

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 1 of 13

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

CALCIUM TEST SOLUTION #1

STATEMENT OF HAZARDOUS NATURE

**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

Calcium test solution for product 69L.

SYNONYMS

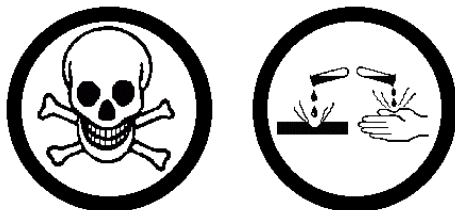
"Solution ID# 3336"

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sodium hydroxide	1310-73-2	<10

Section 3 - HAZARDS IDENTIFICATION

CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

Causes severe burns.
Risk of serious damage to eyes.
Ingestion may produce health damage*.
Cumulative effects may result following exposure*.
*(limited evidence)

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 2 of 13
Section 3 - HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual.

The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.

Ingestion of alkaline corrosives may produce burns around the mouth, ulcerations and swellings of the mucous membranes, profuse saliva production, with an inability to speak or swallow. Both the esophagus and stomach may experience burning pain; vomiting and diarrhea may follow. Epiglottal swelling may result in respiratory distress and asphyxia; shock can occur. Narrowing of the esophagus, stomach or stomach valve may occur immediately or after a long delay (weeks to years). Severe exposure can perforate the esophagus or stomach leading to infections of the chest or abdominal cavity, with low chest pain, abdominal stiffness and fever. All of the above can cause death.

EYE

The material can produce severe chemical burns to the eye following direct contact. Vapors or mists may be extremely irritating.

If applied to the eyes, this material causes severe eye damage.

Direct eye contact with corrosive bases can cause pain and burns. There may be swelling, epithelium destruction, clouding of the cornea and inflammation of the iris. Mild cases often resolve; severe cases can be prolonged with complications such as persistent swelling, scarring, permanent cloudiness, bulging of the eye, cataracts, eyelids glued to the eyeball and blindness.

SKIN

The material can produce severe chemical burns following direct contact with the skin.

Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

If inhaled, this material can irritate the throat and lungs of some persons.

Inhaling corrosive bases may irritate the respiratory tract. Symptoms include cough, choking, pain and damage to the mucous membrane. In severe cases, lung swelling may develop, sometimes after a delay of hours to days. There may be low blood pressure, a weak and rapid pulse, and crackling sounds.

CHRONIC HEALTH EFFECTS

Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 3 of 13

Section 4 - FIRST AID MEASURES

SWALLOWED

- For advice, contact a Poisons Information Center or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Transport to hospital or doctor without delay.

EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Center or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin or hair contact occurs:

- Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Center.
- Transport to hospital, or doctor.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor, without delay.

NOTES TO PHYSICIAN

For acute or short-term repeated exposures to highly alkaline materials:

- Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- Oxygen is given as indicated.
- The presence of shock suggests perforation and mandates an intravenous line and fluid administration.

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 4 of 13
Section 4 - FIRST AID MEASURES

- Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilization of proteins allow deep penetration into the tissue.
- Alkalis continue to cause damage after exposure.

INGESTION:

- Milk and water are the preferred diluents
- No more than 2 glasses of water should be given to an adult.
- Neutralizing agents should never be given since exothermic heat reaction may compound injury.
 - * Catharsis and emesis are absolutely contra-indicated.
 - * Activated charcoal does not absorb alkali.
 - * Gastric lavage should not be used.

Supportive care involves the following:

- Withhold oral feedings initially.
- If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

- Injury should be irrigated for 20-30 minutes.
- Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology].

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

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
 - Wear full body protective clothing with breathing apparatus.
 - 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.
- When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 2625 feet in all directions.

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 5 of 13
Section 5 - FIRE FIGHTING MEASURES

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Non combustible.
 - Not considered to be a significant fire risk, however containers may burn.
- Decomposition may produce toxic fumes of, sulfur oxides (SOx).
May emit corrosive fumes.

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

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Consider evacuation.
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labeled containers for recycling.
- Neutralize/decontaminate residue.
- Collect solid residues and seal in labeled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (ppm)	Revised IDLH Value (mg/m ³)
Sodium hydroxide		10

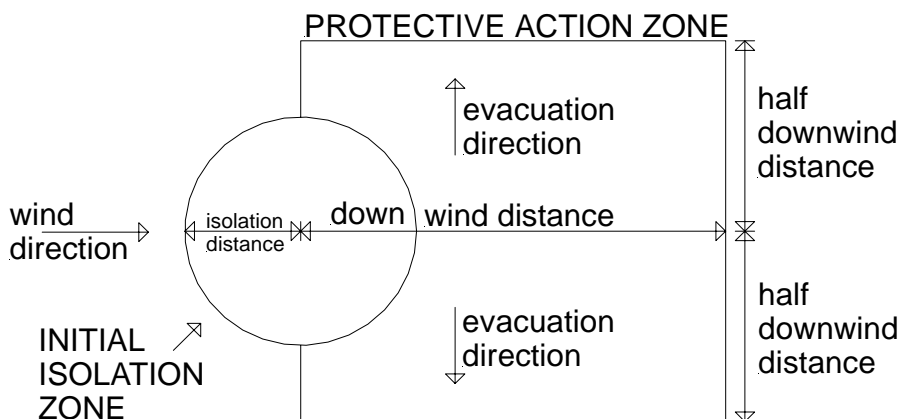
PROTECTIVE ACTIONS FOR SPILL

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 6 of 13
Section 6 - ACCIDENTAL RELEASE MEASURES



From IERG (Canada/Australia)

Isolation Distance	25 meters
Downwind Protection Distance	250 meters

FOOTNOTES

- 1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.
- 2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.
- 3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.
- 4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".
LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.
- 5 Guide 154 is taken from the US DOT emergency response guide book.
- 6 IERG information is derived from CANUTEC - Transport Canada.

ACUTE EXPOSURE GUIDELINE LEVELS (AEGL) (in ppm)

AEGL 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.

AEGL 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

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 7 of 13

Section 6 - ACCIDENTAL RELEASE MEASURES

or an impaired ability to escape.

AEGL 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 hydroxide 50 mg/m³

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

sodium hydroxide 5 mg/m³

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

sodium hydroxide 0.5 mg/m³

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

sodium hydroxide 0.5 mg/m³

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

- Avoid all personal contact, including inhalation.
 - Wear protective clothing when risk of exposure occurs.
 - Use in a well-ventilated area.
 - WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.
 - Avoid smoking, naked lights or ignition sources.
 - Avoid contact with incompatible materials.
 - When handling, DO NOT eat, drink or smoke.
 - Keep containers securely sealed when not in use.
 - Avoid physical damage to containers.
 - Always wash hands with soap and water after handling.
 - Work clothes should be laundered separately.
 - Launder contaminated clothing before re-use.
 - Use good occupational work practice.
 - Observe manufacturer's storing and handling recommendations.
 - Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
- DO NOT allow clothing wet with material to stay in contact with skin.

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 8 of 13
Section 7 - HANDLING AND STORAGE

RECOMMENDED STORAGE METHODS

- Lined metal can, Lined metal pail/drum
 - Plastic pail
 - Polyliner drum
 - Packing as recommended by manufacturer.
 - Check all containers are clearly labeled and free from leaks.
- For low viscosity materials
- Drums and jerricans must be of the non-removable head type.
 - Where a can is to be used as an inner package, the can must have a screwed enclosure.
- For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):
- Removable head packaging;
 - Cans with friction closures and
 - low pressure tubes and cartridges may be used.
 -
- Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting molded plastic box and the substances are not incompatible with the plastic.

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.
- DO NOT store near acids, or oxidizing agents.
Protect containers against physical damage.
Check regularly for spills and leaks.
No smoking, naked lights, heat or ignition sources.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

US OSHA Permissible Exposure Levels (PELs)

Z	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	Max excursion ppm	Max excursion mg/m ³	Max excursion duration (mins)
Z1	Sodium hydroxide		2							

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³
US California Permissible Exposure Limits for Chemical Contaminants	Sodium hydroxide; caustic soda					--	2

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 9 of 13

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

US Minnesota Permissible Exposure Limits (PELs)	Sodium hydroxide								2
US Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	Sodium hydroxide		2						
US Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	Sodium hydroxide								2
US Tennessee Occupational Exposure Limits - Limits For Air Contaminants	Sodium hydroxide								2
Canada Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	Sodium hydroxide								2.00000
Canada Yukon Permissible Concentrations for Airborne Contaminant Substances	Sodium hydroxide	-	2	-	-				
US Washington Permissible exposure limits of air contaminants	Sodium hydroxide								2
Canadian British Columbia Occupational Exposure Limits	Sodium hydroxide								2
NIOSH Recommended Exposure Limits for Hazardous Agents in the Workplace	Sodium hydroxide								2

Not available. Refer to individual constituents.

INGREDIENT DATA

SODIUM HYDROXIDE:

The TLV-C is recommended based on concentrations that produce noticeable but not excessive, ocular and upper respiratory tract irritation.

PERSONAL PROTECTION

Glasses:

Full face- shield.

Gloves:

PE/EVAL/PE Gloves.

Respirator:

EYE

- Chemical goggles.

- Full face shield.

- Contact lenses pose a special hazard; soft contact lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

Elbow length PVC gloves.

When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 10 of 13

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

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

Local exhaust ventilation usually required. If risk of overexposure exists, wear an approved respirator. Correct fit is essential to obtain adequate protection an approved self contained breathing apparatus (SCBA) may be required in some situations. Provide adequate ventilation in warehouse or closed storage area.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Liquid.
Mixes with water.
Corrosive.
Alkaline.

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): 1.096
pH (as supplied): 13.3
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 strongly alkaline liquid with no odor; mixes with water.

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

continued...

CALCIUM TEST SOLUTION #1

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

CHEMWATCH 4650-7
CD 2005/3 Page 11 of 13

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

- Hazardous polymerization will not occur.

STORAGE INCOMPATIBILITY

Avoid strong acids.

Section 11 - TOXICOLOGICAL INFORMATION

Calcium Test Solution #1

Not available. Refer to individual constituents.

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

SODIUM HYDROXIDE:

TOXICITY

Skin (rabbit): 500 mg/24h SEVERE

Eye (rabbit): 0.05 mg/24h SEVERE

Eye(rabbit):1 mg/24h SEVERE

Eye(rabbit):1 mg/30s rinsed-SEVERE

IRRITATION

Section 12 - ECOLOGICAL INFORMATION

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

SODIUM HYDROXIDE:

Toxicity Fish: LC50(96)43mg/L

Section 13 - DISPOSAL CONSIDERATIONS

US EPA Waste Number & Descriptions

A. General Product Information

Corrosivity characteristic: use EPA hazardous waste number D002 (waste code C)

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.

- Treat and neutralize at an approved treatment plant.

- Treatment should involve: Neutralization with suitable dilute acid followed 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.

Puncture containers to prevent re-use and bury at an authorized landfill.

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CALCIUM TEST SOLUTION #1

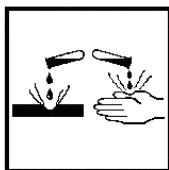
Chemwatch Material Safety Data Sheet
Issue Date: Tue 4-Oct-2005

CHEMWATCH 4650-7
CD 2005/3 Page 12 of 13

Section 14 - TRANSPORTATION INFORMATION

DOT Information
Shipping Name: SODIUM HYDROXIDE SOLUTION
Hazard Class: 8
SubRisk: None
UN/NA Number: 1824
Packing Group: II
Labels Required: corrosive
Additional Shipping Information:
International Transport Regulations:
IMO: 1824

Section 15 - REGULATORY INFORMATION



RISK

Causes severe burns.
Risk of serious damage to eyes.

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 hydroxide (1310-73-2, <10%)
CERCLA: final RQ = 1000 pounds (454 kg)

Component	TSCA
sodium hydroxide	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 hydroxide	1310-73-2	Y	Y	Y	Y	Y	Y

continued...

CALCIUM TEST SOLUTION #1

Chemwatch Material Safety Data Sheet

Issue Date: Tue 4-Oct-2005

CHEMWATCH 4650-7

CD 2005/3 Page 13 of 13

Section 15 - REGULATORY INFORMATION

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

Component	CAS No	%	Min Conc.
sodium hydroxide	1310-73-2	<10	1% item 1442 (998)

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

REGULATIONS

sodium hydroxide (CAS: 1310-73-2) is found on the following regulatory lists

Canadian Domestic Substances List (DSL)

US Toxic Substances Control Act (TSCA)

US EPA Hazardous Substances

US California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List

US CWA (Clean Water Act) - List of Hazardous Substances

US CWA (Clean Water Act) - Reportable Quantities of Designated Hazardous Substances

US Minnesota Hazardous Substance List

US EPA High Production Volume Chemicals Additional List

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

US Food Additive Database

Canada Yukon Permissible Concentrations for Airborne Contaminant Substances

US Connecticut Hazardous Air Pollutants

Canadian Ingredient Disclosure List (SOR/88-64)

Section 16 - OTHER INFORMATION

Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.

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CALCIUM TEST SOLUTION #2

Chemwatch Material Safety Data Sheet
Issue Date: Mon 3-Oct-2005

CHEMWATCH 4650-19
CD 2005/3 Page 1 of 9

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

CALCIUM TEST SOLUTION #2

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

Calcium test solution.

SYNONYMS

"Solution ID# 3299", "Product 69L"

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
EDTA tetrasodium salt	64-02-8	N/S

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 pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality

continued...

CALCIUM TEST SOLUTION #2

Chemwatch Material Safety Data Sheet
Issue Date: Mon 3-Oct-2005

CHEMWATCH 4650-19
CD 2005/3 Page 2 of 9
Section 3 - HAZARDS IDENTIFICATION

(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

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.

NOTES TO PHYSICIAN

Treat symptomatically.

continued...

CALCIUM TEST SOLUTION #2

Chemwatch Material Safety Data Sheet
Issue Date: Mon 3-Oct-2005

CHEMWATCH 4650-19
CD 2005/3 Page 3 of 9

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

- There is no restriction on the type of extinguisher which may be used.
Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

- Use water delivered as a fine spray to control fire and cool adjacent 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, however containers may burn.
Decomposition may produce toxic fumes of, carbon dioxide (CO₂), nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

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

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.
- Control personal contact by using protective equipment.
- Prevent spillage from entering drains, sewers or water courses.
- Recover product wherever possible.
- Put residues in labeled containers for disposal.
- If contamination of drains or waterways occurs, advise emergency services.

ACUTE EXPOSURE GUIDELINE LEVELS (AEG) (in ppm)

AEG 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

continued...

CALCIUM TEST SOLUTION #2

Chemwatch Material Safety Data Sheet
Issue Date: Mon 3-Oct-2005

CHEMWATCH 4650-19
CD 2005/3 Page 4 of 9

Section 6 - ACCIDENTAL RELEASE MEASURES

effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.

AEGL 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.

AEGL 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:

EDTA tetrasodium salt 150 mg/m³

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

EDTA tetrasodium salt 30 mg/m³

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

EDTA tetrasodium salt 4 mg/m³

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

EDTA tetrasodium salt 1.25 mg/m³

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.

continued...

CALCIUM TEST SOLUTION #2

Chemwatch Material Safety Data Sheet
Issue Date: Mon 3-Oct-2005

CHEMWATCH 4650-19
CD 2005/3 Page 5 of 9
Section 7 - HANDLING AND STORAGE

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: EDTA tetrasodium salt as (CAS: 64-02-8) / (CAS: 10378-23-1) / (CAS: 13235-36-4)

Not available. Refer to individual constituents.

INGREDIENT DATA

EDTA TETRASODIUM SALT:

Dusts not otherwise classified, as inspirable dust;
ES TWA: 10 mg/m³.

PERSONAL PROTECTION

Glasses:
Chemical goggles.
Gloves:
When handling larger quantities:
General purpose rubber glove.
Respirator:

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.

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

continued...

CALCIUM TEST SOLUTION #2

Chemwatch Material Safety Data Sheet
Issue Date: Mon 3-Oct-2005

CHEMWATCH 4650-19
CD 2005/3 Page 6 of 9

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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): 1.008
pH (as supplied): 5.5
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

Opaque wine coloured solution with a minimal odor; 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.
Avoid reaction with oxidizing agents.

Section 11 - TOXICOLOGICAL INFORMATION

Calcium Test Solution #2

Not available. Refer to individual constituents.
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

EDTA TETRASODIUM SALT:

continued...

CALCIUM TEST SOLUTION #2

Chemwatch Material Safety Data Sheet

Issue Date: Mon 3-Oct-2005

CHEMWATCH 4650-19

CD 2005/3 Page 7 of 9

Section 11 - TOXICOLOGICAL INFORMATION

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

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

EDTA TETRASODIUM SALT:

Not readily biodegradable. Harmful to aquatic organisms.

May cause long term adverse effects in the aquatic environment.

[ORICA]

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

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

continued...

CALCIUM TEST SOLUTION #2

Chemwatch Material Safety Data Sheet

Issue Date: Mon 3-Oct-2005

CHEMWATCH 4650-19

CD 2005/3 Page 8 of 9

Section 15 - REGULATORY INFORMATION

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):

None

Component TSCA
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
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

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

REGULATIONS

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)

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

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

continued...

CALCIUM TEST SOLUTION #2

Chemwatch Material Safety Data Sheet

Issue Date: Mon 3-Oct-2005

CHEMWATCH 4650-19

CD 2005/3 Page 9 of 9

Section 16 - OTHER INFORMATION

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