

ANDREW SPIRITS OF SALTS

Chemwatch Material Safety Data Sheet
For Domestic Use Only.
Issue Date: 29-Nov-2007
XC9477SD

CHEMWATCH 1789
Version No:4
CD 2008/4 Page 1 of 7

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

ANDREW SPIRITS OF SALTS

STATEMENT OF HAZARDOUS NATURE

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

OTHER NAMES

HCl, "hydrochloric acid 28-37%", "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"

PROPER SHIPPING NAME

HYDROCHLORIC ACID

PRODUCT USE

» The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation. 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".

SUPPLIER

Company: Damar Industries Limited
Address:
Eastgate Business Park
800 Te Ngae Road
Rotorua
Telephone: +64 7 345 6007
Emergency Tel: 0800 2436 2255
Emergency Tel: 0800 CHEMCALL
Fax: +64 7 345 6019

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

SCALE: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

GHS Classification

Acute Toxicity (Oral) Category 2
Chronic Aquatic Hazard Category 4
Metal Corrosion Category 1
Serious Eye Damage Category 1

ANDREW SPIRITS OF SALTS

Chemwatch Material Safety Data Sheet
For Domestic Use Only.
Issue Date: 29-Nov-2007
XC9477SD

CHEMWATCH 1789
Version No:4
CD 2008/4 Page 2 of 7
Section 2 - HAZARDS IDENTIFICATION

Skin Corrosion/Irritation Category 1B



EMERGENCY OVERVIEW

HAZARD

DANGER

Gazetted by ERMANZ:

6.1B 8.1A 8.2B 8.3A 9.1D 9.3C

Fatal if swallowed

May be corrosive to metals

Causes severe skin burns and eye damage

Causes serious eye damage

May cause long lasting harmful effects to aquatic life.

Harmful to terrestrial vertebrates

PRECAUTIONARY STATEMENTS

Prevention

Keep only in original container.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

Response

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

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

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue

rinsing.

Immediately call a POISON CENTER or doctor/physician.

Rinse mouth.

Wash contaminated clothing before reuse.

Absorb spillage to prevent material damage.

Storage

Store locked up.

Store in corrosive resistant container or with a resistant inner liner.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
hydrogen chloride	7647-01-0	30-35
water	7732-18-5	65-70

Section 4 - FIRST AID MEASURES

NEW ZEALAND POISONS INFORMATION CENTRE 0800 POISON (0800 764 766)

NZ EMERGENCY SERVICES: 111

SWALLOWED

• For advice, contact a Poisons Information Centre or a doctor at once.

• Urgent hospital treatment is likely to be needed.

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.

continued...

ANDREW SPIRITS OF SALTS

Chemwatch Material Safety Data Sheet
For Domestic Use Only.
Issue Date: 29-Nov-2007
XC9477SD

CHEMWATCH 1789
Version No:4
CD 2008/4 Page 3 of 7
Section 4 - FIRST AID MEASURES

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.

INHALED

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

NOTES TO PHYSICIAN

- » Treat symptomatically.

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.

If exposure has been severe and/or symptoms marked, observation in hospital for 48 hours should be considered due to possibility of delayed pulmonary oedema.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.

FIRE/EXPLOSION HAZARD

- Non combustible.
- Not considered to be a significant fire risk.

Decomposition may produce toxic fumes of: hydrogen chloride.

Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

FIRE INCOMPATIBILITY

- » None known.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- » Contains low boiling substance:
Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.
- Check for bulging containers.
- Vent periodically.
- DO NOT allow clothing wet with material to stay in contact with skin.
- Vented gas is more dense than air and may collect in pits, basements.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

continued...

ANDREW SPIRITS OF SALTS

Chemwatch Material Safety Data Sheet
For Domestic Use Only.
Issue Date: 29-Nov-2007
XC9477SD

CHEMWATCH 1789
Version No:4
CD 2008/4 Page 4 of 7
Section 7 - HANDLING AND STORAGE

SUITABLE CONTAINER

- DO NOT use aluminium or galvanised containers.
- Check regularly for spills and leaks.
- Lined metal can, lined metal pail/ can.
- Plastic pail.

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.

STORAGE INCOMPATIBILITY

- Reacts vigorously with alkalis.
 - Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.
 - Inorganic acids are generally soluble in water with the release of hydrogen ions. The resulting solutions have pH's of less than 7.0.
 - Inorganic acids neutralise chemical bases (for example: amines and inorganic hydroxides) to form salts - neutralisation can generate dangerously large amounts of heat in small spaces.
 - Avoid strong bases.
- Avoid storage with metals, metal oxides, hydroxides, amines, carbonates, alkaline materials, acetic anhydride, cyanides, sulphides, sulphites, phosphides, acetylides, borides, carbides, silicides, vinyl acetate, formaldehyde and potassium permanganate.
- Reacts with zinc, brass, galvanised iron, aluminium, copper and copper alloys.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material		Peak ppm	Peak mg/m ³
New Zealand Workplace Exposure Standards (WES)	hydrochloric acid (Hydrogen chloride)	5	7.5	
New Zealand Workplace Exposure Standards (WES)	hydrogen chloride (Hydrogen chloride)	5	7.5	

The following materials had no OELs on our records

- water: CAS:7732- 18- 5

PERSONAL PROTECTION



RESPIRATOR

Type B-P Filter of sufficient capacity

EYE

- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes.

HANDS/FEET

- Elbow length PVC gloves.
 - When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.
- Suitability and durability of glove type is dependent on usage. Factors such as:
- frequency and duration of contact,
 - chemical resistance of glove material,

continued...

ANDREW SPIRITS OF SALTS

Chemwatch Material Safety Data Sheet
For Domestic Use Only.
Issue Date: 29-Nov-2007
XC9477SD

CHEMWATCH 1789
Version No:4
CD 2008/4 Page 5 of 7

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

OTHER

- Overalls.
- PVC Apron.

ENGINEERING CONTROLS

» Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator.

Hydrogen chloride vapours will not be adequately absorbed by organic vapour respirators. [NSW

D.I.R.]

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.

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): 0.9

Vapour Pressure (kPa): < 25 @ 25 C

Evaporation Rate: Slow

Flash Point (°C): Not Applicable

Upper Explosive Limit (%): Not applicable.

Decomposition Temp (°C): Not Available

Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Contact with alkaline material liberates heat.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

- » Harmful if swallowed.
- » Toxic by inhalation.

» Causes severe burns.

» Risk of serious damage to eyes.

» Skin contact may produce health damage*.

» * (limited evidence).

CHRONIC HEALTH EFFECTS

» Limited evidence of a carcinogenic effect*.

» Cumulative effects may result following exposure*.

» * (limited evidence).

TOXICITY AND IRRITATION

» Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

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.

continued...

ANDREW SPIRITS OF SALTS

Chemwatch Material Safety Data Sheet
For Domestic Use Only.
Issue Date: 29-Nov-2007
XC9477SD

CHEMWATCH 1789
Version No:4
CD 2008/4 Page 6 of 7
Section 11 - TOXICOLOGICAL INFORMATION

CARCINOGEN

hydrochloric acid	International Agency for Research on Cancer (IARC) Carcinogens	Group	3
hydrogen chloride	International Agency for Research on Cancer (IARC) Carcinogens	Group	3

Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle where possible
Otherwise ensure that:
- licenced contractors dispose of the product and its container.

Section 14 - TRANSPORTATION INFORMATION



HAZCHEM: None

UNDG:

Dangerous Goods Class:

UN Number:

Shipping Name: HYDROCHLORIC ACID

Subrisk:

Packing Group:

Air Transport IATA:

ICAO/IATA Class:

8

UN/ID Number:

1789

Special provisions:

A3

Shipping Name: HYDROCHLORIC ACID

ICAO/IATA Subrisk:

None

Packing Group:

II

Maritime Transport IMDG:

Forbidden for transport

Shipping Name: HYDROCHLORIC ACID

Section 15 - REGULATORY INFORMATION

REGULATIONS

hydrochloric acid (CAS: 7647-01-0) is found on the following regulatory lists;
CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP
GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
IMO IBC Code Chapter 17: Summary of minimum requirements
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
International Agency for Research on Cancer (IARC) Carcinogens
International Council of Chemical Associations (ICCA) - High Production Volume List
International Maritime Dangerous Goods Requirements (IMDG Code) - Goods Forbidden for Transport
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Hazardous Substances Register
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Scheduled Toxic Substances
New Zealand Inventory of Chemicals (NZIoC)
New Zealand Poisons Schedule [NLV]
New Zealand Workplace Exposure Standards (WES)
OECD Representative List of High Production Volume (HPV) Chemicals
United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances - Table II

continued...

ANDREW SPIRITS OF SALTS

Chemwatch Material Safety Data Sheet
For Domestic Use Only.
Issue Date: 29-Nov-2007
XC9477SD

CHEMWATCH 1789
Version No:4
CD 2008/4 Page 7 of 7
Section 15 - REGULATORY INFORMATION

United Nations List of Precursors and Chemicals Frequently used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances Under International Control - Table II
WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established
Specific advice on controls required for materials used in New Zealand can be found at
<http://www.ermanz.govt.nz/search/registers.html>

Section 16 - OTHER INFORMATION

NEW ZEALAND POISONS INFORMATION CENTRE
0800 POISON (0800 764 766)

NZ EMERGENCY SERVICES: 111

» Classification of the preparation and its individual components has drawn on official and authoritative sources as well as

independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

» The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act,

no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: 29-Nov-2007

Print Date: 2-Apr-2009