SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

GHS IDENTIFIER	**HYDROCHLORIC ACID**
PRODUCT (MATERIAL) NAME	
OTHER NAMES	Hydrochloric acid 34%; Hydrochloric acid 28%; Hydrochloric acid 20%;
PROPER SHIPPING NAME	**HYDROCHLORIC ACID**
RECOMMENDED USE	For pH adjustment in swimming pools
SUPPLIER NAME/ADDRESS	Focus Products Pty Ltd 26 Business Street Yatala QLD 4207
TELEPHONE NO.	1300 136 287
EMERGENCY PHONE NUMBER	0411 623 619 (A/H)

SECTION 2 HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION OF SUBSTANCE

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; **DANGEROUS GOODS**.

This material is hazardous according to Safe Work Australia; **HAZARDOUS SUBSTANCE**.

SUSMP SCHEDULE 6 - POISON

GHS HAZARD CATEGORY

Corrosive to Metals - Category 1
Skin Corrosion - Sub-category 1B
Eye Damage - Category 1
Specific target organ toxicity (single exposure) - Category 3

GHS SIGNAL WORD DANGER

GHS PICTOGRAMS

HAZARD STATEMENTS

H290 May be corrosive to metals.
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

PRECAUTIONARY STATEMENTS

GENERAL

P101 If medical advice is needed, have product container or label at hand
P102 Keep out of reach of children
P103 Read label before use

PREVENTION

P234 Keep only in original container.
P260 Do not breathe mist / vapours / spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves / protective clothing / eye protection / face protection.

RESPONSE

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P363 Wash contaminated clothing before re-use.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.

	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician. P390 Absorb spillage to prevent material damage.
STORAGE	P410 + P403 Protect from sunlight. Store in a well-ventilated place. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P406 Store in corrosive resistant polypropylene container with a resistant liner P402 Store in a dry place.
DISPOSAL	P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Chemical identity of ingredients	CAS Number(s) for ingredients	Proportion of ingredients	GHS Classification at concentration present
Hydrogen Chloride	7647-01-0	>=20%	H335 H314
Water	7732-18-5	To 100%	

SECTION 4 FIRST AID MEASURES

General	For advice, contact a Poisons Information Centre (Phone Australia 131126; New Zealand 0800 764 766) or a doctor.
Inhalation:	Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.
Eye Contact:	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes. Continue to wash with large amounts of water until medical help is available.
Skin Contact:	If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor.
Ingestion:	Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.
Medical attention or special treatment required	
ADVICE TO DOCTOR.	Treat symptomatically. Can cause corneal burns.

SECTION 5 FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA	Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).
HAZARDS FROM COMBUSTION PRODUCTS	Non-combustible material.
SPECIAL PROTECTIVE PRECAUTIONS AND EQUIPMENT FOR FIRE FIGHTERS	Decomposes on heating emitting toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire.
Additional information	Non flammable but flammable and explosive hydrogen gas may be formed on contact with metals. If involved in a fire, highly toxic fumes will be evolved. If safe to do so remove containers from path of the fire. Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of decomposition
Hazchem Code	2R

SECTION 6 ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES /ENVIRONMENTAL PRECAUTIONS:	Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.
PERSONAL PRECAUTIONS/PROTECTIVE EQUIPMENT/METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:	Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Dilute with water or carefully neutralise with soda ash or slaked lime. All water should be added by hose from a safe distance, as reaction is exothermic (gives off heat) and will increase release of vapour. Wash to drain with excess water. For large spills notify emergency services. Collect and seal in properly labelled containers or drums for disposal. Wash area down with excess water.

SECTION 7 HANDLING AND STORAGE

This material is a Scheduled Poison S6 and is classed as CORROSIVE 8 so must be stored, maintained and used in accordance with the relevant regulations. Refer SUSMP and AS3780

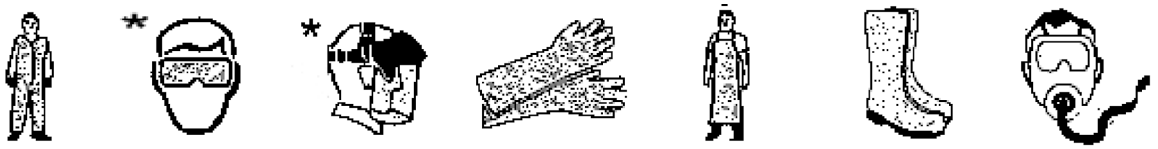
PRECAUTIONS FOR SAFE HANDLING	Avoid skin and eye contact and breathing in vapour, mists and aerosols. Keep out of reach of children. Always add the acid to water, never the reverse.
CONDITIONS FOR SAFE STORAGE	Store in a cool, dry, well ventilated place. Store away from incompatible materials described in Section 10. Store away from foodstuffs. Do not store in aluminium containers. Do not store in galvanised containers. Keep containers closed when not in use - check regularly for leaks.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS: No value assigned for this specific material by Safe Work Australia.
However , TLV Hydrogen Chloride gas: 5ppm (7.5 mg/m^3) ceiling value.
Detectable odour at < 5ppm. Respiratory and mucous membrane irritant > 35ppm.
As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

APPROPRIATE ENGINEERING CONTROLS: Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. If inhalation risk exists: Use with local exhaust ventilation or while wearing suitable mist respirator. Keep containers closed when not in use. Ensure an eye bath and safety shower are available and ready for use.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT (PPE): The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.



Wear overalls, chemical goggles, full face shield, elbow-length impervious gloves, splash apron or equivalent chemical impervious outer garment, and rubber boots. Use with adequate ventilation. If determined by a risk assessment an inhalation risk exists, wear an air-supplied mask meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. * Not required if wearing air supplied mask.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colourless to slightly yellow liquid. Pungent odour.
Flammability:	Product is not flammable
Melting Point:	Not applicable
Boiling Point:	100° C
Flash Point:	NA
Vapour Pressure:	0.13 kpa @ 739° C
Volatiles:	100%
Vapour Density	1.26
pH 1% aqueous solution	< 1.0
Specific Gravity:	1.10-1.198

Solubility in water	Soluble in water

SECTION 10 STABILITY AND REACTIVITY

Reactivity	Reacts with alkalis.
Chemical stability	Corrosive to many metals with the liberation of extremely flammable hydrogen gas.
Conditions to avoid	Avoid contact with foodstuffs.
Incompatible materials	Incompatible with alkalis , oxidising agents , sodium hypochlorite , cyanides , and many metals .
Hazardous decomposition products	Hydrogen chloride.
Possibility of hazardous reactions	Reacts with oxidising agents and sodium hypochlorite liberating toxic chlorine gas.

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:

SYMPTOMS OF EXPOSURE	Considered to be harmful by all exposure routes. Contamination of eyes can result in permanent injury.
Ingestion:	Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.
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.
ACUTE	Exposure to high concentrations of the vapour or the acid as a mist may lead to lung damage including pulmonary oedema and emphysema. May result in dental discolouration and erosion and ulceration of the nose and mouth.

Acute toxicity: No LD_{50} data available for the product. However, for constituent(s) HYDROGEN CHLORIDE: Oral LD_{50} (rabbit): 900 mg/kg Inhalation LC_{50} (rat): 3124 ppm/1h.	Expected to be toxic
Skin corrosion/irritation:	Highly corrosive to skin - may cause skin burns.
Serious eye damage/irritation:	Highly corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.
Respiratory or skin sensitisation:	Breathing in mists or aerosols may produce respiratory irritation. Not expected to be a sensitiser.
Germ cell mutagenicity:	Not expected to be mutagenic.
Carcinogenicity:	Not expected to be carcinogenic.
Reproductive toxicity:	Not expected to impair fertility.
Specific Target Organ Toxicity (STOT) – single exposure:	No data
Specific Target Organ Toxicity (STOT) – repeated exposure:	Repeated exposure to low levels of hydrochloric acid may produce discolouration and erosion of teeth and ulceration of the nasal passages.
Aspiration hazard:	HAZARD

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY : Avoid contaminating waterways

Acute toxicity:

Fish –	LC50 Mosquito fish (female) 282 mg/L/24hr
Aquatic invertebrate	LC_{50} Shore Crab 240 mg/L/48hr LC_{50} Sand shrimp 260 mg/L/48hr
Algae –	Data not available
Microorganisms –	Data not available

Chronic toxicity:

Fish –	Data not available

Aquatic invertebrate –	Data not available
Algae –	Data not available
Microorganisms –	Data not available

PERSISTENCE AND DEGRADABILITY	Persistence is unlikely based on information available.
MOBILITY	Avoid contaminating waterways. The product is highly acidic. If large spills occurred a water pH drop could be responsible for an environmental effect on aquatic organisms.
ENVIRONMENTAL FATE (EXPOSURE)	No Data Available
BIOACCUMULATIVE POTENTIAL	No information available

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS AND CONTAINERS	Refer to Waste Management Authority. Dispose of material through a licensed waste contractor. Decontamination and destruction of containers should be considered.

SECTION 14 TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

UN NUMBER	1789
TRANSPORT HAZARD CLASS /S & SUBSIDIARY RISK	8 CORROSIVE
PACKING GROUP	II
UN PROPER SHIPPING NAME	HYDROCHLORIC ACID
HAZCHEM CODE	2R
IERG NUMBER	40

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 NUMBER	1789
TRANSPORT HAZARD CLASS /S & SUBSIDIARY RISK	8 CORROSIVE
PACKING GROUP	II
UN PROPER SHIPPING NAME	HYDROCHLORIC ACID
IMDG EMS Fire:	F-A
IMDG EMS Spill:	S-B

AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN Number	1789
Transport hazard Class /s & subsidiary risk	8 CORROSIVE
Packing Group	II
UN Proper Shipping Name	Hydrochloric Acid

SECTION 15 REGULATORY INFORMATION

Classification:	This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.
Classification of the substance or mixture:	Corrosive to Metals - Category 1 Skin Corrosion - Sub-category 1B Eye Damage - Category 1 Specific target organ toxicity (single exposure) - Category 3
Hazard Statement(s):	H290 May be corrosive to metals. H331 Toxic if inhaled. H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation.
Poisons Schedule (SUSMP):	S6 POISON.
AICS	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

Additional information
Additional national and/or international regulatory information.

SECTION 16 OTHER INFORMATION

CONTACT PERSON/POINT	FOR EMERGENCIES ONLY CONTACT	: Australia : 000
	POISONS INFORMATION CENTRE	: Australia : 131126
		: New Zealand : 0800 764 766

Date of preparation or last revision of the SDS 26 October 2021
Prepared by Michael Scuderi BE(Chem)
Additional information
Key/legend to abbreviations and acronyms used in the SDS.

ADG	Australian Code for the Transport of Dangerous Goods by Road and Rail
ACGIH	American Conference of Governmental Industrial Hygienists
ASCC	Australian Safety and Compensation Council
ATE	Acute Toxicity Estimates
BEI®	Biological exposure indices (BEI) are values used for guidance to assess biological monitoring results. With respect to chemical exposure, biological monitoring is the measurement of the concentration of a chemical marker in a human biological media that indicates exposure. They are not developed for use as legal standards.
Carcinogen Category Number	1. Established human carcinogen 2. Probably human carcinogen 3. Substances suspected of having carcinogenic potential
Code AICS	Australian Inventory of Chemical Substances
CAS number	Chemical Abstracts Service Registry Number
EPG	Emergency Procedure Guide (superseded by IERG)
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
HCIS	The Hazardous Chemical Information System (HCIS) is a database of information on chemicals that have been classified in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). HCIS replaces the previous Hazardous Substance Information System (HSIS).

HSIS	HSIS is a database of information on substances classified in accordance with Australia's previous hazardous substance classification system, the Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)].
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IERG	HB 76-2004 Dangerous goods - Initial Emergency Response Guide
IMDG	International Maritime Dangerous Goods. A uniform code for transport of dangerous goods at sea.
LEL	lower flammable (explosive) limits in air;
LD_{50}	Lethal Dose sufficient to kill 50% of test population
NIOSH	National Institute for Occupational Safety and Health The United States federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness.
NOAEL	No Observed Adverse Effect Level
NOEL	No Observable Effect Level
NOHSC	National Occupational Health and Safety Commission
NTP	National Toxicology Program (USA)
PEL	Permissible Exposure Limit
RTECS	Registry of Toxic Effects of Chemical Substances (Symyx Technologies')
TCL_O	Toxic Concentration Low
TD_{LO}	Toxic Dose Low : lowest dosage per unit of bodyweight (typically stated in milligrams per kilogram) of a substance known to have produced signs of toxicity in a particular animal species.
TLV	Threshold Limit Value (ACGIH):The time weighted average used to describe exposure which is harmless to most of the population when exposed 8 hours per day, 40 hours per week.
TWA	(Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
SAFEWORK	Independent statutory agency with primary responsibility to improve occupational health and safety and workers' compensation arrangements across Australia.
STEL	(Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UEL	upper flammable (explosive) limits in air;
UN Number	United Nations Number
VOC	Volatile Organic Content - defined as : 'any chemical compound based on carbon chains or rings with a vapour pressure greater than 0.1mm of mercury (Hg) or 0.0135Kpa at 25ºC. This definition excludes reactive diluents, which are designed to be chemically bound into the cured film. It also includes all constituents >0.5% by volume of formulation, which are organic compounds with a boiling point < 250ºC.'
Literature references.	
Sources for data.	Safety Data Sheets from Suppliers Hazardous Chemical Information System (HCIS) - ASCC Australia (on-line) GHS (Globally Harmonised System of Substance Classification & Labelling) REACH (European Chemical Substance Information System) ADG Code Ed 7.7 SUSMP Nº 33