Safety Data Sheet GILL'S HAEMATOXYLIN STAIN, II & III (contains ethylene glycol)

SDS no. FX0HEH3E • Version 1.0 • Date of issue: 2023-01-07

SECTION 1: Identification

GHS Product identifier

Product name	GILL'S HAEMATOXYLIN STAIN, II & III (contains ethylene glycol)
Brand	Australian Biostain

Other means of identification

G2- Gill's #2 Haematoxylin(G2)
G3- Gill's Haematoxylin (G3)
AHG2T Gill II Toxic Haematoxylin

Recommended use of the chemical and restrictions on use

Product type: Water solution of ingredients including ethylene glycol.

Cytological staining.

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

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

- Specific target organ toxicity following repeated exposure, Cat. 2
- Acute toxicity, oral, Cat. 4

GHS label elements, including precautionary statements

Pictograms

Signal word	**Danger**

Hazard statement(s)

H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H373	May cause damage to organs [kidney] through prolonged or repeated exposure [oral]

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell,
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
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Other components either not classified as Hazardous under the GHS, or below cut-off concentrations to be classified as Hazardous.

Hazardous components

Component	CAS no.	Concentration
Ethylene glycol (EC no.: 203-473-3; Index no.: 603-027-00-1)	**107-21-1**	**< 35 % (weight)**
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Specific target organ toxicity following repeated exposure, Cat. 2. HAZARDS: H302 - Harmful if swallowed; H373 - May cause damage to organs [organs] through prolonged or repeated exposure [route].		
Aluminum sulfate (EC no.: 233-135-0)	**10043-01-3**	**< 5 % (weight)**
CLASSIFICATIONS: Corrosive to metals, Cat. 1; Serious eye damage/eye irritation, Cat. 1. HAZARDS: H290 - May be corrosive to metals; H318 - Causes serious eye damage.		
Acetic acid (EC no.: 200-580-7; Index no.: 607-002-00-6)	**64-19-7**	**< 3 % (weight)**
CLASSIFICATIONS: Flammable liquids, Cat. 3; Skin corrosion/irritation, Cat. 1A. HAZARDS: H226 - Flammable liquid and vapor; H314 - Causes severe skin burns and eye damage.		
Haematoxylin (EC no.: 208-237-3)	**517-28-2**	**< 1 % (weight)**
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Serious eye damage/eye irritation, Cat. 2A; Skin corrosion/irritation, Cat. 2; Specific target organ toxicity following single exposure, Cat. 3. HAZARDS: H302 - Harmful if swallowed; H315 - Causes skin irritation; H319 - Causes serious eye irritation; H335 - May cause respiratory irritation; H336 - May cause drowsiness or dizziness.		
Sodium iodate (EC no.: 231-672-5)	**7681-55-2**	**< 1 % (weight)**

CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Oxidizing solids, Cat. 2; Respiratory sensitizer, Cat. 1; Skin sensitizer, Cat. 1. HAZARDS: H272 - May intensify fire; oxidizer; H302 - Harmful if swallowed; H317 - May cause an allergic skin reaction; H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once).
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	If swallowed, do NOT induce vomiting.

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 at once.

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

Ethylene glycol: No data available.

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
Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

Methods and materials for containment and cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling
Avoid contact with skin and eyes. Do not eat, drink or smoke while handling. Wash hands with soap and water after handling. For precautions see section 2.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well-ventilated area, out of direct sunlight. Store in suitable, labelled containers. Keep containers tightly closed. Store away from incompatible materials. Ensure that storage conditions comply with applicable local and national regulations.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 107-21-1 (EC: 203-473-3)
Ethylene glycol
ACGIH (USA): 100 mg/m3 PEL-C inhalation; AU/SWA (Australia): 40 ppm; 104 mg/m3 STEL inhalation; 10 mg/m3 TWA inhalation

CAS: 64-19-7 (EC: 200-580-7)
Acetic acid
ACGIH (USA): 15 ppm STEL inhalation; 10 ppm TWA inhalation; AU/SWA (Australia): 15 ppm; 37 mg/m3 STEL inhalation; 10 ppm; 25 mg/m3 TWA inhalation; NIOSH (USA): 10 ppm, 25 mg/m3 TWA inhalation

Appropriate engineering controls
Maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.

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 complies 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	Deep blue/purple solution.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.

Melting point/freezing point	Below 0°C
Boiling point or initial boiling point and boiling range	Approx. 100°C at 100kPa.
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	No data available.
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Completely.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	2.37 kPa at 20°C (water vapour pressure)
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: Approx 1.00
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
Stable under normal conditions of storage and handling.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal use conditions.

Conditions to avoid
Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials

Ethylene glycol: Strong acids, Strong oxidizing agents, Strong bases, Aldehydes, Aluminum

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Acetic acid: Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Nitric acid

Hazardous decomposition products

Ethylene glycol: Hazardous decomposition products formed under fire conditions. - Carbon oxides
In the event of fire: see section 5

Acetic acid: Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Ingestion of this product may irritate the gastric tract causing nausea and vomiting.

Ethylene Glycol

LD50 Oral - 500.1 mg/kg
Oral: (Regulation (EC) No 1272/2008, Annex VI)
LC50 Inhalation - Rat - male and female - 6 h - > 2.5 mg/l - aerosol (ECHA)
LD50 Dermal - Mouse - male and female - > 3,500 mg/kg (ECHA)

Acetic Acid

LD50 Oral - Rat - 3,310 mg/kg, (RTECS)
LC50 Inhalation - Mouse - 4 h - 2,819 mg/l - vapor (RTECS)
Dermal: No data available

Skin corrosion/irritation
May be irritating to skin. The symptoms may include redness, itching and swelling.

Serious eye damage/irritation
May be irritating to eyes. The symptoms may include redness, itching and tearing.

Respiratory or skin sensitization
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
Not expected to cause toxicity to a specific target organ.

Specific target organ toxicity (STOT) - repeated exposure
May cause damage to organs through prolonged or repeated exposure. Oral - Kidney

Aspiration hazard
Not expected to be an aspiration hazard.

Additional information
Chronic Effects: Repeated ingestion exposure to Ethylene Glycol caused histopathological changes of the kidneys and bone marrow, kidney effects with oxalate crystal deposition, altered haematology, and decreased body weight. Long-term exposure caused kidney effects with oxalate crystal deposition, histopathological changes of the kidneys, liver, blood vessels, testes, and sperm, and decreased body weight.

No deaths occurred in animals exposed by inhalation to saturated vapours of Ethylene Glycol. Repeated inhalation exposure caused histopathological changes of the liver and lungs, eye irritation and clouding of the eye (corneal opacity). In animal testing Ethylene Glycol has not caused carcinogenicity. Reproductive data on adult animals show interference with reproduction only at levels which produce other toxic effects in the adult animal. Tests have shown Ethylene Glycol to cause developmental toxicity in animals. Ethylene Glycol has not produced genetic damage in bacterial cultures. There are reports indicating that Ethylene Glycol does not produce genetic damage in some animal or mammalian cell culture tests, however there are reports in the literature that suggest positive results.

SECTION 12: Ecological information

Toxicity
ethylene glycol

Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - > 72,860 mg/l - 96 h (US-EPA)

Toxicity to daphnia and other aquatic invertebrates static test LC50 - Pimephales promelas (fathead minnow) - > 72,860 mg/l - 96 h (US-EPA)

Toxicity to algae IC5 - Scenedesmus quadricauda (Green algae) - > 10,000 mg/l - 7d

Toxicity to bacteria static test EC20 - activated sludge - > 1,995 mg/l - 30 min (ISO 8192)

acetic acid

Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1,000 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 1,000 mg/l -48h (OECD Test Guideline 202)

Toxicity to algae Toxicity to bacteria static test EC50 - Skeletonema costatum - > 1,000 mg/l - 72 h (ISO 10253)

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: S6

SECTION 16: Other information

1.0 B - Corrected title; Added G2-, G3-, AHG2T and descriptions; Added Preparation information (2/5/23)

Further information/disclaimer
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Preparation information
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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 fot 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 Airbourne 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)