

AQUA DECREASE L

(ChemWatch name: HYDROCHLORIC ACID)

ChemWatch Material Safety Data Sheet (REVIEW)
Issue Date: Thu 24-Apr-2003

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

AQUA DECREASE L

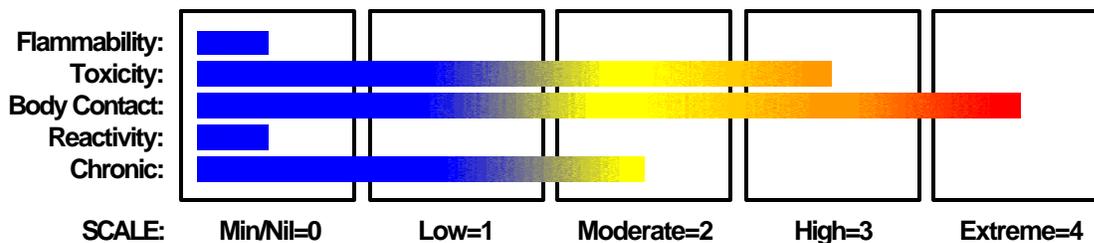
STATEMENT OF HAZARDOUS NATURE

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.

SUPPLIER

Company: Andrew Limited
Address:
3 Porana Road
Glenfield
AUCKLAND
Telephone: 09 444 3733
Telephone: 0800 429 628
Emergency Tel: 0800 243 622
Fax: 09 444 3838

HAZARD RATINGS



PRODUCT USE

For pickling and heavy duty cleaning of metal parts; rust and scale removal. The production of chlorides; neutralising bases; a laboratory reagent. For hydrolyzing starch and proteins in preparations for food. As a catalyst and solvent in organic synthesis. As "spirits of salts" for cleaning of lime and masonry from new brickwork. As flux or flux component for soldering; manufacture of "killed spirits".

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ...

SYNONYMS

HCl	hydrochloric acid 28-37%
Convol analytical reagent	spirits of salts
spirits of salt	chlorohydric acid gas
muriatic acid	hydrogen chloride aqueous solution
hydrochloride	6195P
Elite 10745000	Astral E569
Depurination solution	Merck Hydrochloric acid sp.gr. 1.16
	AnalaR 10307

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
hydrogen chloride	7647-01-0	30-35
water	7732-18-5	Balance

Section 3 - HAZARDS IDENTIFICATION



EMERGENCY OVERVIEW

HAZARD

- 6.1B Very Toxic by inhalation
- 6.1D Harmful if swallowed
- 6.7B Limited evidence of a carcinogenic effect.
- 8.2B Corrosive to skin
- 8.3A Corrosive to eyes

continued...

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Section 3 - HAZARDS IDENTIFICATION ...

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

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

EYE

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

When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.

SKIN

Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

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

INHALED

Toxic by inhalation.

Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system in a substantial number of individuals following inhalation.

CHRONIC HEALTH EFFECTS

On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.

Highly corrosive. and Considered toxic by all exposure routes.

Principal routes of exposure are usually by skin contact / eye contact with the liquid and inhalation of vapour

As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

Repeated exposure to low vapour concentrations can cause skin tenderness, bleeding of the nose and gums, chronic bronchitis, gastritis.

Section 4 - FIRST AID MEASURES

SWALLOWED

Rinse mouth out with plenty of water.

If poisoning occurs, contact a doctor or Poisons Information Centre.

- If swallowed do NOT induce vomiting.

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Section 4 - FIRST AID MEASURES ...

- 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.
- Seek medical advice.

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 Centre 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 Centre.
- Transport to hospital, or doctor.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prosthesis 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.

NOTES TO PHYSICIAN

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the desiccating action of the acid on proteins in specific tissues.

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Section 4 - FIRST AID MEASURES ...

INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required.
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray or fog.

Foam.

Bromochlorodifluoromethane (BCF) (where regulations permit).

Dry agent.

Carbon dioxide.

FIRE FIGHTING

Alert Fire Brigade 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 courses.

Use fire fighting procedures suitable for surrounding area.

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.

FIRE/EXPLOSION HAZARD

Non combustible liquid

Will not burn, but heat produces highly toxic fumes/vapours.

Heating may cause expansion or decomposition leading to violent rupture of containers

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Section 5 - FIRE FIGHTING MEASURES ...

Decomposes on heating and produces toxic fumes of hydrogen chloride

Decomposition may produce toxic fumes of chlorine

Reacts with metals producing flammable / explosive hydrogen gas

FIRE INCOMPATIBILITY

Reacts with metals producing flammable / explosive hydrogen gas

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

DO NOT touch the spill material Clean up all spills immediately.

Wear fully protective PVC clothing and breathing apparatus.

Contain and absorb spill with sand, earth, inert material or vermiculite.

Use soda ash or slaked lime to neutralise.

Collect residues and place in labelled plastic containers with vented lids

MAJOR SPILLS

DO NOT touch the spill material Clear area of personnel and move upwind

Alert Fire Brigade and tell them location and nature of hazard.

Shut off all possible sources of ignition and increase ventilation.

- Wear full body protective clothing with breathing apparatus.

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

Contain and absorb spill with sand, earth, inert material or vermiculite.

Use soda ash or slaked lime, mixed and sprayed with water, to neutralise.

DO NOT USE WATER OR NEUTRALISING AGENTS INDISCRIMINATELY ON LARGE SPILLS.

If contamination of drains or waterways occurs, advise emergency services.

Collect residues and place in labelled plastic containers with vented lids

Water spray or fog may be used to disperse vapour.

Collect recoverable product into labelled containers for recycling

PROTECTIVE ACTIONS FOR SPILL

continued...

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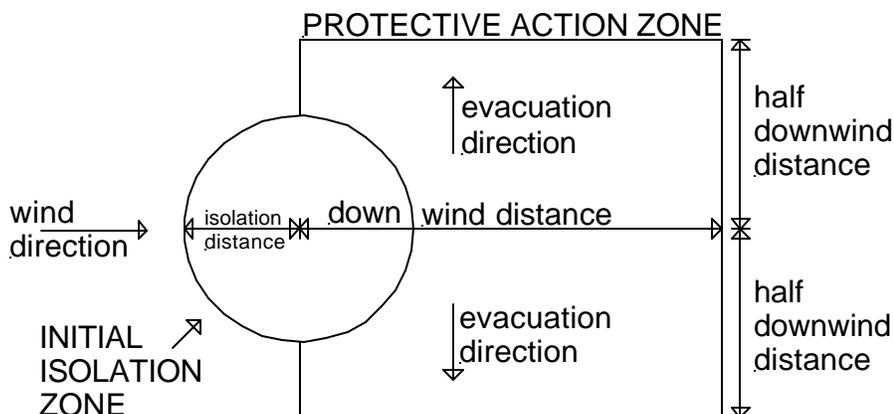
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Section 6 - ACCIDENTAL RELEASE MEASURES ...



From IERG (Canada/Australia)

Isolation Distance	25 metres
Downwind Protection Distance	250 metres

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 157 is taken from the US DOT emergency response guide book.
- 6 IERG information is derived from CANUTEC - Transport Canada.

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:

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Section 6 - ACCIDENTAL RELEASE MEASURES ...

hydrochloric acid 150 ppm

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

hydrochloric acid 20 ppm

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

hydrochloric acid 3 ppm

American Industrial Hygiene Association (AIHA)

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Avoid generating and breathing mist and vapour

Avoid breathing vapours and contact with skin and eyes

Avoid physical damage to containers.

Use in a well-ventilated area

Wear protective clothing and gloves when handling containers.

Handle and open container with care

WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.

When handling, DO NOT eat, drink or smoke.

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 are maintained.

SUITABLE CONTAINER

Packaging as recommended by manufacturer.

- Check that containers are clearly labelled

Packs of 2.5 litres or less require a child-resistant closure.

Glass container or Plastic carboy or Polylined drum

STORAGE INCOMPATIBILITY

Segregate from alkalis, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.

STORAGE REQUIREMENTS

Floors should be covered or coated with acid resistant material.

- 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.

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Section 7 - HANDLING AND STORAGE ...

- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Hydrogen chloride

WES C 5 ppm C 7.5 mg/m³

TLV C: 2 ppm A4 as hydrogen chloride

NOTE: This substance has been classified by the ACGIH as A4 NOT classifiable as causing Cancer in humans

ES Peak: 5 ppm; 7.5 mg/m³ as hydrogen chloride

OES TWA: 1 ppm, 2 mg/m³; STEL: 5 ppm, 8 mg/m³ (as gas and aerosol mists)

MAK value: 5 ppm, 7 mg/m³

MAK Category I Peak Limitation: For local irritants Allows excursions of twice the MAK value for 5 minutes at a time, 8 times per shift.

MAK Group C: There is no reason to fear risk of damage to the developing embryo when MAK and BAT values are observed.

MAK values, and categories and groups are those recommended within the Federal Republic of Germany

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

IDLH Level: 100 ppm

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.

-
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

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

ODOUR SAFETY FACTOR (OSF)

OSF=1.3 (HYDROGEN CHLORIDE)

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

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

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour 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	As "A" for 50-90% of persons being distracted
C	1-26	As "A" for less than 50% of persons being distracted
D	0.18-1	10-50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As "D" for less than 10% of persons aware of being tested

INGREDIENT DATA

HYDROGEN CHLORIDE:

Hydrogen chloride

WES C 5 ppm C 7.5 mg/m³

TLV C: 2 ppm A4 [ACGIH]

PEL Ceiling: 5 ppm, 7 mg/m³ [OSHA Z1] [OSHA Z1]

TLV C: 2 ppm A4

NOTE: This substance has been classified by the ACGIH as A4 NOT classifiable as causing Cancer in humans

ES Peak: 5 ppm, 7.5 mg/m³

OES TWA: 1 ppm, 2 mg/m³; STEL: 5 ppm, 8 mg/m³ (as gas and aerosol mists)

MAK value: 5 ppm, 7.6 mg/m³

MAK Category I Peak Limitation: For local irritants Allows excursions of twice the MAK value for 5 minutes at a time, 8 times per shift.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

MAK Group C: There is no reason to fear risk of damage to the developing embryo when MAK and BAT values are observed.

MAK values, and categories and groups are those recommended within the Federal Republic of Germany

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

IDLH Level: 50 ppm

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

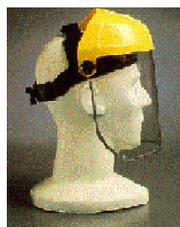
Hydrogen chloride is a strong irritant to the eyes, mucous membranes and skin. Chronic exposure produces a corrosive action on the teeth. Reports of respiratory irritation following short-term exposure at 5 ppm have led to the recommended TLV-C. There is no indication that skin contact with hydrogen 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.

WATER:

No exposure limits set by NOHSC or ACGIH

PERSONAL PROTECTION



EYE

- Chemical goggles
- Full face shield

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

HANDS/FEET

- Barrier cream and Neoprene gloves or Elbow length PVC gloves
- Nitrile gloves
- PVC boots or PVC safety gumboots

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.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

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

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

OTHER

Operators should be trained in procedures for safe use of this material.

Acid-resistant overalls or PVC apron or

- PVC protective clothing.

- Eyewash unit.

Ensure there is ready access to an emergency shower

ENGINEERING CONTROLS

Use in a well-ventilated area and Local exhaust ventilation may be required for safe working, i.e. to keep exposures below required standards, otherwise PPE is required.

If risk of inhalation or overexposure exists, wear SAA approved respirator or work in fume hood.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Liquid.

Mixes with water.

Corrosive.

Acid.

Toxic or noxious vapours/gas.

Molecular Weight: Not applicable.

Melting Range (°C): > -74

Solubility in water (g/L): Miscible

pH (1% solution): 1.2

Volatile Component (%vol): approx. 100

Relative Vapour Density (air=1): 1.3

Lower Explosive Limit (%): Not applicable.

Autoignition Temp (°C): Not available.

State: Liquid

Boiling Range (°C): > 50

Specific Gravity (water=1): 1.14-1.19

pH (as supplied): < 1

Vapour Pressure (kPa): < 25 @ 25 C

Evaporation Rate: Slow

Flash Point (°C): Not combustible

Upper Explosive Limit (%): Not applicable.

Decomposition Temp (°C):

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES ...

APPEARANCE

Clear to light yellow (orange tint for inhibited grades) fuming corrosive liquid with sharp, suffocating odour.

CARE: mixes with water but generates heat, may cause dangerous boiling.

Concentrate and solutions are acidic and strongly corrosive.

Material is a solution of corrosive hydrogen chloride gas in water.

Commercial grades contain 28-37% hydrogen chloride HCl and at room temperature slowly gives off significant levels of acidic HCl gas.

Odour becomes disagreeable at 5-10 ppm.

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Contact with alkaline material liberates heat

Presence of incompatible materials

Product is considered stable under normal handling conditions

Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

Aqua Decrease L

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

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

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

HYDROGEN CHLORIDE:

TOXICITY

Inhalation (human) LCLo: 1300 ppm/30m

Inhalation (human) LCLo:

3000 ppm/5m

4701 ppm/30m

IRRITATION

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

3124 ppm/60m

WATER:

No significant acute toxicological data identified in literature search.

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Section 12 - ECOLOGICAL INFORMATION

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

Recycle wherever possible. Consult manufacturer for recycling options.

Consult State Land Waste Management Authority for disposal.

Treat and neutralise at an effluent treatment plant.

Bury residue in an authorised landfill.

Decontaminate empty containers with a lime slurry.

Return empty containers to supplier or bury empty containers at an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION



Shipping Name:

HYDROCHLORIC ACID SOLUTION

MURIATIC ACID

continued...

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Section 14 - TRANSPORTATION INFORMATION ...

Hazard Class: 8
UN/NA Number: 1789
ADR Number: 80
Packing Group: II
Labels Required: corrosive
Additional Shipping Information:
International Transport Regulations:
IMO: 8

Section 15 - REGULATORY INFORMATION

SAFETY

Avoid contact with eyes.
Wear suitable protective clothing.
In case of insufficient ventilation wear suitable respiratory equipment.
Use only in well ventilated areas.
To clean the floor and all objects contaminated by this material, use water.
This material and its container must be disposed of in a safe way.
Keep away from food, drink and animal feeding stuffs.
Take off immediately all contaminated clothing.
In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre (show label if possible).
In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 16 - OTHER INFORMATION

NEW ZEALAND POISONS INFORMATION CENTRE
0800 POISON (0800 764 766)
NZ EMERGENCY SERVICES: 111

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