MANUFACTURER IDENTIFICATION

Manufacturer's Name: OXIS Health Products, Inc.
6040 N. Cutter Circle, Suite 317
Portland, OR  97217-3935

Telephone Number: In Oregon (503) 283-3911
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Date of Last Revision: April 19, 2001

Trade Name: BIOXYTECH® Catalase-520 Assay Kit

Catalog Number: 21042

HAZARDOUS COMPONENT(S) IDENTIFICATION

Hazards identified with this product are associated with the following Assay Kit component(s):

Component Name: Chromogen
Hazardous Content: 4-Aminoantipyrine
Concentration in Component: 60 µM
Chemical Name: 4-Aminoantipyrine
Common Name(s), Synonyms: 4-Aminophenazone, Ampyrone, 4-Amino-1,2-Dihydro-1,5-Dimethyl-2Phenyl-3H-Pyrazol-3-One
Molecular Formula: C_{11}H_{13}N_{3}O
CAS No.: 83-07-8
EC No.: 201-452-3

Component Name: Chromogen
Hazardous Content: 3,5-Dichloro-2-hydroxybenzenesulfonic acid
Concentration in Component: 2 µM
Chemical Name: 3,5-Dichloro-2-hydroxybenzenesulfonic acid, sodium salt, 99%
Common Name(s), Synonyms: HDCBS
Molecular Formula: C_{6}H_{3}Cl_{2}O_{4}SNa
CAS No.: 54970-72-8
EC No.: 259-416-8

Component Name: Substrate
Hazardous Content: Hydrogen Peroxide
Percent in Component: 30%
Chemical Name: Hydrogen Peroxide
Common Name(s), Synonyms: Hydrogen Peroxide Solution
Molecular Formula: H_{2}O_{2}
CAS No.: 7722-84-1
EC No.: 231-765-0
Component Name: Stop Reagent
Hazardous Content: Sodium Azide
Percent in Component: 2%
Chemical Name: Sodium Azide
Common Name(s), Synonyms: Sodium Azide
Molecular Formula: NaN₃
CAS No.: 26628-22-8
EC No.: 247-852-1

Physical and Chemical Characteristics for the above hazardous contents are listed on the following pages.

① HAZARDOUS CONTENT ①

Hazardous Content: 4-Aminoantipyrine
Chemical Name: 4-Aminoantipyrine
Common Name(s), Synonyms: Ampyrone; 4-amino-1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one; 4-aminophenazone
Molecular Formula: C₁₁H₁₃N₃O
CAS No.: 83-07-8
EC No.: 201-452-3

PHYSICAL AND CHEMICAL CHARACTERISTICS

Water solubility: Moderate
Appearance: Yellow, solid
Odor: None
Storage conditions: Store in a cool dry place.
Vapor pressure: Negligible

PHYSICAL HAZARDS

Reactivity: Stable under normal temperatures and pressures.
Incompatible with: Strong oxidizing agents, strong acids, acid chlorides, acid anhydrides.
Conditions to avoid: Incompatible materials, dust generation, and excess heat.
Hazardous decomposition products: Nitrogen oxides, carbon monoxide, carbon dioxide, and nitrogen.
Other warnings: Keep container tightly closed.

HEALTH HAZARDS

Primary route of entry: Inhalation, contact with skin or eyes.
Toxicity data: Oral, mouse: LD₅₀ = 800 mg/kg; Oral, rat: LD₅₀ = 1700 mg/kg
RTECS#: None available.
Health hazards:
  Acute effects: If swallowed, may cause gastrointestinal irritation. Including: nausea, vomiting. May cause skin or eye irritation.
  Chronic effects: No data available.

FIRST AID MEASURES
In case of contact with eyes or skin, flush with plenty of water for at least 15 minutes and seek medical advice. If inhaled, move to fresh air and seek medical advice. If not breathing give artificial respiration. If breathing is difficult, give oxygen. If swallowed and person is conscious, wash out mouth with water. Seek immediate medical advice.

**FIRE AND SPILL MEASURES**

- **Extinguisher media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant.
- **If material is released or spilled:** Avoid contact and contain spill.
- **Clean up of spill site:** Vacuum or sweep up material and place into a suitable disposal container.
- **Waste disposal methods:** Dispose of waste in accordance with all Federal, State, and local regulations. Destruction of product by a qualified facility recommended.

**PRECAUTIONS FOR SAFE HANDLING AND USE**

- **Respiratory protection:** A respiratory protection program that meets OSHA requirements or European standards must be followed whenever workplace conditions warrant a respirator’s use.
- **Ventilation:** Suggested.
- **Personal protective equipment:** Laboratory coat, gloves, and eye protection are recommended.
- **Work practices:** Follow standard good laboratory practices. Safety shower and eye bath required.

**HAZARDOUS CONTENT**

- **Hazardous Content:** 3,5-Dichloro-2-hydroxybenzenesulfonic acid
- **Chemical Name:** 3,5-Dichloro-2-hydroxybenzenesulfonic acid
- **Common Name(s), Synonyms:** HDCBS
- **Molecular Formula:** C₆H₃Cl₂O₄SNa
- **CAS No.:** 54970-72-8
- **EC No.:** 259-416-8

**PHYSICAL AND CHEMICAL CHARACTERISTICS**

- **Water solubility:** No data available
- **Appearance:** Clear liquid
- **Odor:** None
- **Storage conditions:** Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

**PHYSICAL HAZARDS**

- **Reactivity:** Stable under normal temperatures and pressures.
- **Reactivity in water:** No
- **Incompatible with:** Strong Oxidizing Agents.
- **Conditions to avoid:** Incompatible materials. Dust generation, excess heat, and strong oxidants.
- **Hazardous decomposition products:** Hydrogen chloride, carbon monoxide, carbon dioxides, and oxides of sulfur.
- **Other warnings:** Keep container tightly closed.

**HEALTH HAZARDS**
Primary route of entry: Inhalation, contact with skin or eyes.
Toxicity data: None available.
Health hazards:
  Acute effects: Harmful if inhaled. Harmful if swallowed. May be harmful if absorbed through skin. Material may be irritating to mucous membranes and upper respiratory tract.
  Chronic effects: Exposure may include burning sensation, coughing, shortness of breath, headache, nausea, and vomiting.

FIRST AID MEASURES

In case of contact with eyes or skin, flush with plenty of water for at least 15 minutes and seek medical advice. If inhaled, move to fresh air and seek medical advice. If not breathing give artificial respiration. If breathing is difficult, give oxygen. If swallowed and person is conscious, wash out mouth with water. Seek immediate medical advice.

FIRE AND SPILL MEASURES

Extinguisher media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant.
If material is released or spilled: Avoid contact and contain spill.
Clean up of spill site: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the protective equipment section. Avoid generating dusty conditions. Provide ventilation.
Waste disposal methods: Dispose of waste in accordance with all Federal, State, and local regulations. Destruction of product by a qualified facility recommended.

PRECAUTIONS FOR SAFE HANDLING AND USE

Respiratory protection: A respiratory protection program that meets OSHA requirements or European standards must be followed whenever workplace conditions warrant a respirator’s use.
Ventilation: Suggested.
Personal protective equipment: Laboratory coat, gloves and eye protection recommended.
Work practices: Follow standard good laboratory practices. Safety shower and eye bath required.

HAZARDOUS CONTENT

Hazardous Content: Hydrogen Peroxide
Chemical Name: Hydrogen peroxide solution, 30%
Common Name(s), Synonyms: Hydrogen peroxide solution
Molecular Formula: H₂O₂
CAS No.: 7722-84-1
EC No.: 231-765-0

PHYSICAL AND CHEMICAL CHARACTERISTICS

Water solubility: Yes
Appearance: Clear, liquid.
Odor: None
Storage conditions: Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.
PHYSICAL HAZARDS

Reactivity: Stable under normal temperatures and pressures.
Reactivity in water: No
Incompatible with: Organic materials, reducing agents, brass, copper, copper alloys, galvanized iron, zinc, nickel, lead, rust, finely powdered metals, iron, iron salts, and sensitivity to light.
Conditions to avoid: Incompatible materials, excess heat, and strong oxidants.
Hazardous decomposition products: Hydrogen and water.
Other warnings: Keep container tightly closed.

HEALTH HAZARDS

Primary route of entry: Inhalation, contact with skin or eyes.
Toxicity data: ORL-WMN LDLO: 2626 ug/kg, ORL-MAN LDLO: 1429 mg/kg, IVN-MUS LD50:.50 gm/kg
RETCS#: MX0899000
Health hazards:
Acute effects: Harmful if inhaled and may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Harmful if swallowed. May be harmful if absorbed through skin. Material may be irritating to mucous membranes and upper respiratory tract. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.
Chronic effects: Not investigated.

FIRST AID MEASURES

In case of contact with eyes or skin, flush with plenty of water for at least 15 minutes and seek medical advice. If inhaled, move to fresh air and seek medical advice. If not breathing give artificial respiration. If breathing is difficult, give oxygen. If swallowed and person is conscious, wash out mouth with water. Seek immediate medical advice.

FIRE AND SPILL MEASURES

Extinguisher media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant.
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Clean up of spill site: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the protective equipment section. Avoid generating dusty conditions. Provide ventilation.
Waste disposal methods: Dispose of waste in accordance with all Federal, State, and local regulations. Destruction of product by a qualified facility recommended.

PRECAUTIONS FOR SAFE HANDLING AND USE

Respiratory protection: A respiratory protection program that meets OSHA requirements or European standards must be followed whenever workplace conditions warrant a respirator’s use.
Ventilation: Suggested.
Personal protective equipment: Laboratory coat, gloves and eye protection recommended.
Work practices: Follow standard good laboratory practices. Safety shower and eye bath required.
HAZARDOUS CONTENT

Hazardous Content: Sodium Azide
Chemical Name: Sodium Azide
Common Name(s), Synonyms: Sodium Azide
Molecular Formula: NaN₃
CAS No.: 26628-22-8
EC No.: 247-852-1

PHYSICAL AND CHEMICAL CHARACTERISTICS

Water solubility: Yes
Appearance: Clear liquid
Odor: None
Storage conditions: Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

PHYSICAL HAZARDS

Reactivity: Stable under normal temperatures and pressures.
Reactivity in water: No
Incompatible with: Dimethyl sulfate, acid chlorides, halogenated solvents, metals, acids.
Conditions to avoid: Incompatible materials.
Hazardous decomposition products: Not known.
Other warnings: Keep container tightly closed. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides.

HEALTH HAZARDS

Primary route of entry: Inhalation, contact with skin or eyes.
Toxicity data: None available
RETCS#: None
Health hazards:
  Acute effects: Laboratory experiments in animals have shown sodium azide to produce a profound hypotensive effect, demyelination of myelinated nerve fibers in the central nervous system, testicular damage, blindness, attacks of rigidity, hepatic, and cerebral effects.
  Chronic effects: Not investigated.

FIRST AID MEASURES

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the protective equipment section. Avoid generating dusty conditions. Provide ventilation.

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## PRECAUTIONS FOR SAFE HANDLING AND USE

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**Ventilation:** Suggested.

**Personal protective equipment:** Laboratory coat, gloves and eye protection recommended.

**Work practices:** Follow standard good laboratory practices. Safety shower and eye bath required.

N/A = No applicable information found. The information contained in this MSDS is believed to be correct to the best of our knowledge. However, we make no warranty, expressed or implied, with respect to such information. The information may not be all inclusive. The user should make an independent determination of the suitability of the information based on all sources available and adopt appropriate safety precautions. OXIS International, Inc. shall not be held liable for any damage resulting from contact or handling of this product.