

Material Safety Data Sheet

To comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

HYDROCLOR Q4000 CHLORINE/HALOGEN TEST KIT

SECTION 1 --- MANUFACTURER

Manufacturer's Name:

Dexsil Corporation

Emergency Telephone Number:

USA (800) 424-9300 (CHEMTREC)
INT'L (202) 483-7616

Address:

One Hamden Park Drive
Hamden, CT 06517

Telephone Number:

(203) 288-3509

Date Prepared: 12-17-07

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SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

The HYDROCLOR Q4000 Chlorine/Halogen Test Kit consists of one test tube containing two ampules, one test tube containing one ampule and an aqueous solution, a separate ampule, a filled plastic syringe, a glass vial containing extraction solvent & powdered emulsion breaker and a vial containing drying agent.

| <u>Component</u> | <u>Contents</u> | <u>CAS#</u> | <u>Concentration in kit</u> |
|--|---|------------------------|-----------------------------|
| <i>Ampule 1</i> (gray color, yellow-dot) | [Sodium]* dispersed in oil | 7440-23-5 | 1.43%/[0.29%]* |
| <i>Ampule 2</i> (large, colorless) | [Naphthalene]* in Ethyl Diglyme Sol'n | 91-20-3 112-36-7 | 5.68%/[0.51%]* |
| <i>Ampule 3</i> (red-green) | Ethanol | 00064-17-5 | 1.63% |
| <i>Ampule 4</i> (colorless) | Organo-Sulfur Cmpd. | Proprietary | 2.08% |
| <i>Plastic Syringe</i> | [Mercuric]* Nitrate in water | 10045-94-0 | 4.57%[0.02%]* |
| <i>Aqueous Sol'n</i> | [Sulfuric Acid]* in water <0.05% Cadmium | 7664-93-9 7440-43-9 | 33.68%/[1.01%]* |
| <i>Extract Solvent</i> | [Butyl Diglyme]*/ Emulsion Breaker | 112-73-23 NA | 49.89%/[41.58%]* |
| <i>Drying Agent</i> | Florisil | 1343-90-4 | 1.04% |

{*Bracketed component reported as a % of total hazardous material}

SECTION 3 — HAZARDS IDENTIFICATION

Harmful if inhaled or swallowed.

May cause eye irritation.

May cause skin burns.

Ingestion will cause burns of the gastrointestinal tract.

For additional information on toxicity, please refer to Section 11.

SECTION 4 — FIRST AID MEASURES

First Aid

In case of contact with reagents, rinse well with water. In case of inhalation, remove to fresh air.

Eye Contact

For all kit components, flush eyes with large amounts of water for 15 minutes. Seek medical attention.

Skin contact

Flush with large amounts of water. Use soap and water to wash away organic components.

Inhalation

In case of inhalation, remove to fresh air.

SECTION 5 --- FIRE AND EXPLOSION HAZARD

| | | |
|--------------------|--------------------|-------|
| Flash Point | Ampule 1 | NA |
| | Ampule 2 | 162°F |
| | Ampule 3 | 48°F |
| | Ampule 4 | NA |
| | Plastic Syringe | NA |
| | Extraction Solvent | 244°F |
| | Drying Agent | None |

Flammable Limit Unknown

Extinguishing Media DO NOT USE WATER ON A SODIUM FIRE. Dry chemical, foam, CO₂.

Special Fire Fighting Procedures Do not use water. Wear SCBA. Avoid breathing sodium oxide fumes that will form on combustion.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Protection Chemical safety glasses and rubber gloves

Spills and Leaks

Ampule 1 - Sodium Ampule

Cover with dry soda ash or salt. Store in a well-ventilated area away from moisture.

Ampule 2 - Naphthalene/Ethyl Diglyme Ampule

Absorb completely and dispose of as organic waste.

Ampule 3 - Ethanol Ampule

Solvent absorbent recommended for spills. Flush area with water.

Ampule 4 - Disposal Ampule

Absorb completely and flush area with water.

Plastic Syringe - Mercuric Nitrate Solution

Absorb completely and flush area with water.

Aqueous Solution

Absorb completely and flush area with water.

Extraction Solvent

Absorb completely and flush area with water.

SECTION 7 — HANDLING AND STORAGE

Protective equipment Wear appropriate safety equipment when performing the test on site.

Storage Store test kits in a cool, dry place. Check expiration date prior to performing test.

SECTION 8 — EXPOSURE CONTROLS/ PERSONAL PROTECTIVE EQUIPMENT

| | |
|---|---|
| Engineering Controls | None required |
| Personal Protective Equipment(PPE) | |
| Respiratory protection | None required during normal use. |
| Ventilation | Perform test only in a well-ventilated area. |
| Protective gloves | Always wear rubber gloves when performing the HYDROCLOR Q4000 test. |
| Eye protection | Wear safety glasses. |
| General Hygiene Measures | Wash after running tests |

SECTION 9 --- PHYSICAL/CHEMICAL CHARACTERISTICS

| <u>Property</u> | <u>Ampule 1</u> | <u>Ampule 2</u> | <u>Ampule 3</u> | <u>Ampule 4</u> | <u>Syringe</u> | <u>Aq. Sol'n</u> | <u>Ext.Sol'n</u> | <u>Dry. Ag.</u> |
|--|-----------------|-----------------|-----------------|-----------------|----------------|------------------|------------------|-----------------|
| Boiling Pt.°C | NA | 185 | 78 | 100 | 100 | >100 | 256 | NA |
| Vapor Pressure mm Hg @ 21°C | NA | 0.5 | 44 | 18 | 18 | 16 | <0.01 | NA |
| Solubility in Water | reacts | 91% | miscible | miscible | complete | complete | 0.3% | None |
| Specific Gravity | 0.86 | 0.91 | 0.79 | 1.17 | 1.02 | 1.09 | 0.88 | 1.2 |
| Percent Volatile | none | 100 | 99 | none | none | none | 100 | 0 |
| Evaporation Rate Butyl Acetate =1 | NA | 0.04 | 2.7 | NA | NA | NA | <0.001 | 0 |
| Appearance | gray | colorless | red-green | colorless | colorless | colorless | colorless | white |
| Odor | none | ether-like | pleasant | NA | none | none | ether-like | none |

N/A = not available

SECTION 10 — REACTIVITY DATA

Stability All components are stable.

Incompatible With Do not expose broken sodium ampule to moisture. Keep from strong oxidizers.

Hazardous Decomposition Productions Sodium will form hydrogen and sodium oxide when moisture is present. Ethyl diglyme may form peroxides on exposure to air. Other solutions are stable.

Hazardous Polymerization Will not occur.

Conditions to Avoid Moisture with sodium ampule.

SECTION 11 — TOXICOLOGICAL INFORMATION

Carcinogenicity

NTP: Yes IARC: Yes Z List: No OSHA Reg: No

This product contains Cadmium, which is listed as a NTP anticipated human carcinogen and an IARC probable human carcinogen (Groups 2A and 2B). Ethyl diglyme may cause teratogenic or mutagenic effects and cause harm to the unborn child.

Toxicity Data

| <u>Component</u> | <u>Contents</u> | <u>TLV/(PEL)</u> |
|--|--|---|
| <i>Ampule 1</i> (gray color, yellow-dot) | [Sodium] dispersed in oil | 2 mg/m ³ /(2 mg/m ³) |
| <i>Ampule 2</i> (large, colorless) | [Naphthalene] in Ethyl Diglyme Sol'n | 50 mg/m ³ /(50 mg/m ³) 33 mg/m ³ /(33 mg/m ³) |
| <i>Ampule 3</i> (red-green) | Ethanol | 1900 mg/m ³ /(1900 mg/m ³) |
| <i>Ampule 4</i> (colorless) | Organo-Sulfur Cmpd. | 1 mg/m ³ /(1 mg/m ³) |
| <i>Plastic Syringe</i> | [Mercuric] Nitrate in Water | 0.1 mg/m ³ /(0.1 mg/m ³) |
| <i>Aqueous Sol'n.</i> | [Sulfuric Acid] in water <0.05% Cadmium | 1 mg/m ³ /(1 mg/m ³) 0.05 mg/m ³ /(0.2 mg/m ³) |
| <i>Extraction Solvent</i> | [Butyl Diglyme]/ Emulsion Breaker | NA Not Regulated |
| <i>Drying Agent</i> | Florisil | NA |

SECTION 12 — ECOLOGICAL INFORMATION

No data available

SECTION 13 — DISPOSAL CONSIDERATIONS

Pipette

Dispose of in accordance with all applicable federal, state and local environmental regulations.

Test Tube 1

Contains reacted oil sample and organic liquid. Dispose of as an organic waste in accordance with all applicable federal, state and local environmental regulations.

Test Tube 2

Upon completion of test including the addition of ampule 4, contents pass US EPA TCLP test. Dispose of in accordance with all applicable federal, state and local environmental regulations.

Extraction Solvent Vial & Drying Agent Vial

Contains oil sample and extract solvent. Dispose of as an organic waste in accordance with all applicable federal, state and local environmental regulations.

SECTION 14 — TRANSPORTATION INFORMATION

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: As originally packaged by Dexsil Corporation under small quantity exemption Approval CA-9610010. Packaging conforms to conditions and limitations specified in 49 CFR 173.4.

IATA

Proper Shipping Name: Alkali Metal Dispersion
IATA UN Number: 1391
Hazard Class: 4.3
Packing Group: I

SECTION 15 — REGULATORY INFORMATION

United States Regulatory Information

SARA Listed: Mercuric nitrate, cadmium, naphthalene, Organo-sulfur cmpd. and ethanol/methanol are identified on SARA Sec. 313.

TSCA Inventory Items: Mercuric nitrate, cadmium, naphthalene, Organo-sulfur cmpd. and ethanol/methanol.

CERCLA Listed: Mercuric nitrate, cadmium, naphthalene, Organo-sulfur cmpd. and ethanol/ methanol.

SECTION 16 — OTHER INFORMATION

The information in this Material Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and the Canadian WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the precautions and danger of these chemicals for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes.

Exposure to this product may have serious adverse health effects. These chemicals may interact with other substances. Since the potential uses are so varied, Dexsil cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. Dexsil warrants that the chemicals meet the specifications set forth on the label.

DEXSIL DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Dexsil will periodically revise this Material Safety Data Sheet. CHEMTREC emergency telephone number is to be used ONLY in the event of CHEMICAL EMERGENCIES involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to the Customer Service Dept. at 1-203-288-3509.

For additional information, contact Dexsil.

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