Space INDUSTRIES LTD

# SAFETY DATA SHEET

## Section 1: Identification of the Substance/Mixture and of Supplier

**Product name** **HYDROCHLORIC ACID CONC. 33%**

**Recommended use:** pH control
**Supplier:** Space Industries Limited
**Street Address**: 160 Plunket Ave,
Wiri, Auckland
New Zealand
**Telephone Number:** + 64 9 262 3902
**Facsimile:** + 64 9 262 3948
**E-mail:** orders@spaceindustries.co.nz
**Website:** www.spaceindustries.co.nz
**Emergency Telephone** 0800 764 766 (all hours)
**Date of preparation**: February 2017

## Section 2: Hazards Identification


**HSNO Classification:**
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Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.

**Hazard Classification:**

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.

## Section 3: Composition/information on ingredients

**Product Description:** Liquid, Colourless
**Components** Hydrogen Chloride
**CAS Number** 7647-01-0
**Proportion** 33-40%
**Risk Phrases** R8, R22, R34,

## Section 4: First Aid Measures

| Show this Safety Data Sheet to a Doctor | |
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| **Inhalation:** | Remove victim from area of exposure . Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. |
| **Skin Contact:** | Remove immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse |
| **Eye Contact:** | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention promptly |
| **Ingestion:** | 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. |
| **Notes to Doctor:** | **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.<br>**Ingestion**: Corrosive! Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophageus and gastrointestinal tract. May cause nausea, vomiting, and diarrhoea. Swallowing may be fatal.<br>**Skin Contact**: Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolour skin.<br>**Eye Contact:** Corrosive! Vapours are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.<br>**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.<br>**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorders or eye disease may be more susceptible to the effects of this substance**.** |
| For advice, contact the Poisons Information Centre 0800 764 766 or a doctor | |

## Section 5: Fire Fighting Measures

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| **Specific Hazards:** | 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. |
| **Suitable Extinguishing Media:** | Not combustible, however, if material is involved in a fire use: Water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder). |
| **Fire-fighting advice:** | 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. |

## Section 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.

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.

## Section 7: Handling and Storage

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| **Handling/storage:** | Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage.<br>Keep out of direct sunlight and away from heat, water, and incompatible materials such as metals and alkali.<br>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.<br>When opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present.<br>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. |

## Section 8: Exposure Controls/Personal Protection

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

## Section 9: Physical and Chemical Properties

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| **Physical state:** | Clear, fuming liquid, |
| **Colour:** | Colourless to pale yellow. |
| **Odour:** | Pungent odour of hydrogen chloride |
| **Solubility:** | Infinite in water with slight evolution of heat. |

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| **Relative Vapour Density:** | about 1.18 kg/l |
| **Vapour Pressure (mm Hg):** | 190 @ 25°C |
| **Boiling Point (°C):** | 109°C |
| **Melting Point** | -74°C |
| **pH:** | <1 |

## Section 10: Stability and Reactivity

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| **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. |
| **Incompatible materials:** | 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 |

## Section 11: Toxicological Information

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

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| **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 may 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. |
| **Toxicity:** | Inhalation rat LC50: 3124 ppm/1H<br>Oral rabbit LD50: 900 mg/kg (Hydrochloric acid concentrated)<br>Investigated as a tumorigenic, mutagen, and reproductive effector.<br>Hydrochloric Acid is not a known or suspected carcinogen. |

## Section 12: Ecological Information

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

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| **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.. |

## Section 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**.**

## Section 14: Transport Information

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| **Road and Rail Transport:** | Classified as a Dangerous Good according to NZS 5433:1999 Transport of Dangerous Goods on Land. |
| **UN No:** | 1789 |
| **Class-primary** | 8 Corrosive |
| **Packing Group:** | II |
| **Proper Shipping Name:** | HYDROCHLORIC ACID |
| **Hazchem Code:** | 2R |
| **Marine Transport:** | Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS |
| **UN No:** | 1789 |
| **Class-primary** | 8 |
| **Packing Group:** | II |
| **Proper Shipping Name:** | HYDROCHLORIC ACID |

## Section 15: Regulatory Information

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|---|---|
| **HSNO Classification:** | Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations2001. |
| **Hazard Classifications:** | 6.1B - Substances which are acutely toxic.<br>8.1A - Substances that are corrosive to metals.<br>8.2B - Substances that are corrosive to dermal tissue.<br>8.3A - Substances that are corrosive to ocular tissue.<br>9.1D - Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action.<br>9.3C - Substances that are harmful to terrestrial vertebrates. |

## Section 16: Other Information

.Issue Date: February 2017

Note: All information given by Space Industries Ltd is offered in good faith and is, to the best of our knowledge, true and accurate. However, since conditions of use are beyond our control, all information relevant to usage is offered without warranty or guarantee and should not be construed as a representation that the product is suitable for any particular purpose or application.