
MATERIAL SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Product name: HYDROCHLORIC ACID 37%
CAS No 7647-01-0
EC-No. 231-595-7
EU REACH-Reg. No. : 01-2119484862-27-xxxx
Brand: Solmedia Ltd

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses – Manufacture of substances. Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Solmedia Ltd.
- Address of Supplier: Unit 2, Vernon Drive
Battlefield Enterprise Park
Shrewsbury
SY1 3TF
UK
- Telephone: 0844 80 80 900
- Email: labsupplies@solmedialtd.com

1.4 Emergency telephone number

Emergency Phone # +44 (0)844 80 80 900

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Hazard Class	Hazard Category	Target Organs	Hazard Statement
Corrosive to metals	Category 1	-	H290
Skin Corrosion	Category 1B	-	H314
Specific target organ toxicity – single exposure	Category 3	Respiratory Systems	H335

Most important adverse effects:

Human Health See section 11 for toxicology information
Physical and Chemical Hazards See section 9/10 for physicochemical information
Potential environmental effects See section 12 for environmental information

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2.2 Label elements

Label elements under CLP:

Hazard statements: H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage
H335: May cause respiratory irritation

Signal words: Danger



Precautionary statements:

Prevention	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. 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. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
Disposal	P501 Dispose of contents/ container in accordance with the local/regional/international regulations.

2.3 Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical identity: HYDROCHLORIC ACID 38%

Chemical nature Aqueous solution

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		Classification (Regulation (EC) No 1272/2008)		
Hazardous Components		Amount [%]	Hazard class/ Hazard category	Hazard Statements
Index No:	017-002-01-X	>= 25 - <= 38	Met. Corr. 1	H290
CAS No	7647-01-0		STOT SE3	H335
EC-No	231-595-7		Skin Corr. 1B	H314
EU REACH- Reg. No	01-2119484862- 27-xxxx			

SECTION 4: First aid measures

4.1 Description of first aid measures

- General:** Take off all contaminated clothing immediately
- Skin contact:** Wash immediately with plenty of water. Consult a doctor immediately
- Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
- Ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out mouth with water. Call a doctor immediately.
- Inhalation:** In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms :** Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.
- Effects :** Extremely corrosive and destructive to tissue. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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Unsuitable Extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

The product itself does not burn. Contact with metals liberates hydrogen gas

Hazardous combustion Products – Hydrogen chloride gas

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away unprotected persons. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

6.3 Methods and materials for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal.

Treat recovered material as described in the section "Disposal considerations"

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on personal protective equipment.

See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling requirements: Keep container tightly closed. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and

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clothing. Do not breathe vapours or spray mist. Use respirator with appropriate filter if vapours or aerosol are released. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures

Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Store in original container. Keep in an area equipped with acid resistant flooring. Suitable materials for containers: polyethylene; Polypropylene; Unsuitable materials for containers: Metals

Advice on protection against fire and explosion

Normal measures for preventive fire protection.

Further information on storage conditions

Keep tightly closed in a dry and cool place. Keep in a well ventilated place.

Advice on common storage

Keep away from food, drink and animal feeding stuffs. Keep away from metals.

7.3 Specific end use(s)

No information available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL

Workers, Acute – local effects, Inhalation 15 mg/m³

Workers, Long-term – local effects, Inhalation 8 mg/m³

Predicted No Effect Concentration (PNEC)

Fresh water 36 µg/l

Marine water 36 µg/l

Intermittent releases 45 µg/l

Sewage treatment plant (STP) 36 µg/l

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Fresh water sediment
Exposition is not expected.

Marine sediment
Exposition is not expected.

Soil
Exposition is not expected.

Other Occupational Exposure Limit Values

UK. EH40 Workplace Exposure Limits (WELs), Short Term Exposure Limit (STEL):, Gas and aerosol mists. 5 ppm, 8 mg/m³

UK. EH40 Workplace Exposure Limits (WELs), Time Weighted Average (TWA):, Gas and aerosol mists. 1 ppm, 2 mg/m³

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, Time Weighted Average (TWA): 5 ppm, 8 mg/m³
Indicative

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, Short Term Exposure Limit (STEL): 10 ppm, 15 mg/m³
Indicative

ELV (IE), Short Term Exposure Limit (STEL): 10 ppm, 15 mg/m³ Indicative OELV

ELV (IE), Time Weighted Average (TWA): 5 ppm, 8 mg/m³ Indicative OELV

8.2 Exposure controls

Engineering measures:	Refer to protective measures listed in sections 7 and 8.
Respiratory protection:	In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use self-contained breathing apparatus. Respiratory protection complying with EN 141. Recommended Filter type: Combination filter: B-P2
Hand protection:	Protective gloves complying with EN 374. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Protective gloves should be replaced at first signs of wear.

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Full contact - Material: Polychloroprene. Minimum layer thickness: 0.5 mm. Break through time: > 480 mins
 Material: Nitrile rubber. Minimum layer thickness: 0.35mm. Break through time: > 480 min.
 Material: Butyl-rubber. Minimum layer thickness: 0.5mm. Break through time: > 480 min.
 Material: Polyvinylchloride. Minimum layer thickness: 0.5mm. Break through time: > 480 min.
 Material: Fluorinated rubber. Minimum layer thickness: 0.4mm. Break through time: > 480 min.

Eye protection: Tightly fitting safety goggles Face-shield Ensure that eyewash stations and safety showers are close to the workstation location.

Skin protection: Acid resistant protective clothing.

Environmental: Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

State:	Liquid
Colour:	Colourless to light yellow
Odour:	Stinging
pH:	< 1 (20 °C)
Freezing point/range :	-42 °C 32% solution -29 °C 37% solution
Boiling point/boiling range :	80 °C 32% solution 45 °C 37% solution
Flash point :	Not applicable
Evaporation rate :	No data available
Flammability (solid, gas) :	Not applicable

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Upper explosion limit :	Not applicable
Lower explosion limit :	Not applicable
Vapour pressure :	30 hPa (20 °C) 32% solution 200 hPa (20 °C) 37% solution
Relative vapour density :	No data available
Density :	1.15 g/cm ³ (20 °C) 30% solution 1.17 g/cm ³ (20 °C) 35% solution 1.18 g/cm ³ (20 °C) 37% solution
Water solubility :	completely miscible
Partition coefficient: n-octanol/water :	no data available
Auto-ignition temperature :	Not applicable
Thermal decomposition :	Heating can release hazardous gases.
Viscosity, dynamic :	No data available
Viscosity, kinematic :	No data available
Explosivity :	Product is not explosive.
Oxidizing properties :	No data available

9.2 Other safety information

Corrosion to metals	Corrosive to metals
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SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if used as directed.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Gives off hydrogen by reaction with metals.

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10.4 Conditions to avoid

Protect from frost, heat and sunlight

Thermal decomposition

Heating can release hazardous gases

10.5 Incompatible materials

Metals, Oxidizing agents, Reducing agents, perchlorates, Sulphides, Peroxides, nitrates

10.6 Hazardous decomposition products

Hydrogen chloride gas

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicity values:

Acute Toxicity

Oral Please find this information in the listing of the component/components below in this section

Inhalation No data available

Dermal No data available

Skin contact: Causes skin burns

Eye contact: Causes eye burns.

Sensitisation: No data available.

CMR

Carcinogenicity No data available

Mutagenicity No data available

Reproductive toxicity No data available

Specific Target Organ Toxicity

Single exposure May cause respiratory irritation.

Repeated exposure No data available

Other information: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute Toxicity

Oral	LD50 : 2222 mg/kg (Rat) (Calculation method)
Inhalation	LC50 : 45.6 mg/l (Rat, male; 5 min) (No guideline followed)
Dermal	LD50 Dermal : > 5010 mg/kg (Rabbit) 31.5 % solution
Irritation – skin	Result : corrosive effects (Rabbit; 1 - 4 h) (OECD Test Guideline 404)
eyes	Result : Causes serious eye damage. (Rabbit) (OECD Test Guideline 405)
sensitisation	Result : not sensitizing (Guinea pig) (Maximisation Test)
CMR	<p>Carcinogenicity : Did not show carcinogenic effects in animal experiments.</p> <p>Mutagenicity : In vitro tests did not show mutagenic effects</p> <p>Teratogenicity : No valid data available.</p> <p>Reproductive toxicity : Animal testing did not show any effects on fertility</p>
Genotoxicity in vitro	<p>negative (Ames test; Salmonella typhimurium; with and without metabolic activation)</p> <p>negative (Cytogenetic test; Mouse; with and without metabolic activation)</p>
Specific Target Organ Toxicity	<p>Single exposure Inhalation : Target Organs: Respiratory system. May cause respiratory irritation.</p> <p>Repeated exposure The substance or mixture is not classified as specific target organ toxicant, repeated exposure.</p>
Other toxic properties	Repeated dose toxicity NOAEC : 15 mg/m ³ (Rat)(Inhalation)

SECTION 12: Ecological information

12.1 Toxicity

Acute Toxicity –

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Fish LC50 20.5 mg/l (Lepomis macrochirus; 24 h)

Acute Toxicity –

Aquatic Invertebrates EC50 0.45 mg/l Daphnia magna; 48 h) (OECD Test Guideline 202)

Acute Toxicity –

Algae ErC50 0.73 mg/l (Chlorella vulgaris (Fresh water algae); 72 h) (End point: Growth rate; OECD Test Guideline 201)]

Bacteria EC50 0.23 mg/l (activated sludge; 3 h) (End point: Respiration inhibition; OECD Test Guideline 209)

M-Factor

M-Factor (Acute Aquat. Tox.) 1

12.2 Persistence and degradability

Persistence This product is water soluble

Biodegradability The methods for determining the biological degradability are not applicable to inorganic substances

12.3 Bioaccumulative potential

Bioaccumulation is not expected.

12.4 Mobility in soil

Soil Not expected to absorb on soil

Water The product is water soluble

12.5 Results of PBT and vPvB assessment

The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances

12.6 Other adverse effects

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Harmful effects to aquatic organisms due to pH-shift.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product: Disposal together with normal waste is not allowed. Special

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disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services

Contaminated packaging: Empty contaminated packaging's thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.

European Waste Catalogue Number: No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal

SECTION 14: Transport information

14.1 UN Number

UN1789

14.2 UN Proper Shipping Name

ADR : HYDROCHLORIC ACID
 RID : HYDROCHLORIC ACID
 IMDG : HYDROCHLORIC ACID

14.3 Transport Hazard Class

ADR-Class	8
(Labels; Classification Code; Hazard identification No; Tunnel restriction code)	
	8; C1; 80; (E)
RID-Class	8
(Labels; Classification Code; Hazard identification No)	
	8; C1; 80
IMDG-Class	8
(Labels; EmS)	
	8; F-A, S-B

14.4 Packing Group

ADR : II
 RID : II
 IMDG : II

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14.5 Environmental Hazards

Environmentally hazardous according to ADR : no
 Environmentally hazardous according to RID : no
 Marine Pollutant according to IMDG-Code : no

14.6 Special Precautions for User

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC)	Point Nos: 3 Listed
EU. Regulation EU No. 649/2012 concerning the export and import of dangerous chemicals	The substance/mixture does not fall under this legislation
EU. Regulation 273/2004, Drug Precursors, Category 3	Scheduled substance Combined Nomenclature (CN) code 2806 10 00; Combined Nomenclature designation
EU. REACH, Annex XVII Marketing and Use Restrictions (Regulation 1907/2006/EC)	Point Nos.: , 3; Listed
EU. Directive 98/8/EC, Annex 1, Active substances in biocidal products	Minimum purity: 999, g/kg; Disinfectants and algaecides not intended for direct application to humans or animals; Special provisions may apply; see text of legislation.
	Deadline for Compliance: , 30 Apr 2016 Inclusion Date: , 1 May 2014 Expiry Date of Inclusion: , 30 Apr 2024
EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325)	EC Number. 231-595-7; Listed

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EU. Directive
2012/18/EU (SEVESO III) Annex

The substance/mixture does not fall under this legislation.

UK. Releases to air and
Water (UK ISR)

Annual reporting level threshold: 10,000 kg

WGK (DE)

WGK 1: slightly water endangering: 238;
Classification source is Annex 2.

Notification status hydrochloric acid:

Regulatory List	Notification	Notification number
AICS	Yes	
DSL	Yes	
EINECS	Yes	231-595-7
ENCS (JP)	Yes	(1)-215
IECSC	Yes	
ISHL (JP)	Yes	(1)-215
KECI (KR)	Yes	97-1-203
KECI (KR)	Yes	KE-20189
NZIOC	Yes	HSR004090
PICCS (PH)	Yes	
TSCA	Yes	

15.2 Chemical safety assessment

No data available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

- H290 May be corrosive to metals.
- H314 Causes severe skin burns and eye damage.
- H335 May cause respiratory irritation.

Abbreviations and Acronyms

- BCF bioconcentration factor
- BOD biochemical oxygen demand
- CAS Chemical Abstracts Service
- CLP Classification, Labelling and Packaging
- CMR carcinogenic, mutagenic or toxic to reproduction
- COD chemical oxygen demand
- DNEL derived no-effect level
- EINECS European Inventory of Existing Commercial Chemical Substances

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ELINCS	European List of Notified Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
PBT	persistent, bioaccumulative and toxic
PNEC	predicted no-effect concentration
STOT	specific target organ toxicity
SVHC	substance of very high concern
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
vPvB	very persistent and very bioaccumulative

Further Information

Key literature references and sources for data	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet
Methods used for product classification	The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
Hints for trainings	The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Solmedia

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Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.