

Safety Data Sheet KLEIHAUER STAIN SOLUTION B

SDS no. MNF86WAC • Date of issue: 2023-05-21

SECTION 1: Identification

GHS Product identifier

Product name KLEIHAUER STAIN SOLUTION B

Product number 321

Recommended use of the chemical and restrictions on use

Product type: Water solution of hydrochloric and ferric chloride.

Staining of foetal haemoglobin.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Corrosive to metals, Cat. 1
- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 2

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H290 May be corrosive to metals
H315 Causes skin irritation
H318 Causes serious eye damage

Precautionary statement(s)

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water/soap
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/doctor/physician
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P390 Absorb spillage to prevent material-damage.
P406 Store in a corrosive resistant/... container with a resistant inner liner.

SECTION 3: Composition/information on ingredients

Mixtures

Components

Component	Concentration
Water (CAS no.: 7732-18-5; EC no.: 231-791-2)	<= 93.6 % (weight)
CLASSIFICATIONS: No data available. HAZARDS: No data available.	
HYDROCHLORIC ACID (<37%) (CAS no.: 7647-01-0; EC no.: 231-595-7; Index no.: 017-002-01-X)	<= 4 % (weight)
CLASSIFICATIONS: Specific target organ toxicity following single exposure, Cat. 3; Skin corrosion/irritation, Cat. 1B. HAZARDS: H314 - Causes severe skin burns and eye damage; H335 - May cause respiratory irritation. [SCLs/M-factors/ATEs]: Skin Corr. 1B; H314: C ≥ 25 %; Skin Irrit. 2; H315: 10 % ≤ C < 25 %; Eye Irrit. 2; H319: 10 % ≤ C < 25 %; STOT SE 3; H335: C ≥ 10 %	
Iron(III) chloride (CAS no.: 7705-08-0; EC no.: 231-729-4)	<= 2.4 % (weight)
CLASSIFICATIONS: Corrosive to metals, Cat. 1; Acute toxicity, oral, Cat. 4; Serious eye damage/eye irritation, Cat. 1; Skin corrosion/irritation, Cat. 2. HAZARDS: H290 - May be corrosive to metals; H302 - Harmful if swallowed; H315 - Causes skin irritation; H318 - Causes serious eye damage.	

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice First Aid Facilities: Maintain eyewash fountain and drench facilities in work area.
Advice to Doctor: Treat symptomatically as for acids.

If inhaled If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

In case of skin contact If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

In case of eye contact

If in eyes, hold eyelids apart and flush eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor, or for at least 15 minutes.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam. This material is substantially water.

Specific hazards arising from the chemical

Material does not burn. Runoff may pollute waterways.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid ingestion and inhalation of gas/fumes/vapour/spray mist. Avoid contact with eyes, on skin, or clothing. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep well closed and protected from direct sunlight and moisture. Do not store in metal containers.

Corrosiveness: Very corrosive to most metals. Rubber-lined steel, Haveg, Hastelby and tantalum, are the most commonly used corrosion-resistant materials of construction. Rubber, glass, plastic and ceramic ware are also resistant to corrosion.

Storage Temperatures: Store at room temperature (15 to 25 °C recommended).

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 7647-01-0

HYDROCHLORIC ACID (<37%)

AU/SWA (Australia): 5 Peak limitation ppm; 7.5 Peak limitation mg/m³ TWA inhalation; NIOSH: (C) 5 ppm REL inhalation;

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

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 Standards 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: Normally not required but if in doubt ensure hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. 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, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Yellow liquid.
Color	Yellow
Odor	Odourless to slight, characteristic, irritating odour.
Odor threshold	No data available.
Melting point/freezing point	Approximately 0 °C (based on data for water).
Boiling point or initial boiling point and boiling range	Approximately 100 °C.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	0.1 approx.

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Kinematic viscosity	No data available.
Solubility	Solubility in Water: Miscible
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	2.37 kPa at 20°C essentially the same as water.
Evaporation rate	No data available.
Density and/or relative density	No data available.
Relative vapor 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

Reactivity

None under normal use conditions.

Chemical stability

Stable at normal temperatures, pressures and conditions of use or storage.

Possibility of hazardous reactions

Will corrode metals. Will produce toxic gases on contact with cyanides, sulphides etc.

Conditions to avoid

Metals and incompatible materials.

Incompatible materials

Metals, bases (e.g. sodium hydroxide, amines), aldehydes, epoxides, reducing agents, oxidizing agents, permanganates, explosives, acetylides, borides, carbides, silicides, cyanides, sulfides and phosphide.

Hazardous decomposition products

Hydrogen chloride gas

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: May cause burns to mouth, throat and stomach.

Inhalation: May be harmful if inhaled.

Skin corrosion/irritation

Liquid is slightly to highly irritating to skin and may cause burns.

Serious eye damage/irritation

Liquid is irritating to highly irritating to eyes and may cause scarring of the cornea (based on animal data). Vapour may cause eye irritation.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No human information is available. Questionable positive results reported in some short-term tests. Negative results in some in-vitro mammalian cell tests.

Carcinogenicity

Hydrochloric acid [7647-01-0] is evaluated in the IARC Monographs (Vol. 54; 1992) as Group 3: Not classifiable as to carcinogenicity to humans.

Reproductive toxicity

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Iron(III) chloride: mouse LD50 intravenous 58mg/kg (58mg/kg) Yakugaku Zasshi. Journal of Pharmacy. Vol. 87, Pg. 677, 1967.

[Link to PubMed](#)

mouse LD50 oral 895mg/kg (895mg/kg) Kenkyu Nenpo--Tokyo-toritsu Eisei Kenkyusho. Annual Report of Tokyo Metropolitan Research Laboratory of Public Health. Vol. 27, Pg. 159, 1976.

rat LD50 oral 450mg/kg (450mg/kg) Gigiena i Sanitariya. For English translation, see HYSAAV. Vol. 39(5), Pg. 16, 1974.

women LDLo oral 4mL/kg (4mL/kg) LUNGS, THORAX, OR RESPIRATION: DYSPNEA

GASTROINTESTINAL: NAUSEA OR VOMITING Veterinary and Human Toxicology. Vol. 40, Pg. 31, 1998.

***TOXICITY:**

typ. dose mode specie amount units other

LD50 orl mus 1278 mg/kg

LD50 ipr mus 68 mg/kg

LD50 ivn mus 142 mg/kg

LD50 orl rat 900 mg/kg

LD50 orl mus 440 mg/kg

*AQTX/TLM96: Not available

***SAX TOXICITY EVALUATION:**

THR: HIGH-MODERATE via oral route; HIGH via intraperitoneal route.

*CARCINOGENICITY: Not available

*MUTATION DATA: Not available

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*TERATOGENICITY:

Reproductive Data:

TDLo: itt-cat 12976 ug/kg (1D male)

TDLo: ivg-rat 29 mg/kg (1D pre)

*STANDARDS, REGULATIONS & RECOMMENDATIONS:

OSHA: Federal Register (1/19/89) and 29 CFR 1910.1000 Subpart Z

Transitional Limit: PEL-TWA 1 mg(Fe)/m³ [610]

ACGIH: TLV-TWA 1 mg(Fe)/m³ [610]

NIOSH Criteria Document: None

NFPA Hazard Rating: Health (H): None

Flammability (F): None

Reactivity (R): None

*OTHER TOXICITY DATA:

Standards and Regulations: DOT-Hazard: ORM-B; Label: None, anhydrous

DOT-Hazard: Corrosive material; Label: Corrosive solution

Status: Reported in EPA TSCA Inventory, 1980

EPA TSCA Section 8(e) Status Report 8EHQ-0880-0358

Meets criteria for proposed OSHA Medical Records Rule

SECTION 12: Ecological information

Toxicity

The following applies to HCl in general: Harmful effect on aquatic organisms. Harmful effect due to pH shift. Does not cause biological oxygen deficit.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

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

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

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

Australia SUSMP

Poison Schedule: S5

SECTION 16: Other information

Further information/disclaimer

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)