Environmental Express
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Creation Date: 2003-08-25 (2904-6)
Revision Date: 2014-06-03

MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAME: CHEMICAL OXYGEN DEMAND (COD) VIALS KIT

CATALOG NOS.: B1010, B1015, and B1020

DESCRIPTION: Reagent vials for determination of the oxidizable organic matter content of wastewater. Each B1010 and B1015 vial contains 3.3 mL of liquid reagent. Each B1020 vial contains 5.1 mL of liquid reagent.

NFPA RATINGS: HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 2

II. HAZARDS IDENTIFICATION

Danger! Toxic. Corrosive. Causes severe burns.
ACUTE TOXICITY: Causes severe burns. May cause abdominal pain, circulation disturbances, nausea, vomiting, and rapid pulse and respiration.
ROUTES OF EXPOSURE: Ingestion, inhalation, skin absorption
TARGET ORGANS: Central nervous system, kidneys
CHRONIC TOXICITY: Teeth erosion, chronic irritation or inflammation
ROUTES OF EXPOSURE: Inhalation, skin absorption
TARGET ORGANS: Teeth, lungs, central nervous system, kidneys
OVEREXPOSURE: Any tissue contacted may become severely burned. If inhaled, the mist or vapor may cause teeth erosion, soreness of the mouth and/or difficulty in breathing.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye, skin and respiratory disorders

III. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT: Sulfuric Acid
CAS NO.: 7664-93-9 PERCENT: 65 - 87

COMPONENT: Deionized Water
CAS NO.: 7732-18-5 PERCENT: 10 - 34

COMPONENT: Mercuric Sulfate
CAS NO.: 7783-35-9 PERCENT: < 1

COMPONENT: Silver Sulfate
CAS NO.: 10294-26-5 PERCENT: < 1

COMPONENT: Potassium Dichromate
CAS NO.: 7778-50-9 PERCENT: < 1

IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Immediately flush eyes and skin with water for 15 minutes. Remove contaminated clothing. Seek medical advice.
INGESTION: Do not induce vomiting. Give large quantities of water. Give at least 1 ounce of milk of magnesia in an equal amount of water, or 3 egg whites. Never give anything by mouth to an unconscious person. Seek medical attention.
INHALATION: Remove to fresh air. Give artificial respiration if necessary. Seek medical advice.

V. FIRE FIGHTING MEASURES

FLASH POINT: N/A AUTOIGNITION POINT: N/A
FLAMMABILITY LIMITS: UPPER: N/A LOWER: N/A
SUSCEPTIBILITY TO SPONTANEOUS HEATING: None
SHOCK SENSITIVITY: None EXTINGUISHING MEDIA: N/A
FIRE/EXPLOSION HAZARDS: May emit toxic fumes in fire.
EXTINGUISHING MEDIA: Use media appropriate to surrounding fire conditions.

VI. ACCIDENTAL RELEASE MEASURES

Mercury and its compounds are extremely toxic! Be extremely careful not to contact the spill or breathe any vapors. Absorb spilled liquid with non-reactive sorbent material. Dispose of all mercury contaminated material at an E.P.A. hazardous waste facility. Decontaminate area with commercially available mercury absorbing compounds.
Product is regulated as RCRA hazardous waste. Product is regulated as a hazardous air pollutant. Product is regulated as a hazardous water pollutant.

VII. HANDLING AND STORAGE

Caution. Avoid contact with eyes, skin, and clothing.
Wash thoroughly after handling.
Use adequate ventilation. Do not breathe mist or vapor.
Store unused vials in a cool, dark place. Segregate from caustics.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA PEL: 0.1 mg/m^3 C Mercury, 5 $\mu g/m^3$ TWA Chromate, 1 mg/m^3 TWA Sulfuric Acid, 0.01 mg/m^3 TWA Silver
ACGIH TLV: 0.025 mg/m^3 TWA (skin) Mercury, 0.05 mg/m^3 TWA Chromium, 0.2 mg $/m^3$ TWA Sulfuric Acid, 0.01 mg/m^3 TWA Silver
PROTECTIVE EQUIPMENT: Impact- and splash-resistant eyewear; Protective gloves compatible with the hazardous reagent constituents identified on this MSDS; Fume hood; Lab coat
OTHER CONTROL MEASURES: See OSHA Standard 29 CFR 1910.1026 for control measures related to chromate (chromium VI) exposure.

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Liquid APPEARANCE: Turbid; yellow, amber, or orange
ODOR: Not determined SPECIFIC GRAVITY: > 1
SOLUBILITY IN WATER: Miscible pH: <0.5
BOILING POINT: >100°C MELTING POINT: N/A
VAPOR PRESSURE: Not determined
VAPOR DENSITY (air = 1): Not determined

X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: Reacts violently with caustics.
HAZARDOUS DECOMPOSITION PRODUCTS: May emit toxic fumes of sulfur oxides in fire.
OXIDIZER: Mild
CONDITIONS TO AVOID: Contact with strong caustics; exposure to light or organic contamination (will affect product stability)
Stable under normal conditions.

XI. TOXICOLOGICAL INFORMATION

CARCINOGENIC STATUS: Inorganic mercury compounds: ACGIH - Group A4, not classifiable as a human carcinogen; IARC - Group 3, not classifiable as to its carcinogenicity to humans
Chromium VI (hexavalent) compounds: IARC - Group 1, carcinogenic to humans; ACGIH - Group A1, confirmed human carcinogen; NTP - known to be a human carcinogen; California Proposition 65 - carcinogen
TOXICOLOGICAL STATUS: Mercury compounds: California Proposition 65: reproductive toxicant (developmental)

XII. ECOLOGICAL INFORMATION

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
No other data is available at this time.

XIII. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all Federal, State and Local Regulations.

XIV. TRANSPORT INFORMATION

U.S. DOT, IATA, and IMDG: Dangerous Goods in Excepted Quantities
Hazard Class: 8 UN No.: 1830 Packing Group: II

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XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:
EU Symbols: T - TOXIC, C - CORROSIVE
Risk Phrases: May cause cancer. May cause heritable genetic damage. Toxic by inhalation, in contact with skin, and if swallowed. Danger of cumulative effects. Causes severe burns. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Phrases: Avoid contact with skin and eyes. Wear suitable protective clothing, gloves, and eye/face protection. In case of contact with skin or eyes, rinse immediately with plenty of water and seek medical advice. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If swallowed, seek medical advice immediately and show container or label. This material and/or its container must be disposed of as hazardous waste.

CANADIAN INFORMATION:
WHMIS Classification: D1A, D2A, D2B, E
All chemical components of this product are listed on Canada's DSL.

U.S. INFORMATION:
RCRA: Contains RCRA regulated substances. EPA Waste ID Nos.:
D002 (corrosive), D007 (chromium), D009 (mercury), D011 (silver)
OSHA: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard (29 CFR 1910.1200).
SARA Section 313: This product contains a mercury compound, a silver compound, and potassium dichromate which are subject to the reporting requirements of Section 313 of SARA Title III.
CALIFORNIA PROPOSITION 65: This product contains a chemical known to the State of California as a carcinogen and a chemical known 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.