

LIQUID COPPER TEST KIT

Chemwatch Material Safety Data Sheet
Issue Date: Tue 4-Oct-2005

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

LIQUID COPPER TEST KIT

STATEMENT OF HAZARDOUS NATURE

Not considered a hazardous substance according to OSHA 29
CFR 1910.1200.

SUPPLIER

Company: Aquarium Pharmaceuticals Incorporated
Address:
50 East Hamilton Street
Chalfont
PA, 18914
USA
Telephone: +1 215 822 8181

Company: Aquarium Pharmaceuticals Incorporated
Address:
PO Box 218
Chalfont
PA, 18914-0218
USA
Telephone: +1 215 822 8181
Emergency Tel: +1800 222 1222 (US Only)

PRODUCT USE

Copper test kit.

SYNONYMS

"Solution ID# 3354", "Product 65L"

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sodium diethyldithiocarbamate	148-18-5	<1
EDTA tetrasodium salt	64-02-8	<1
water	7732-18-5	>98

Section 3 - HAZARDS IDENTIFICATION

CANADIAN WHMIS SYMBOLS

None

EMERGENCY OVERVIEW

RISK

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

The material has NOT been classified as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where

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Section 3 - HAZARDS IDENTIFICATION

pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality (death) rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, unintentional ingestion is not thought to be cause for concern.

EYE

Although the liquid is not thought to be an irritant, direct contact with the eye may produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

Not normally a hazard due to non-volatile nature of product. The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified using animal models); nevertheless exposure by all routes should be minimized as a matter of course.

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

EYE

- If this product comes in contact with eyes:
- Wash out immediately with water.
 - If irritation continues, seek medical attention.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin or hair contact occurs:
- Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

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Section 4 - FIRST AID MEASURES

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

Flash Point (°F): Not Applicable
Lower Explosive Limit (%): Not Applicable
Upper Explosive Limit (%): Not Applicable
Autoignition Temp (°F): Not Applicable

EXTINGUISHING MEDIA

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas. Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.

In such an event consider:

- foam
- dry chemical powder
- carbon dioxide.

FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.
- Do not approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Non combustible.
 - Not considered to be a significant fire risk.
 - Expansion or decomposition on heating may lead to violent rupture of containers.
 - Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).
 - May emit acrid smoke.
- Decomposition may produce toxic fumes of, carbon dioxide (CO₂), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

None known.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing vapors and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.

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Section 6 - ACCIDENTAL RELEASE MEASURES

- Wipe up.
- Place in a suitable labeled container for waste disposal.

MAJOR SPILLS

Minor hazard.

- Clear area of personnel.
- Alert Emergency Responders and tell them location and nature of hazard.
- Control personal contact by using protective equipment as required.
- Prevent spillage from entering drains or water ways.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labeled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
- Wash area and prevent runoff into drains or waterways.
- If contamination of drains or waterways occurs, advise emergency services.

ACUTE EXPOSURE GUIDELINE LEVELS (AEGLE) (in ppm)

AEGLE 1: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.

AEGLE 2: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

AEGLE 3: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

sodium diethyldithiocarbamate	500 mg/m ³
EDTA tetrasodium salt	150 mg/m ³
water	500 mg/m ³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

sodium diethyldithiocarbamate	100 mg/m ³
EDTA tetrasodium salt	30 mg/m ³
water	500 mg/m ³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

sodium diethyldithiocarbamate	6 mg/m ³
EDTA tetrasodium salt	4 mg/m ³
water	500 mg/m ³

The threshold concentration below which most people will experience no appreciable risk of health effects:

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Section 6 - ACCIDENTAL RELEASE MEASURES

sodium diethyldithiocarbamate	2 mg/m ³
EDTA tetrasodium salt	1.25 mg/m ³
water	500 mg/m ³

American Industrial Hygiene Association (AIHA)

Ingredients considered according exceed the following cutoffs

Very Toxic (T+) >= 0.1%	Toxic (T)	>= 3.0%
R50 >= 0.25%	Corrosive (C)	>= 5.0%
R51 >= 2.5%		
else >= 10%		

where percentage is percentage of ingredient found in the mixture

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- When handling DO NOT eat, drink or smoke.
- Always wash hands with soap and water after handling.
- Avoid physical damage to containers.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.

RECOMMENDED STORAGE METHODS

- Polyethylene or polypropylene container.
- Packing as recommended by manufacturer
- Check all containers are clearly labeled and free from leaks.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

No data available:	sodium diethyldithiocarbamate as (CAS: 148-18-5) / (CAS: 20624-25-3)
No data available:	EDTA tetrasodium salt as (CAS: 64-02-8) / (CAS: 10378-23-1) / (CAS: 13235-36-4)
No data available:	water as (CAS: 7732-18-5)

Not available. Refer to individual constituents.

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :100 mg/m³.

INGREDIENT DATA

For each of the following

SODIUM DIETHYLDITHIOCARBAMATE:

EDTA TETRASODIUM SALT:

Dusts not otherwise classified, as inspirable dust;

ES TWA: 10 mg/m³.

WATER:

No exposure limits set by NOHSC or ACGIH.

PERSONAL PROTECTION

Glasses:

Chemical goggles.

Gloves:

When handling larger quantities:

General purpose rubber glove.

Respirator:

Particulate

EYE

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

Wear general protective gloves, e.g.. light weight rubber gloves.

OTHER

No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant.

Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half-face Respirator	Full-Face Respirator
1000	10	-1 P	-
1000	50	-	-1 P
5000	50	Airline*	-
5000	100	-	-2 P
10000	100	-	-3 P
	100+		Airline* *

* - Continuous Flow ** - Continuous-flow or positive pressure demand.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

Use appropriate NIOSH-certified respirator based on informed professional judgement. In conditions where no reasonable estimate of exposure can be made, assume the exposure is in a concentration IDLH and use NIOSH-certified full face pressure demand SCBA with a minimum service life of 30 minutes, or a combination full facepiece pressure demand SAR with auxiliary self-contained air supply. Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear an approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Liquid.
Mixes with water.

Molecular Weight: Not Applicable
Melting Range (°C): Not Available
Solubility in water (g/L): Miscible
pH (1% solution): Not Available
Volatile Component (%vol): Not Available
Relative Vapor Density (air=1): Not Available
Lower Explosive Limit (%): Not Applicable
Autoignition Temp (°C): Not Applicable
State: Liquid

Boiling Range (°C): Not Available
Specific Gravity (water=1): 1.0
pH (as supplied): 10.5-11.6
Vapor Pressure (kPa): Not Available
Evaporation Rate: Not Available
Flash Point (°C): Not Applicable
Upper Explosive Limit (%): Not Applicable
Decomposition Temp (°C): Not Available

APPEARANCE

Clear colorless alkaline liquid; mixes with water.

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerization will not occur.

STORAGE INCOMPATIBILITY

Avoid contamination of water, foodstuffs, feed or seed.
None known.

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Section 11 - TOXICOLOGICAL INFORMATION

Liquid Copper Test Kit

Not available. Refer to individual constituents.

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

SODIUM DIETHYLDITHIOCARBAMATE:

TOXICITY

Oral (rat) LD50: 1500mg/kg

Oral (rat) LD50: >1000 mg/kg

Intraperitoneal (rat) LD50: 1250 mg/kg

Oral (mouse) LD50: 1500 mg/kg

Intraperitoneal (mouse) LD50: 1032 mg/kg

Oral (rabbit) LD50: 500 mg/kg

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

IRRITATION

Nil Reported

EDTA TETRASODIUM SALT:

TOXICITY

Oral (rat) LD50: 2000-3200 mg/kg*

Eyes (rabbit): 1.9 mg

Eyes (rabbit): 100 mg/24h-Moderate

*[BASF]

IRRITATION

Skin (rabbit): 500 mg/24h-Moderate

WATER:

TOXICITY

No significant acute toxicological data identified in literature search.

IRRITATION

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

SODIUM DIETHYLDITHIOCARBAMATE:

Information on the environmental impact of dithiocarbamates with respect to persistence and bioaccumulation in different species and food chains is limited.

Available information suggests that these compounds are degraded in the presence of moisture, oxygen, etc. to form a number of compounds, some of which are toxicologically important.

Soil organisms are capable of metabolizing dithiocarbamates; breakdown products appear to affect enzyme activities, respiration and nitrification at dose levels of the order of 10 mg/kg dry soil or more.

Generally dithiocarbamates have an LC50 of less than 1 mg/l for invertebrates (Daphnia) and between 1 and 4 mg/l for algae (Chlorella).

The acute toxicity in fish is higher. The sac fry and early fry stages of rainbow trout have a higher sensitivity than other early life stages and embryotoxic and teratogenic effects have been induced by certain dithiocarbamates. Bioaccumulation, however, is low (bioconcentration factor).

EDTA TETRASODIUM SALT:

Not readily biodegradable. Harmful to aquatic organisms.

May cause long term adverse effects in the aquatic environment.

Toxicity to fish: LC50 (96h): >500 mg/l (Leuciscus idus)

[ORICA]

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Section 12 - ECOLOGICAL INFORMATION

Toxicity to daphnae (acute): EC50 (48h): >100 mg/l
Toxicity to algae EC50 (72h): 10-100 mg/l
COD Value: 570 mg O₂/g
BOD5-Value: 20 mg O₂/g
Toxicity to bacteria: 50 mg/l Warburg test

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: Burial in a licensed land-fill or Incineration in a licensed apparatus (after admixture with suitable combustible material)
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION

DOT Information
Shipping Name: None
Hazard Class: None
SubRisk: None
UN/NA Number: None
Packing Group: None
Additional Shipping Information:
International Transport Regulations:
IMO: None

Section 15 - REGULATORY INFORMATION

RISK

US Federal Regulations

A. General Product Information

In addition to Federal and State regulation, local regulations may apply. Check with your local regulatory authorities.

B. Component Information

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 455 Appendix A) SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4):

sodium diethyldithiocarbamate (148-18-5,<1%)
CERCLA: fianl RQ is not established; statutory R Q = 1 pound (0.454 kg)

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Section 15 - REGULATORY INFORMATION

Component	TSCA
sodium diethyldithiocarbamate	Y
EDTA tetrasodium salt	Y

State Regulations

A. General Product Information

B. Component Information

The following components appear on one or more of the following state hazardous substance lists.

Component	CAS No	CA	FL	MA	MN	NJ	PA
sodium diethyldithiocarbamate	148-18-5	N	N	N	N	N	N
EDTA tetrasodium salt	64-02-8	N	N	N	N	N	N

Y=Yes this material appears on that state's hazardous substances list.

N=No this material does not appear on that state's hazardous substances list.

Other Regulations

A. General Product Information

All components are listed in the European Inventory of New and Existing Chemical Substances (EINECS)

B. Component Information

CANADA

The following component(s) are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

All of this product's components are on the Canadian Domestic

REGULATIONS

sodium diethyldithiocarbamate (CAS: 148-18-5) is found on the following regulatory lists

Canadian Domestic Substances List (DSL)

US Toxic Substances Control Act (TSCA)

US DOE Temporary Emergency Exposure Limits (TEELs)

US Washington Dangerous waste constituents list

Canadian Ingredient Disclosure List (SOR/88-64)

US RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards

US California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs) - Respiratory

sodium diethyldithiocarbamate (CAS: 20624-25-3) is found on the following regulatory lists

Canadian Domestic Substances List (DSL)

US Toxic Substances Control Act (TSCA)

US Washington Dangerous waste constituents list

Canadian Ingredient Disclosure List (SOR/88-64)

US RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards

US California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs) - Respiratory

EDTA tetrasodium salt (CAS: 64-02-8) is found on the following regulatory lists

Canadian Domestic Substances List (DSL)

US Toxic Substances Control Act (TSCA)

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Section 15 - REGULATORY INFORMATION

US EPA High Production Volume Program Chemical List
US DOE Temporary Emergency Exposure Limits (TEELs)
US Food Additive Database
US California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs) - Respiratory
EDTA tetrasodium salt (CAS: 10378-23-1) is found on the following regulatory lists
US DOE Temporary Emergency Exposure Limits (TEELs)
US California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs) - Respiratory

water (CAS: 7732-18-5) is found on the following regulatory lists
Canadian Domestic Substances List (DSL)
US Toxic Substances Control Act (TSCA)
US DOE Temporary Emergency Exposure Limits (TEELs)
US Californian Proposition 65 - Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity

No data available for EDTA tetrasodium salt as CAS: 13235-36-4.

Section 16 - OTHER INFORMATION

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