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24 Hour Emergency Numbers: (703) 590-9204
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Creation Date: 05/17/88 (1130-18)
Revision Date: 11/05/03

MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAMES: NITRATE CHEMets®, VACUettes®, Vacu-vials® & NITRATE FOIL PACKS

CATALOG NOS.: K-6907, K-6908, R-6902, R-6902A, R-6902D, R-6903 and R-6923 with A-6900 or A-6907

DESCRIPTION: Reagent ampoules and cadmium foil packs for the determination of nitrate in water. Each CHEMet™ and VACUette™ contains approximately 0.50 mL of liquid reagent sealed under vacuum. The R-6903 Vacu-vials® contains approximately 2 mL of liquid reagent sealed under vacuum. The R-6923 Vacu-vials® contain approximately 4.5 mL of liquid reagent sealed under vacuum. Each cadmium foil pack contains approximately 0.3 g.

In the Ampoule:

NFPA RATINGS: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

In the Foil Pack:

NFPA RATINGS: HEALTH: 3 FLAMMABILITY: 1 REACTIVITY: 0

II. COMPOSITION/INFORMATION ON INGREDIENTS

In the Ampoule:

COMPONENT: Cyclohexanediamine Tetraacetic Acid
CAS NO.: 482-54-2 PERCENT: < 0.1

COMPONENT: 2,5-Dihydroxybenzoic Acid
CAS NO.: 490-79-9 PERCENT: 2.0

COMPONENT: 4,5-Dihydroxynaphthalene-2,7-disulfonic acid
CAS NO.: 5808-22-0 PERCENT: 2.0

COMPONENT: Sulfanilic Acid
CAS NO.: 515-74-2 PERCENT: 4.0

COMPONENT: Isopropyl Alcohol
CAS NO.: 67-63-0 PERCENT: 5.0

COMPONENT: Ethylene Glycol
CAS NO.: 107-21-1 PERCENT: 16.0

COMPONENT: Deionized Water
CAS NO.: 7732-18-5 PERCENT: >70.0

In the Foil Pack:

COMPONENT: CDTA Trisodium Salt
CAS NO.: 36679-96-6 PERCENT: <10.0

COMPONENT: Cadmium Metal Powder
CAS NO.: 7440-43-9 PERCENT: <10.0

COMPONENT: Magnesium Sulfate Heptahydrate
CAS NO.: 7487-88-9 PERCENT: <10.0

COMPONENT: Tartaric Acid
CAS NO.: 87-69-4 PERCENT: <25.0

COMPONENT: Sodium Tartrate
CAS NO.: 868-18-8 PERCENT: <25.0

COMPONENT: Sodium Sulfate, Anhydrous
CAS NO.: 7757-82-6 PERCENT: <30.0

III. HAZARDS IDENTIFICATION

Danger! Toxic, may affect central nervous system, gastrointestinal and respiratory tracts, liver and spleen. Harmful or fatal if swallowed.
ACUTE TOXICITY: Irritation, shortness of breath, chest pain, vomiting, corneal injury, cardiac disturbances, CNS effects, kidney failure
CHRONIC TOXICITY: Irritation, dermatitis, danger of cumulative effects, cancer, bone, liver or kidney damage, may cause reproductive or fetal effects, may cause allergic reaction.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Respiratory conditions, liver or kidney disorders

IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Immediately flush eyes and skin with water for 15 minutes. Wash skin with soap and plenty of water. Call physician.
INGESTION: Give milk or beaten egg whites at frequent intervals. Induce vomiting, if directed by medical personnel. If cadmium has been ingested, give plenty of water and induce vomiting. Never give anything by mouth to or induce vomiting in an unconscious person. Seek medical attention.
INHALATION: Remove to fresh air. If necessary, give artificial respiration by mechanical means, do not use mouth to mouth resuscitation, seek medical attention.

V. FIRE FIGHTING MEASURES

FLASH POINT: N/A AUTOIGNITION POINT: Not determined
FLAMMABILITY LIMITS: UPPER: N/A LOWER: N/A
SUSCEPTIBILITY TO SPONTANEOUS HEATING: None
EXTINGUISHING MEDIA: Carbon dioxide or dry chemical

VI. ACCIDENTAL RELEASE MEASURES

Take up with absorbent material. Place in small containers for disposal.

VII. HANDLING AND STORAGE

Always wear eye protection when working with these ampoules.
WARNING: Do not break the tip of the ampoule unless it is **completely immersed** in your sample. Breaking the tip in the air may cause the glass ampoule to shatter.
If this product is used as directed, the user will not come in contact with or be exposed to any of its chemical components.
Wash thoroughly after handling. Avoid contact with eyes.
Fragile. Liquid in glass. Handle with care.
Protect foil pack from moisture. Avoid contact with eyes, skin and clothing.
Do not inhale dust. Product should be stored in the dark, in a cool dry place.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA PEL/ACGIH TLV: Ethylene Glycol - 50 ppm (ceiling); Isopropyl alcohol - 400 ppm TWA, 500 ppm STEL;
OSHA PEL: Cadmium - 0.005 mg/m³ (total dust) TWA
ACGIH TLV: Cadmium - 0.01 mg/m³ (total dust) TWA, 0.002 mg/m³ (respirable dust) TWA, A2
PROTECTIVE EQUIPMENT: Safety glasses, hood, gloves, lab coat.

IX. PHYSICAL AND CHEMICAL PROPERTIES

In the Ampoule:

STATE: Liquid APPEARANCE: Colorless to brown tint ODOR: None
SOLUBILITY IN WATER: Miscible pH: 3.5
BOILING POINT: 125°C MELTING POINT: -2°C
VAPOR PRESSURE: N/A SPECIFIC GRAVITY: 1.02
VAPOR DENSITY: N/A

In the Foil Pack:

STATE: Solid APPEARANCE: Blue Metallic Powder ODOR: None
SOLUBILITY IN WATER: Soluble pH: 3.4
BOILING POINT: N/A MELTING POINT: Not determined
VAPOR PRESSURE: N/A SPECIFIC GRAVITY: Not determined

X. STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to decomposition, toxic fumes of oxides of cadmium, nitrogen, carbon and sulfur may be emitted.
Stable under normal conditions.

XI. TOXICOLOGICAL INFORMATION

CARCINOGENIC STATUS: IARC/NTP: Group 2A: Suspected carcinogen (Cadmium) OSHA: Carcinogen (Cadmium) IARC Group 3 carcinogen (Isopropyl alcohol)
Magnesium sulfate: Experimental teratogen
No other data available at this time.

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XII. ECOLOGICAL INFORMATION

Ethylene glycol biodegrades rapidly, may leach to ground water, and is not expected to bioconcentrate. Isopropyl alcohol is not expected to adsorb to sediment or bioconcentrate, dangerous to aquatic life in high concentration. Cadmium is toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

No other data available at this time.

XIII. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with Federal, State, and Local Regulations.

XIV. TRANSPORT INFORMATION

Not regulated.

XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:

EU Symbols: Xi - IRRITATING, T - TOXIC, N - DANGEROUS FOR THE ENVIRONMENT

Risk Phrases: Harmful if swallowed. Irritating to eyes and skin. May cause sensitization by skin contact. May cause cancer by inhalation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases: Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Do not breathe dust. This material and its container must be disposed of in a safe way (cadmium). Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

CANADA INFORMATION:

WHMIS Classification: D1B, D2A

All chemical components of this product are listed on Canada's DSL list.

U.S. INFORMATION:

This product contains cadmium, ethylene glycol and isopropyl alcohol which are subject to SARA Section 313 reporting requirements.

CALIFORNIA PROPOSITION 65: "WARNING" - This product contains a chemical known to the State of California as a reproductive toxicant.

All chemical components of this product are listed on the TSCA Inventory.

XVI. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. ALL PRODUCTS ARE OFFERED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRODUCTION SPECIFICATIONS AND ARE INTENDED SOLELY FOR USE IN ANALYTICAL TESTING. THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE RESULTING FROM THE HANDLING, USE OR MISUSE OF THESE PRODUCTS.

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