-0; Revision Date: 2007-07-01

**SARA 311/312 Hazards:** PMS, DAN, & Sodium hydroxide: Acute Health Hazard

Sodium nitrate: Reactivity Hazard, Acute Health Hazard

Sodium nitrite: Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components:** Sodium nitrate, CAS-No. 7631-99-4; Revision Date: 1993-04-24

Sodium nitrite, CAS-No. 7632-00-0; Revision Date: 2007-07-01

Sodium hydroxide, CAS-No. 1310-73-2; Revision Date: 2007-03-01

**Pennsylvania Right To Know Components:** 1-Methoxy-5-methylphenazinium methyl sulfate (PMS), CAS-No. 65162-13-2

Sodium nitrate, CAS-No. 7631-99-4; Revision Date: 1993-04-24

Sodium nitrite, CAS-No. 7632-00-0; Revision Date: 2007-07-01

2,3-Naphthylenediamine (DAN), CAS-No. 771-97-1

Sodium hydroxide, CAS-No. 1310-73-2; Revision Date: 2007-03-01

**New Jersey Right To Know Components:** 1-Methoxy-5-methylphenazinium methyl sulfate (PMS), CAS-No. 65162-13-2

Sodium nitrate, CAS-No. 7631-99-4; Revision Date: 1993-04-24

Sodium nitrite, CAS-No. 7632-00-0; Revision Date: 2007-07-01

2,3-Naphthylenediamine (DAN), CAS-No. 771-97-1

Sodium hydroxide, CAS-No. 1310-73-2; Revision Date: 2007-03-01

**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## EU regulations

| Component        | Risk Phrases       | Safety Phrases        |
|------------------|--------------------|-----------------------|
| PMS              | R22, R36/R38, R40  | S22, S24/25, S26, S45 |
| Sodium nitrate   | R8, R22, R36/37/38 | S17, S26              |
| Sodium nitrite   | R8, R25, R50       | S45, S61              |
| DAN              | R22, R36/37/38     | S26                   |
| Sodium hydroxide | R35                | S26, S37/39, 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. BioVision, Inc., 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.