

# SAFETY DATA SHEET



## 1 IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER

**Product name:** HYDROCHLORIC ACID CONC. 33 – 35%

**Synonyms:** Hydrogen chloride solution; Spirits of salts; Chlorohydric acid; Muriatic acid; Hydrochloric acid solution; Hydrochloric acid 20%; Hydrochloric acid 33%; Hydrochloric acid 42%; Hydrochloric acid Concentrate.

**Recommended uses:** pH control, concrete etching, brick cleaning

**Supplier:** Jasol NZ North Island, 151B Marua Road Auckland ph 09 580 2105  
Jasol NZ South Island, 105 Rutherford Street Christchurch ph 03 384 4433

In emergency dial 111 then ask for Fire, Ambulance or Police as required.

In case of poisoning phone National Poisons Dunedin 0800 764 766

SDS Prepared by Jasol on 18<sup>th</sup> July 2007

## 2 HAZARDS IDENTIFICATION



**TOXIC**



**CORROSIVE**



**EYE CORROSIVE**

# DANGER

**KEEP OUT OF REACH OF CHILDREN**

**Read Label before Use and Read Safety Data Sheet before Use**

**HSNO Classification 6.1B, 8.1A, 8.2B, 8.3A, 9.1D, 9.3C Transport: Class 8**

**HAZARD WARNINGS:** Fatal if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May be corrosive to metals. Slightly Harmful to aquatic life. May cause long lasting harmful effects to aquatic life. Harmful to terrestrial vertebrates.

**PRECAUTIONS:** Do not breathe vapours. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye protection and face protection. Keep only in original container. Avoid

release to the environment. Store locked up. Store in corrosive resistant polyethylene container with a resistant inner liner. Absorb spillage to prevent material damage

### 3 COMPOSITION AND INFORMATION ON INGREDIENTS

Components	C.A.S. Number	Proportion
Hydrogen Chloride	7647-01-0	33 - 40%
Water	7732-18-5	to 100%

### 4 FIRST AID MEASURES

If medical advice is needed, have product container or label at hand.

**IF SWALLOWED:** Rinse mouth. Do NOT induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. For significant ingestion, say more than 50ml, ring ambulance.

**IF ON SKIN (OR HAIR):** Remove immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse

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

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention promptly.

### SYMPTOMS AND EFFECTS, ACUTE AND DELAYED, FROM EXPOSURE

**Inhalation:** Corrosive! Inhalation of vapours can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract, and in severe cases, pulmonary oedema, circulatory failure, and death.

**Ingestion:** Corrosive! Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. May cause nausea, vomiting, and diarrhoea. Swallowing may be fatal.

**Skin Contact:** Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolour skin.

**Eye Contact:** Corrosive! Vapours are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.

**Chronic Exposure:** Long-term exposure to concentrated vapours may cause erosion of teeth. Long term exposures seldom occur due to the corrosive properties of the acid.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorders or eye disease may be more susceptible to the effects of this substance.

### 5 FIRE FIGHTING MEASURES

Hydrochloric Acid is a non-combustible material but extreme heat or contact with metals can release flammable hydrogen gas. Decomposes on heating emitting toxic fumes. If safe to do so, remove containers from path of fire.

**Explosion:** Not considered to be an explosion hazard.

**Fire Extinguishing Media:** Not combustible, however, if material is involved in a fire use: water fog or if unavailable fine water spray, foam, carbon dioxide or dry chemical powder.

**Special Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face-piece operated in the pressure demand or other positive pressure mode. Structural fire-fighter's protective clothing is ineffective for fires involving hydrochloric acid. Stay away from ends of tanks. Cool tanks with water spray until well after fire is out.

## 6 ACCIDENTAL RELEASE MEASURES

Clear area of all unprotected personnel. Ventilate area of leak or spill. Wear protective equipment to prevent skin and eye contact and breathing in vapours, please find further information specified in Section 8.

Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use absorbent such as lime, soil, sand or other inert material to contain spills. Neutralise with lime or soda ash. Collect and seal in properly labelled containers or drums for disposal. Wash area down with excess water. Do not use combustible materials, such as saw dust.

Do not flush to sewer or stormwater! Report spills and releases to soil, water and air to the local municipal and regional councils.

## 7 HANDLING AND STORAGE

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials such as metals and alkali.

When diluting, the acid should always be added slowly to water and in small amounts. Never use hot water and never add water to the acid. Water added to acid can cause uncontrolled boiling and splashing. When opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present. Containers of this material may be hazardous when empty since they retain product residues in vapour or liquid form, observe all warnings and precautions listed for the product.

## 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Airborne Exposure Limits:** For Hydrochloric acid: - OSHA Permissible Exposure Limit (PEL): 5 ppm (Ceiling) ACGIH Threshold Limit Value (TLV): 2 ppm (Ceiling)

Not classifiable as a human carcinogen.

**Ventilation System:** A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

**Personal Respirators:** If the exposure limit is exceeded, a full face-piece respirator with an acid gas cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full face-piece positive-pressure, air-supplied respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:** Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure to prevent skin contact.

**Eye Protection:** Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-shower facilities when bulk quantities are handled.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear, fuming liquid, colourless to pale yellow.
<b>Odour:</b>	Pungent odour of hydrogen chloride.
<b>Solubility:</b>	Infinite in water with slight evolution of heat.
<b>Density:</b>	about 1.18 kg/l
<b>pH:</b>	< 1
<b>Boiling Point:</b>	109C
<b>Melting Point:</b>	-74C
<b>Vapour Pressure (mm Hg):</b>	190 @ 25C

## 10 STABILITY AND REACTIVITY

**Stability:** Stable under ordinary conditions of use and storage. Containers may burst when heated. Corrosive to many metals with the liberation of extremely flammable hydrogen gas. Reacts violently with alkalis. Reacts with sodium hypochlorite and oxidising agents liberating chlorine.

**Hazardous Decomposition Products:** When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.

**Hazardous Polymerization:** Will not occur.

**Incompatibilities:** Concentrated Hydrochloric Acid is a strong mineral acid, and is incompatible with many substances. Hydrochloric Acid is highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials. Incompatible with materials such as cyanides, sulphides, sulphites, and formaldehyde.

**Conditions to Avoid: Heat, direct sunlight.**

## 11 TOXICOLOGICAL INFORMATION

**Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Swallowing a litre or so may cause death.**

**Eye contact: A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.**

**Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.**

**Inhalation: Breathing in mists or aerosols will produce respiratory irritation.**

**Long Term Effects: Repeated exposure to low levels of hydrochloric acid may produce discolouration and erosion of teeth and ulceration of the nasal passages.**

### **Toxicological Data**

**Inhalation rat LC50: 3124 ppm/1H**

**Oral rabbit LD50: 900 mg/kg (Hydrochloric acid concentrated)**

**Investigated as a tumorigenic, mutagen, and reproductive effector.**

**Hydrochloric Acid is not a known or suspected carcinogen.**

## 12 ECOLOGICAL INFORMATION

**Environmental Fate: When released into the soil, this material is not expected to biodegrade in the sense that chloride ions will remain until leached from the soil. When released into the soil, this material may leach into groundwater. Vapours or aerosols will precipitate to soil or waterways readily.**

**Ecotoxicity: This material is expected to be toxic to aquatic life mainly by adjusting pH. If sufficiently dilute that aquatic pH is not affected the no toxic effects are expected.**

## 13 DISPOSAL CONSIDERATIONS

**Send waste to an approved waste facility or treat onsite by neutralising with soda ash or lime then flushing down sewer when the pH is between 6 and 9. Contamination of product may change waste management options.**

**Rinse the plastic packaging three times inside and out to remove all traces of acetic acid then remove the label. The pack may then be re-used or recycled, and the label disposed of as solid waste.**

## 14 TRANSPORT INFORMATION

**Proper Shipping Name: HYDROCHLORIC ACID**

**U.N No: 1789**

**Packing Group II**

Hazchem: 2R

Class: 8

## 15 REGULATORY INFORMATION

**Classification:** Classified as hazardous, the following sub classifications apply.

6.1B - Substances which are acutely toxic.

8.1A - Substances that are corrosive to metals.

8.2B - Substances that are corrosive to dermal tissue.

8.3A - Substances that are corrosive to ocular tissue.

9.1D - Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action.

9.3C - Substances that are harmful to terrestrial vertebrates.

Hydrochloric Acid must be secured

See Gazette 35 P829 – No tracking required

The conditions of Industrial and Institutional Cleaning Products (Toxic [6.1], Corrosive) Group Standard 2006 may be used to make compliance simpler. Further information on the conditions of this Group Standard may be found on the ERMA website.

## 16 OTHER INFORMATION

Prepared on 18<sup>th</sup> July 2007

### Abbreviations

**ACGIH** The American Conference of Governmental Industrial Hygienists, Inc.

**AIHA** American Industrial Hygiene Association

**AS/NZS** Australian/New Zealand Standard

**C** Celsius, a measure of temperature

**CAS** Chemical Abstract Services

**GHS** Globally Harmonised System

**LEL** Lower Explosion Limit

**LCLo** Is the lowest concentration of a material in air reported to have caused the death of animals or humans. The exposure may be acute or chronic. This is also called the lowest concentration causing death, lowest detected lethal concentration, and lethal concentration low. LCLo is closely related to the LC50 value which is the concentration which kills half of the test animals under controlled conditions. This value applies to vapours, dusts, mists and gases. Solids and liquids use the closely related LDLo value for routes other than inhalation.

**LDLo** Is the lowest dose of a material in reported to have caused the death of animals or humans. The exposure may be acute or chronic. This is also called the lowest dose causing death, lowest detected lethal concentration, and lethal dose low.

**PEL** Permissible Exposure Limit is the maximum amount or concentration of a chemical that a worker may be exposed to under OSHA regulations.

**STEL** A Short Term Exposure Limit (is defined by ACGIH as the concentration to which workers can be exposed continuously for a short period of time without suffering from: irritation, chronic or irreversible tissue damage

narcosis of sufficient degree to increase the likelihood of accidental injury, impair self-rescue or materially reduce work efficiency.

**TWA** Time-Weighted Average  
**UEL** Upper Explosion Limit  
**UN** United Nations  
**WEEL** Workplace Environmental Exposure Levels

**End of MSDS**