UN GHS REVISION 7

Safety Data Sheet
HCL/Formic Acid 8% Solution

Version 1.0, Date of issue: 2026-08-17

SECTION 1: Identification

1.1 GHS Product identifier

Product name	HCL/Formic Acid 8% Solution
Product number	HCLFOR8-500M, 1L, 2.5L,5L, 10L
Brand	Hurstchem

1.3 Recommended use of the chemical and restrictions on use

Laboratory Reagent

1.4 Supplier's details

Name	Hurst Scientific
Address	2 Transit Place, 6112 Forrestdale WA, Australia
Telephone	1300 778 068
email	sales@hurstscientific.com.au

1.5 Emergency phone number

Australian Poisons Information Centre 13 11 26
Australian Emergency Services 000

SECTION 2: Hazard identification

General hazard statement

Classified as a Hazardous substance according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Classified as Dangerous goods according to the ADG Code for the Transport of Dangerous Goods by Road and Rail (7th Edition).

2.1 Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Corrosive to Metals, Cat. 1
- Skin Corrosion/Irritation, Cat. 1
- Acute Toxicity (Inhalation), Cat. 4
- STOT – Single Exposure (respiratory irritation), Cat. 3

2.2 GHS label elements, including precautionary statements

Pictograms

1. Corrosion; 2. Exclamation mark

Signal word **Danger**

Hazard statement(s)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Precautionary statement(s)

P234	Keep only in original packaging.
P260	Do not breathe 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.
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 or shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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 CENTRE/doctor.
P321	Specific treatment (see supplemental first-aid instructions on this label).
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local regulations.

2.3 Other hazards

No information available on PBT / vPvB status or endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Component	Concentration
Formic acid (CAS: 64-18-6)	**8%**
CLASSIFICATIONS: Flammable Liquid, Cat. 3; Corrosive to Metals, Cat. 1; Acute Toxicity (Inhalation), Cat. 3; Acute Toxicity (Oral), Cat. 4; Skin Corrosion/Irritation, Cat. 1A; Serious Eye Damage/Irritation, Cat. 1; STOT – Single Exposure (respiratory irritation), Cat. 3. **HAZARDS:** H226 - Flammable liquid and vapour; H290 - May be corrosive to metals; H331 - Toxic if inhaled; H302 - Harmful if swallowed; H314 - Causes severe skin burns and eye damage; H318 - Causes serious eye damage; H335 - May cause respiratory irritation.	
Hydrochloric acid (CAS: 7647-01-0)	**8%**
Water (CAS: 7732-18-5)	**Remainder**

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

Eye contact

Flush eyes with copious amounts of water for at least 15 minutes. Seek immediate medical attention.

Skin contact

Immediately remove all contaminated clothing, footwear and jewellery. Flush the affected area with copious amounts of water for at least 15 minutes. Seek immediate medical attention. Wash contaminated clothing before re-use.

Inhalation

Evacuate to fresh air immediately. If unconscious, place in recovery position and provide artificial respiration if breathing ceases. Seek medical attention.

Ingestion

DO NOT induce vomiting. Wash mouth out with copious amounts of water and seek medical attention.

First-aid facilities

Eye wash station, safety shower and First Aid kit.

4.2 Most important symptoms and effects, both acute and delayed

The most important symptoms and effects are described in Section 2 (hazard statements) and Section 11 (toxicological information).

4.3 Indication of immediate medical attention and special treatment needed

Treat symptomatically. For advice, contact the Poisons Information Centre (Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

The product itself is non-combustible. Use an extinguishing medium suitable for the surrounding fire. Do not allow water to enter containers.

5.2 Specific hazards arising from the chemical

The product is non-combustible. Heating or fire may produce irritating, poisonous or corrosive gases. Containers may rupture when heated.

5.3 Special protective actions for fire-fighters

Fire fighters should wear self-contained breathing apparatus (SCBA) operated in positive-pressure mode and a chemical splash suit; a structural firefighter's uniform provides only limited protection against these materials. Fight the fire from a safe location.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid contact with skin and eyes. Wear suitable protective equipment (see Section 8). Evacuate non-essential personnel from the area.

6.2 Environmental precautions

Prevent the spill from entering drains, sewers and waterways. In the event of a major spill, contain the material and notify the relevant authorities.

6.3 Methods and materials for containment and cleaning up

Contain the spill and prevent entry into drains, sewers and waterways. Absorb with inert absorbent material (e.g. sand, vermiculite or earth) and transfer to a suitable, labelled container for disposal. Rinse the affected area with water. Dispose of in accordance with Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe mists or vapours. Wear appropriate protective clothing to avoid any contact.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area. Keep containers tightly closed and upright when not in use. Store away from incompatible materials (see Section 10). Inspect containers regularly for damage or leaks.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Formic acid (CAS: 64-18-6)
AU/SWA (AU): TWA: 5 ppm (9.4 mg/m³); STEL: 10 ppm (19 mg/m³)

Hydrochloric acid (CAS: 7647-01-0)
AU/SWA (AU): TWA: 5 ppm (7.5 mg/m³)

Water (CAS: 7732-18-5)
AU/SWA (AU): No occupational exposure limit established.

8.2 Appropriate engineering controls

Ensure an adequate ventilation or exhaust system is in place.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standard AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand protection

Use occupational protective gloves complying with AS 2161 (Selection, Use and Maintenance).

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapour/mist filter should be used. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear, colourless, fuming liquid. Hygroscopic
Colour	No data available
Odour	Characteristic, benzaldehyde-like, pungent, penetrating
Odour threshold	No data available
Melting point/freezing point	No data available
Boiling point or initial boiling point and boiling range	No data available
Flammability	No data available
Lower and upper explosion limit/flammability limit	No data available
Flash point	>65 °C
Explosive properties	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Oxidising properties	No data available
pH	Acidic
Kinematic viscosity	No data available
Solubility	Water soluble
Partition coefficient n-octanol/water (log value)	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Density and/or relative density	No data available
Relative vapour density	No data available
Particle characteristics	No data available
Supplemental information regarding physical hazard classes	No data available
Further safety characteristics (supplemental)	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Non-reactive under recommended conditions for use and storage.

10.2 Chemical stability

Stable under recommended conditions for use and storage.

10.3 Possibility of hazardous reactions

Polymerisation will not occur.

10.4 Conditions to avoid

Metals and incompatibles.

10.5 Incompatible materials

Metals. Will react with water or steam to produce toxic and corrosive fumes. Keep away from strong oxidising agents, strong bases, cyanides and sulphides. Avoid contact with metals. Reacts with zinc, brass, galvanised iron, aluminium, copper and copper alloys.

10.6 Hazardous decomposition products

Toxic gases (Hydrogen Chloride) may evolve.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Harmful if inhaled; 1100 mg/kg (rat, LD50 oral) (Formic acid); 15 gm/m3/15M (rat, LC50 inhalation) (Formic acid)

Skin corrosion/irritation
Causes severe skin burns and eye damage.

Serious eye damage/irritation
Causes serious eye damage.

Respiratory or skin sensitisation
Not expected to be a respiratory or skin sensitiser.

Germ cell mutagenicity
Not considered to be a mutagenic hazard.

Carcinogenicity
Not considered to be a carcinogenic hazard.

Reproductive toxicity
Not considered to be toxic to reproduction.

Specific target organ toxicity (STOT) - single exposure
May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure
Not expected to cause toxicity to a specific target organ through repeated exposure.

Aspiration hazard
Not expected to be an aspiration hazard.

SECTION 12: Ecological information

Toxicity
Harmful effect on aquatic organisms. Forms corrosive mixtures with water even if diluted. Damage of fish and plankton. Harmful effect due to pH shift. Neutralization possible in waste water treatment plants. Acute Toxicity - Fish: L. idus LC50: 46-100 mg/l /96 h (calculated on the pure substance). Acute Toxicity - Daphnia: Daphnia magna EC50: 34.2 mg/l /48 h (calculated on the pure substance). Acute Toxicity - Algae: Desmodesmus subspicatus IC50: 27 mg/l /72 h (calculated on the pure substance). Acute Toxicity - Bacteria: Ps. putida EC50: 47 mg/l /17 h (calculated on the pure substance)

Persistence and degradability
AEROBIC: Formic acid biodegrades readily in screening tests. Specific results include: 4.3 and 38.8% of theoretical BOD after 5 and 10 days using a sewage inoculum; 43.7-77.6% of theoretical BOD after 5 days with a sewage inoculum; 70% of theoretical BOD in 24 hours using activated sludge; 66% of theoretical BOD in 12 hours using an activated sludge inoculum; 39.9% of theoretical BOD in 24 hours with activated sludge; 48 and 51% of theoretical BOD after 5 days with unacclimated and acclimated sewage inoculum, respectively; and 40.5 and 51.7% of theoretical BOD after 5 days with sewage inocula in fresh water and synthetic seawater, respectively. Microorganisms are present in the air that can degrade formate in rainwater. Formic acid, present at 100 mg/L, reached 110% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test

Bioaccumulative potential
Not expected to bio-accumulate

Mobility in soil
No data available

Results of PBT and vPvB assessment
No data available

Endocrine disrupting properties
No data available

Other adverse effects
No data available

SECTION 13: Disposal considerations

Product disposal

Dispose of in accordance with local authority guidelines. Empty containers may still represent a hazard.

Packaging disposal

Dispose of in accordance with local authority guidelines.

Waste treatment

Dispose of in accordance with local authority guidelines.

Sewage disposal

Do not contaminate drains and waterways.

Other disposal recommendations

Nil.

SECTION 14: Transport information

ADG (Australian Dangerous Goods Code, 7th Edition)

UN Number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Contains HYDROCHLORIC ACID AND FORMIC ACID)
Transport hazard class	8
Packing group	II
Special provisions	274
Hazchem code	2X
Environmental hazards	Not classified

IMDG (International Maritime Dangerous Goods Code)

UN Number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Contains HYDROCHLORIC ACID AND FORMIC ACID)
Transport hazard class	8
Packing group	II
Marine pollutant	No

IATA (International Air Transport Association Dangerous Goods Regulations)

UN Number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Contains HYDROCHLORIC ACID AND FORMIC ACID)
Transport hazard class	8
Packing group	II

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Formic acid (CAS: 64-18-6)

Australia SUSMP — Poison Schedule: Schedule 5

Hydrochloric acid (CAS: 7647-01-0)

Australia SUSMP — Poison Schedule: Schedule 5

Water (CAS: 7732-18-5)

Australia SUSMP — Poison Schedule: Not Scheduled (NS)

15.2 Chemical safety assessment

No chemical safety assessment has been carried out for this product.

SECTION 16: Other information

16.1 Further information/disclaimer

References

1. Safe Work Australia, Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, (June 2023).
2. Safe Work Australia, National Code of Practice for the Labelling of Workplace Hazardous Chemicals (2015).
3. Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants (2013).
4. National Transport Commission Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code), Volume 1, Edition 7.9 (2023).
5. Standards Australia, Dangerous Goods Initial Emergency Response Guide: Australian Handbook (SAA/SNZ HB76); Homebush (2004).

16.2 Preparation information

This SDS is prepared in accordance with the Safe Work Australia, Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, (June 2023). The information contained within is believed to be accurate at the date of preparation/review. Hurst Scientific makes no claims of the accuracy or completeness of the information and excludes all liability for any loss or damage related to the supply or use of the information in this safety data sheet. It is recommended the user make their own determinations as to the suitability of the information provided to the application in which the product is to be used. Copyright © 2026 Hurst Scientific