

SAFETY DATA SHEET

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

HYDROCLOR Q4000 CHLORINE/HALOGEN TEST KIT

SECTION 1 – COMPANY IDENTIFICATION

Manufacturer: Dexsil Corporation
One Hamden Park Drive
Hamden, CT 06517

Emergency Telephone Number:
USA (800) 424-9300 (CHEMTREC)
INT'L (703) 741-5970

Telephone Number: (203) 288-3509

Email: info@dexsil.com

Product Description: The HYDROCLOR Q4000 product line is a field test kit for organic chlorine determination in oil/water mixtures and used antifreeze/coolant.

SECTION 2 – HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Ampule 1 (gray color yellow dot): Alkali metal dispersion			
Combustible Liquid;H227	Combustible Liquid.	Skin Corr. 1B;H314	Causes severe skin burns and eye damage.
Water-react. 1;H260	In contact with water releases flammable gases which may ignite spontaneously.	Eye Dam. 1;H318	Causes serious eye damage.

Ampule 2 (Large, colorless): Ethyl diglyme / naphthalene			
Combustible Liquid;H227	Combustible Liquid.	Aquatic Chronic 2;H410	Very toxic to aquatic life with long lasting effects.
Acute Tox. 4;H302	Harmful if swallowed.	Carc. 2;H351	Suspected of causing cancer.
Eye Irrit. 2;H319	Causes serious eye irritation.		

Ampule 3 (red-green color): Ethanol			
Flam. Liq. 2;H225	Highly Flammable liquid and vapor.	Eye Irrit. 2;H319	Causes serious eye irritation.

Ampule 4 (colorless): Organo-sulfur compound			
Aquatic Acute 1;H400	Very toxic to aquatic life.		

Plastic Syringe: Mercuric nitrate solution			
No applicable GHS categories.			

Aqueous Solution: Sulfuric acid solution			
Skin Irrit. 2;H315	Causes skin irritation.	Eye Dam. 1;H318	Causes serious eye damage.

Large screw top glass tube: Butyl diglyme / Florisil			
No applicable GHS categories.			

Snap top vial: Triton X-100			
Acute Tox. 4;H302	Harmful if swallowed.	Aquatic Chronic 2;H411	Toxic to aquatic life with long lasting effects.
Eye Irrit. 1;H319	Causes serious eye irritation.		

2.2. Label elements

Ampule 1 (gray color yellow dot) Alkali metal dispersion



Danger

H227 Combustible liquid.

H260 In contact with water releases flammable gases which may ignite spontaneously.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire.

P231+232 Handle under inert gas. Protect from moisture.

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P262 Do not get in eyes, on skin, or on clothing.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.

P305+351+338 IF IN EYES: Rinse continuously 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.

P331 Do NOT induce vomiting.

P335+334 Brush off loose particles from skin. Immerse in cool water / wrap in wet bandages.

P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P363 Wash contaminated clothing before reuse.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

P402+404 Store in a dry place. Store in a closed container.

P403+235 Store in a well ventilated place. Keep cool.

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

Ampule 2 (Large, colorless): Ethyl diglyme / naphthalene



Danger

H227 Combustible liquid.

H302 Harmful if swallowed

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H410 Very toxic to aquatic life with long lasting effects.

[Prevention]:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P308+313 IF exposed or concerned: Get medical advice / attention.

P311 Call a POISON CENTER or doctor / physician.

P321 Specific treatment (see information on this label).

P337+313 If eye irritation persists: Get medical advice / attention.

P391 Collect spillage.

[Storage]:

P403+235 Store in a well ventilated place. Keep cool.

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

Ampule 3 (red-green color): Ethanol



Danger

H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.

[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.
P241 Use explosion-proof electrical / ventilating / light / equipment.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

Ampule 4 (colorless): Organo-sulfur compound



Warning

H400 Very toxic to aquatic life.

[Prevention]:

P273 Avoid release to the environment.

[Response]:

P391 Collect spillage.

[Storage]:

No GHS storage statements

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

Plastic Syringe: Mercuric nitrate solution

No applicable GHS categories.

Aqueous Solution: Sulfuric acid solution



Danger

H315 Causes skin irritation.
H318 Causes serious eye damage.
H290 May be corrosive to metals.

[Prevention]:

P264 Wash thoroughly after handling.
P280 Wear protective gloves / eye protection / face protection.

[Response]:

P302+352 IF ON SKIN: Wash with plenty of soap and water.
P305+351+338 IF IN EYES: Rinse continuously 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.
P321 Specific treatment (see information on this label).
P362 Take off contaminated clothing and wash before reuse.

[Storage]:

No GHS storage statements

[Disposal]:

No GHS disposal statements

Large screw top glass tube: Butyl diglyme / Florisil

No applicable GHS categories.

Snap top vial: Triton X-100



Danger

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

[Prevention]:

P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.

[Response]:

P301+312+330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth..
P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P337+313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.

[Storage]:

No GHS storage statements

[Disposal]:

P501 Dispose of contents/ container to an approved waste disposal plant.

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

SECTION 3 – 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 a drying agent.

Component	Contents	CAS#	EC#	% liquid
Ampule 1 (gray color yellow dot)	Sodium	7440-23-5	231-132-9	0.27%
	dispersed in oil	64742-46-7	265-148-2	1.10%
Ampule 2 (large, colorless)	Naphthalene in	91-20-3	202-049-5	0.49%
	Ethyl Diglyme Solution	112-36-7	203-963-7	4.92%
Ampule 3 (red-green color)	Ethanol	64-17-5	200-578-6	1.56%
Ampule 4 (colorless)	Organo-Sulfur Compound	128-04-1	204-876-7	2.41%
Plastic Syringe	Mercuric Nitrate	10045-94-0	233-152-3	0.02%
	in water	7732-18-5	231-791-2	4.35%
Aqueous Solution	Sulfuric Acid in water	7664-93-9	231-639-5	0.94%
	in water	7732-18-5	231-791-2	31.26%
Extract Solvent/ Drying Agent	Butyl Diglyme	112-73-2	204-001-9	47.71%
	Florisil	1343-90-4	215-681-1	0.99%
Surfactant	Triton X-100	9036-19-5	NA	3.98%
				100.00%

SECTION 4 – FIRST AID MEASURES

First Aid: In case of contact with reagents, rinse well with water.

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.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

SECTION 5 – FIRE AND EXPLOSION HAZARD

Flash Point	Ampule 1	143.6°F	62.0°C
	Ampule 2	162°F	72.2°C
	Ampule 3	48°F	8.89°C
	Ampule 4	N/A	N/A
	Plastic Syringe	N/A	N/A
	Extraction Solvent	244°F	118°C
	Drying Agent	None	None
	Surfactant	N/A	N/A

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.

Surfactant - Contain spill and absorb with inert material (e.g. sand, earth).

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 Avoid contact with skin, eyes and clothing. Wash hands 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>Drying Agent</u>	<u>Surfact.</u>
Boiling Pt. °C	N/A	185	78	100	100	>100	256	N/A	>100
Vapor Pressure mm Hg @ 21°C	N/A	0.5	44	18	18	16	<0.01	N/A	N/A
Solubility in Water	reacts	91%	miscible	miscible	complete	complete	0.3%	none	complete
Specific Gravity	0.86	0.91	0.79	1.17	1.02	1.09	0.88	1.2	1.06
Percent Volatile	none	100	99	none	none	none	100	0	none
Evaporation Rate Butyl Acetate =1	N/A	0.04	2.7	N/A	N/A	N/A	<0.001	0	<0.01
Appearance	gray	colorless	red-green	colorless	colorless	colorless	colorless	white cryst.	colorless
Odor	none	ether-like	pleasant	N/A	none	none	ether-like	none	none

N/A = not available

SECTION 10 – REACTIVITY DATA

Chemical Stability All components are stable.

Conditions to Avoid Do not expose broken sodium ampule to moisture. Keep from strong oxidizers.

Hazardous Decomposition Products 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

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>
Ampule 1(gray color, yellow-dot)	[Sodium] dispersed in oil	[2 mg/m ³ / (2 mg/m ³)]
Ampule 2 (large, colorless)	[Naphthalene] in Ethyl Diglyme Sol'n	[50 mg/m ³ / (50 mg/m ³)] 33 mg/m ³ / (33 mg/m ³)
Ampule 3(red-green color)	Ethanol	1900 mg/m ³ / (1900 mg/m ³)
Ampule 4(colorless)	Organo-Sulfur Comp'd	1 mg/m ³ / (1 mg/m ³)
Plastic Syringe	[Mercuric] Nitrate in water	[0.1 mg/m ³ / (0.1 mg/m ³)
Aqueous Sol'n	[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)
Extraction Solvent	[Butyl Diglyme]/ Emulsion Breaker	[N/A] / Not Regulated
Drying Agent	Florisil	N/A
Surfactant	Triton X-100	N/A

SECTION 12 – ECOLOGICAL INFORMATION

Naphthalene: Ecotoxicity in water (LC50): 305.2 ppm 96 hour(s) [Trout].

Ethanol: Ecotoxicity: Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3°C Fish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling (Unspecified) Bacteria: Phytobacterium phosphoreum: EC50 = 34900 mg/L; 5-30 min; Microtox test
When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would not be expected to adsorb to sediment or bioconcentrate in fish.

Organo-Sulfur Compound: Ecotoxicity: Fish: Rainbow trout: LC50 = 2.6 mg/L; 96 Hr.; Unspecified Bacteria: Phytobacterium phosphoreum: EC50 = 0.508 mg/L; 15 minutes; Microtox test.

Mercuric Nitrate: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 13 – DISPOSAL CONSIDERATIONS

Sampling Syringe: 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	
Domestic Highway or Rail Transport Only:	As originally packaged by Dexsil Corporation, under Competent Authority Approval CA-1996100010, packages are approved for transportation by domestic highway or rail transport only. Packaging conforms to conditions and limitations specified in 49 CFR 173.4.	
IATA		
Proper Shipping Name:	Alkali Metal Dispersion	Ethanol
UN Number:	1391	1170
Hazard Class:	4.3	3
Packing Group	I	II

SECTION 15 – REGULATORY INFORMATION

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

TSCA Inventory Items: Mercuric nitrate, cadmium, naphthalene/ethyl diglyme, Organo-sulfur compound, and ethanol.

CERCLA Listed: Mercuric nitrate, cadmium, naphthalene/ethyl diglyme, Organo-sulfur compound, and ethanol.

EINECS: Components of this product are on the European Inventory of Existing Commercial Chemical Substances.

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, IT'S 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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