

FRESHWATER/SALTWATER NITRITE TEST SOLUTION

Chemwatch Material Safety Data Sheet
Issue Date: 21-Oct-2005

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

FRESHWATER/SALTWATER NITRITE TEST SOLUTION

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

Nitrate test solution for products 26, 34 and 401M.

SYNONYMS

"Solution ID# 3317"

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
polyethylene glycol	25322-68-3	<95
diethylene glycol	111-46-6	<5
hydrochloric acid	7647-01-0	0.97

Section 3 - HAZARDS IDENTIFICATION

CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

Cumulative effects may result following exposure*.
May be harmful to the fetus/ embryo*.
May produce discomfort of the eyes, respiratory tract and skin*.

*(limited evidence)

continued...

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Section 3 - HAZARDS IDENTIFICATION

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 (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

There is some evidence to suggest that this material can cause eye irritation and damage in some persons. Limited evidence or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals. Prolonged eye contact may cause inflammation characterized by a temporary redness of the conjunctiva (similar to windburn).

SKIN

There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. Skin contact is not thought to have harmful health effects, however the material may still produce health damage following entry through wounds, lesions or abrasions. There is some evidence to suggest that the material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterized by redness, swelling and blistering. 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

There is some evidence to suggest that this material, if inhaled, can irritate the throat and lungs of some persons. Although inhalation is not thought to produce harmful effects, the material may still produce health damage, especially where pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally confined to doses producing mortality (death) rather than those producing morbidity (disease, ill-health). There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Not normally a hazard due to non-volatile nature of product.

CHRONIC HEALTH EFFECTS

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies where effects have been observed in the

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Section 3 - HAZARDS IDENTIFICATION

absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects.

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 the eyes:

- Wash out immediately with fresh 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.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear
- 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.

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 water delivered as a fine spray to control fire and cool adjacent area.

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Section 5 - FIRE FIGHTING MEASURES

- Avoid spraying water onto liquid pools.
- 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.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Combustible.
 - Slight fire hazard when exposed to heat or flame.
 - Heating may cause expansion or decomposition leading to violent rupture of containers.
 - On combustion, may emit toxic fumes of carbon monoxide (CO).
 - May emit acrid smoke.
 - Mists containing combustible materials may be explosive.
- Combustion products include, carbon dioxide (CO₂), hydrogen chloride, phosgene, other pyrolysis products typical of burning organic material.
May emit poisonous fumes.
May emit corrosive fumes.

FIRE INCOMPATIBILITY

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

PERSONAL PROTECTION

- Glasses:
Chemical goggles.
- Gloves:
PVC chemical resistant type.
- Respirator:
Type AB-P Filter of sufficient capacity

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Remove all ignition sources.
- 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

- Moderate hazard.
- Clear area of personnel and move upwind.
 - Alert Emergency Responders and tell them location and nature of hazard.
 - Wear breathing apparatus plus protective gloves.
 - Prevent, by any means available, spillage from entering drains or water course.
 - No smoking, naked lights or ignition sources. Increase ventilation.
 - Stop leak if safe to do so.
 - Contain spill with sand, earth or vermiculite.
 - Collect recoverable product into labeled containers for recycling.
 - Absorb remaining product with sand, earth or vermiculite.
 - Collect solid residues and seal in labeled drums for disposal.

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Section 6 - ACCIDENTAL RELEASE MEASURES

- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (ppm)	Revised IDLH Value (mg/m ³)
Hydrogen chloride	50	

ACUTE EXPOSURE GUIDELINE LEVELS (AEGLE) (in ppm)

AEGLE Type	5 min	10 min	30 min	60 min	4 hr	8 hr
AEGLE 1		1.8	1.8	1.8	1.8	1.8
AEGLE 2		100	43	22	11	11
AEGLE 3		620	210	100	26	26

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:

polyethylene glycol	500 mg/m ³
diethylene glycol	100 ppm

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

polyethylene glycol	50 mg/m ³
diethylene glycol	11.5 ppm

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

polyethylene glycol	30 mg/m ³
diethylene glycol	6.92 ppm

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

polyethylene glycol	10 mg/m ³
diethylene glycol	2.31 ppm

American Industrial Hygiene Association (AIHA)

Ingredients considered according exceed the following cutoffs

Very Toxic (T+) >= 0.1%	Toxic (T) >= 3.0%
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Section 6 - ACCIDENTAL RELEASE MEASURES

R50 $\geq 0.25\%$ Corrosive (C) $\geq 5.0\%$
R51 $\geq 2.5\%$
else $\geq 10\%$
where percentage is percentage of ingredient found in the mixture

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- DO NOT USE brass or copper containers / stirrers.
 - Avoid all personal contact, including inhalation.
 - Wear protective clothing when risk of exposure occurs.
 - Use in a well-ventilated area.
 - Prevent concentration in hollows and sumps.
 - DO NOT enter confined spaces until atmosphere has been checked.
 - 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.
 - 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.
- DO NOT allow clothing wet with material to stay in contact with skin.

RECOMMENDED STORAGE METHODS

- Metal can or drum
- 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.
- No smoking, naked lights or ignition sources.
- 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

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	Hydrogen					5	7			

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

chloride

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³
US AIHA Workplace Environmental Exposure Levels (WEELs)	Diethylene Glycol		10				
US AIHA Workplace Environmental Exposure Levels (WEELs)	Polyethylene Glycols		10				
US California Permissible Exposure Limits for Chemical Contaminants	Hydrogen chloride; muriatic acid					5	7
US Minnesota Permissible Exposure Limits (PELs)	Hydrogen chloride					5	7
US Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	Hydrogen chloride	(C)5	(C)7				
US Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	Hydrogen chloride					5	7
US Tennessee Occupational Exposure Limits - Limits For Air Contaminants	Hydrogen chloride					5	7
US Idaho - Limits for Air Contaminants	Hydrogen chloride					5	7
Canada Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	Hydrogen chloride						7.50000
Canada Yukon Permissible Concentrations for Airborne Contaminant Substances	Hydrogen chloride	5	7	-	-		
US Washington Permissible exposure limits of air contaminants	Hydrogen chloride					5.0	
Canadian British Columbia Occupational Exposure Limits	Hydrogen chloride (Revised 2003)					2	
NIOSH Recommended Exposure Limits for Hazardous Agents in the Workplace	Hydrogen chloride					5	
US AIHA Workplace Environmental Exposure Levels (WEELs)	Polyethylene Glycols		10				
US AIHA Workplace Environmental Exposure Levels (WEELs)	Diethylene Glycol		10				

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US California Permissible Exposure Limits for Chemical Contaminants	Hydrogen chloride; muriatic acid	5	7		
US Minnesota Permissible Exposure Limits (PELs)	Hydrogen chloride	5	7		
US Vermont Permissible Exposure Limits Table	Hydrogen chloride	(C)5	(C)7		
Z-1-A Transitional Limits for Air Contaminants					
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Z-1-A Final Rule Limits for Air Contaminants					
US Tennessee Occupational Exposure Limits - Limits For Air Contaminants	Hydrogen chloride	5	7		
US Idaho - Limits for Air Contaminants	Hydrogen chloride	5	7		
Canada Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	Hydrogen chloride				7.50000
Canada Yukon Permissible Concentrations for Airborne Contaminant Substances	Hydrogen chloride	5	7	-	-
US Washington Permissible exposure limits of air contaminants	Hydrogen chloride				5.0
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NIOSH Recommended Exposure Limits for Hazardous Agents in the Workplace	Hydrogen chloride				5

ODOUR SAFETY FACTOR (OSF)

OSF=1.3 (hydrochloric acid)

Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odor Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odor Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odor Threshold Value (OTV) ppm

Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV-TWA for example) is being reached, even when distracted by working activities
B	26-550	Idem for 50-90% of

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C	1-26	persons being distracted Idem for less than 50% of persons being distracted
D	0.18-1	0-50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	Idem for less than 10% of persons aware of being tested

Amoore and Hautala * have determined that it is only at an OSF value of 26 that 50% of distracted persons can detect the substance at the Exposure Standard value. In the case of alerted persons, an OSF of 26 means that 99% of them can detect the odor at the Exposure Standard value. It is ONLY for substances belonging to Class A and B that there is a reasonable chance of being warned in time, that the Exposure Standard is being exceeded. * Journal Applied Toxicology: Vol 3, 1983, p272

NOTE: The use of the OSF may be inappropriate for mixtures where substances mask the odor of others.

INGREDIENT DATA

POLYETHYLENE GLYCOL:

No exposure limits set by NOHSC or ACGIH.

For powdered forms:

Dusts not otherwise classified, as inspirable dust;

ES TWA: 10 mg/m³.

The polyethylene glycols are extremely low in oral toxicity, are not significantly irritating to the eyes or skin, and are not absorbed through the skin in toxic amounts. vapour pressures are extremely low and inhalation exposure is limited to mists. Based on experimental data and human experience, these substances do not present significant hazards to health in the workplace.

DIETHYLENE GLYCOL:

~REPRODUCTIVE HEALTH GUIDELINES

#32orgd

75 mg/m³ 10 D NA -

#32orgend

HYDROCHLORIC ACID:

Odour Threshold Value: 0.262 ppm (detection), 10.06 ppm (recognition)

NOTE: Detector tubes for hydrochloric acid, measuring in excess of 1 ppm, are available commercially.

Hydrogen chloride is a strong irritant to the eyes, mucous membranes and skin. Chronic exposure produces a corrosive action on the teeth. Reports of respiratory irritation following short-term exposure at 5 ppm have led to the recommended TLV-C. There is no indication that skin contact with hydrogen chloride elicits systemic poisoning and a skin designation has not been applied.

Exposure of humans to hydrogen chloride at 50 to 100 ppm for 1 hour is reported to be barely tolerable; 35 ppm caused irritation of the throat on short exposure and 10 ppm was the maximal concentration for prolonged exposure. It has been stated that hydrogen chloride at concentrations of 5 ppm is immediately irritating.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Toxic effects of hydrochloric acid

Concentration	Clinical effects
0.067 - 0.267 ppm	Reported range of odour thresholds and changes in respiratory pattern
5 ppm	No organic damage
10 ppm	Irritation; work undisturbed
10-50 ppm	Work difficult but possible
35 ppm	Short exposure irritation of the throat
50-100 ppm	Exposure for 1 h barely tolerable
1000-2000 ppm	Brief exposure dangerous; laryngospasm
1300-2000 ppm	Lethal after a few minutes

PERSONAL PROTECTION

EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them. DO NOT wear contact lenses.

HANDS/FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash 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	AB-1 P	-
1000	50	-	AB-1 P
5000	50	Airline*	-
5000	100	-	AB-2 P
10000	100	-	AB-3 P
	100+		Airline* *

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

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

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear an approved respirator. An approved respirator (supplied air type) may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed 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): 1.128
pH (as supplied): <1
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

Blue-green solution with no odour; 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 reaction with oxidizing agents.

Section 11 - TOXICOLOGICAL INFORMATION

Freshwater/Saltwater Nitrite Test Solution

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

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Section 11 - TOXICOLOGICAL INFORMATION

POLYETHYLENE GLYCOL:

TOXICITY

Oral (rat) LD50: 33750 mg/kg
Eye (rabbit): 500mg/24h - mild.
for molecular weights (200-8000) *
Oral (rat) LD50: 31000->50000 mg/kg
Oral (mice) LD50: 38000->50000 mg/kg
Oral (g.pig) LD50: 17000->50000 mg/kg
Oral (rabbit) LD50: 14000->50000 mg/kg
Intraperitoneal (mice) LD50: 3100-12900 mg/kg

IRRITATION

Skin (rabbit): 500mg/24h - mild.

* AIHA WEEL Guides

DIETHYLENE GLYCOL:

TOXICITY

Oral (human) LDLo: 1000 mg/kg
Oral (rat) LD50: 12565 mg/kg
Dermal (rabbit) LD50: 11890 mg/kg

IRRITATION

Skin (human): 112 mg/3d-I mild
Skin (rabbit): 500 mg mild
Eye (rabbit) 50 mg mild

HYDROCHLORIC ACID:

TOXICITY

Unreported (man) LDLo: 81 mg/kg
Inhalation (human) LCLo: 1300 ppm/30 min
Inhalation (human) LCLo: 3000 ppm/5 min
Inhalation (rat) LC50: 3124 ppm/1h
Oral (rat) LD50: 900 mg/kg

IRRITATION

Eye (rabbit): 5mg/30s - mild

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.

MATERIAL	CARCINOGEN	SENSITIZER	SKIN	MUTAGEN	REPROTOXIN
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Freshwater/Saltwater Nitrite

Test Solution

polyethylene glycol

diethylene glycol

hydrochloric acid

Listed

CARCINOGEN

ACGIH: hydrochloric acid: A4

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.
Refer to data for ingredients, which follows:

POLYETHYLENE GLYCOL:

BOD 5 if unstated: 0-0.02,1%

COD : 1.62-1.74,98%

Toxicity Fish: TLm(96)>10000mg/L

DIETHYLENE GLYCOL:

Hazardous Air Pollutant: Yes

Fish LC50 (96hr.) (mg/l): 5000 (24hr

Daphnia magna EC50 (48hr.) (mg/l): 0.3-1.0

Algae IC50 (72hr.) (mg/l): 1700-2700

log Pow (Verschueren 1983): -1.98

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BOD5: 1.50%
BOD20: 18.80%
COD: 1.49
ThOD: 1.51

log Kow : -1.98
BOD 5 if unstated: 0.02-0.15,1.5%
COD : 1.06-1.51
ThOD : 1.51

HYDROCHLORIC ACID:
Hazardous Air Pollutant: Yes
Fish LC50 (96hr.) (mg/l): 0.282

Ecotoxicity
Fish LC100 (24 h): trout 10 mg/l
TLm (96 h): mosquito fish 282 ppm (fresh water)
LC50 : goldfish 178 mg/l
Shrimp LC50 (48 h): 100 - 330 ppm (salt water)
Starfish LC50 (48 h): 100 - 330 mg/l
Cockle LC50 (48 h): 330 - 1000 mg/l
[Hach]

Hydrogen chloride in water dissociates almost completely, releasing hydrogen and chloride ions; the hydrogen ions are captured by water to produce hydronium ions.

Hydrochloric acid infiltrates soil, the rate dependent on moisture content. During soil transport, hydrochloric acid dissolves soil components.

Drinking water standard:
chloride: 400 mg/l (UK max.)
250 mg/l (WHO guideline)
DO NOT discharge into sewer or waterways.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

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

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult Waste Management Authority for disposal.
- Bury residue in an authorized landfill.
- Recycle containers where possible, or dispose of in an authorized landfill.

Section 14 - TRANSPORTATION INFORMATION

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

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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):

hydrochloric acid (7647-01-0,0.97%)

SARA 313: form R reporting required for 1.0% de minimus concentration

CERCLA: final RQ = 5000 pounds (2270 kg)

Component	TSCA
polyethylene glycol	Y
diethylene glycol	Y
hydrochloric acid	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
polyethylene glycol	25322-68-3	N	N	N	Y	N	N
diethylene glycol	111-46-6	N	N	N	Y	N	Y
hydrochloric acid	7647-01-0	Y	Y	Y	Y	Y	Y

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. Component Information

CANADA

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

Component	CAS No	%	Min Conc.
hydrochloric acid	7647-01-0	0.97	1% item 845 (502)

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

REGULATIONS

polyethylene glycol (CAS: 25322-68-3) is found on the following regulatory lists
Canadian Domestic Substances List (DSL)
US Toxic Substances Control Act (TSCA)

continued...

FRESHWATER/SALTWATER NITRITE TEST SOLUTION

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US Minnesota Hazardous Substance List
US EPA High Production Volume Program Chemical List
US Food Additive Database

diethylene glycol (CAS: 111-46-6) is found on the following regulatory lists
Canadian Domestic Substances List (DSL)
US Toxic Substances Control Act (TSCA)
US Minnesota Hazardous Substance List
US EPA High Production Volume Program Chemical List
US California Air Toxics "Hot Spots" List (Assembly Bill 2588) Substances for which emissions must be quantified

hydrochloric acid (CAS: 7647-01-0) is found on the following regulatory lists
Canadian Domestic Substances List (DSL)
US Toxic Substances Control Act (TSCA)
US ACGIH Carcinogens Listing
US SARA Section 302 Extremely Hazardous Substances
Canada Prohibited Toxic Substances, Schedule 2, Concentration Limits (English)
Canada Prohibited Toxic Substances - Schedule 2: Concentration Limits (French)
US OSHA List of Highly Hazardous Chemicals, Toxics and Reactives
US EPA Hazardous Substances
US California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List
US CERCLA List of Hazardous Substances and Reportable Quantities
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 Oregon Hazardous Materials
US EPA High Production Volume Chemicals Additional List
US EPCRA Section 313 Chemical List For Reporting Year 2004
US Food Additive Database
US EPA List of Regulated Toxic Substances and Threshold Quantities for Accidental Release Prevention
Canada Yukon Permissible Concentrations for Airborne Contaminant Substances
US Connecticut Hazardous Air Pollutants
Canadian Ingredient Disclosure List (SOR/88-64)
US EPA High Production Volume Program Chemical List

Section 16 - OTHER INFORMATION

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