Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

LUFF-SCHROOL'S REAGENT
Volumetric Standard

PRODUCT CODE : L-1227

CAS No : 497-19-8 (mixture)

FORMULA : not available (mixture)

UN No : 3082

website : www.labotiq.net

MATERIAL SAFETY DATA SHEET (SDS/MSDS)
LUFF-SCHROOL'S REAGENT Volumetric Standard

MSDS Number : 0487 | Date : May 21, 2025 | Version : 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Name : **Luff-Schrool's Reagent**
Synonyms : -
CAS No. : 497-19-8 (mixture)
HS Code : -
Chemical Formula : not available (mixture)
Molecular Weight : not available (mixture)
Product Code : L-1227
Brand : Labotiq
1.2 Manufacturer : Labotiq
Address : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
Website : www.labotiq.net
Email : labotiq.id@gmail.com
For information : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
Emergency number : +6281316894650
1.3 Application : Laboratory chemicals, Manufacture of substances

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

Eye Irrit. 2	H319 Causes serious eye irritation.
Aquatic Acute 1	H400 Very toxic to aquatic life.
Aquatic Chronic 1	H410 Very toxic to aquatic life with long lasting effects.

For the full text of the H-Statements mentioned in this Section, see Section 16

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word	warning
Hazard statement(s)	
H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long lasting effects
Precautionary statement(s)	
P264	Wash thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear eye protection / face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

None known

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : **Luff-Schrool's Reagent**

3.2 Mixture

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Sodium carbonate CAS No 497-19-8 EC No 207-838-8	Eye Irrit. 2 / H319	10 – 25 %
Citric acid monohydrate CAS No 5949-29-1 EC No 611-842-9	Eye Irrit. 2A / H319 STOT SE 3 / H335	2.5 – 5%
Copper(II) sulphate pentahydrate CAS No 7758-99-8 EC No 616-477-9	Acute Tox. 4 / H302 Eye Dam. 1 / H318	< 2.5

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Take off contaminated clothing.

If inhaled

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice

In case of skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

In case of eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

If swallowed

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Vomiting, Irritation.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

CO_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released: Carbon monoxide and carbon dioxide Sulphur oxides (SOx) Non-combustible.

5.3 Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

5.4 Further information

Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Contain escaping vapours with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid substance contact. Do not inhale steams/aerosols.

6.2 Environmental precautions

Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/ surface or ground water.

6.3 Methods and materials for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

No special measures are necessary.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage. Incompatible materials: see section 10.

Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
National limit values
Occupational exposure limit values (Workplace Exposure Limits)
This information is not available.

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Copper(II) sulphate pentahydrate	7758-99-8	DNEL	1 mg/m^3	human, inhalatory	worker (industry)	chronic - systemic effects
Copper(II) sulphate pentahydrate	7758-99-8	DNEL	1 mg/m^3	human, inhalatory	worker (industry)	chronic - local effects
Copper(II) sulphate pentahydrate	7758-99-8	DNEL	137 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Citric acid monohydrate	5949-29-1	PNEC	0.44 mg/l	aquatic organisms	freshwater	short-term (single instance)
Citric acid monohydrate	5949-29-1	PNEC	0.044 mg/l	aquatic organisms	marine water	short-term (single instance)
Citric acid monohydrate	5949-29-1	PNEC	1,000 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Citric acid monohydrate	5949-29-1	PNEC	34.6 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Citric acid monohydrate	5949-29-1	PNEC	34.6 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Citric acid monohydrate	5949-29-1	PNEC	33.1 mg/kg	aquatic organisms	soil	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	7.8 µg/l	aquatic organisms	freshwater	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	5.2 µg/	aquatic organisms	marine water	short-term (single instance)
Copper(II)	7758-99-8	PNEC	230 µg/l	aquatic	sewage	short-term

sulphate pentahydrate				organisms	treatment plant (STP)	(single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	87 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	676 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	65 mg/kg	aquatic organisms	soil	short-term (single instance)

8.2 Exposure control

Appropriat engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber
Minimum layer thickness: ≥ 0.11 mm
Break through time: ≥ 480 min
Material tested:Dermatril® (KCL 740, Size M)

Splash contact

Material: Nitrile rubber
Minimum layer thickness: ≥ 0.11 mm
Break through time: ≥ 480 min
Material tested:Dermatril® (KCL 740, Size M)

Body Protection

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazourdous substances handled.

Respiratory protection

Respiratory protection necessary at: Aerosol or mist formation. Usually no personal respirative protection necessary.

Control of environmental exposure

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: liquid Colour: blue

Odour	odourless
Odour Threshold	No data available
pH	No data available
Melting point/freezingpoint	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or	No data available
explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Water solubility	No data available
Partition coefficient: noctanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	none

9.2 Other safety information

Information with regard to physical hazard classes:
hazard classes acc. To GHS (physical hazards): not relevant

Other safety characteristics:
Miscibility completely miscible with water

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Based on available data, the classification criteria are not met

Skin corrosion/irritation
Causes serious eye irritation.

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitisation
Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity
Shall not be classified as germ cell mutagenic.

Carcinogenicity
Shall not be classified as carcinogenic.

Reproductive toxicity
Shall not be classified as a reproductive toxicant

Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure
Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

Endocrine disruptor for human health
Shall not be classified as an endocrine disruptor for human health.

SECTION 12: Ecological information

12.1 Toxicity
Toxic to aquatic life with long lasting effects
Sodium carbonate LC50 300 mg/l fish 96 h
Sodium carbonate EC50 227 mg/l aquatic invertebrates 48 h
Citric acid monohydrate LC50 440 mg/l fish 48 h
Copper(II) sulphate pentahydrate LC50 38.4 µg/l fish 96 h

12.2 Persistence and degradability
Degradability of components
Citric acid monohydrate biotic/abiotic 98 % 2 d

12.3 Bioaccumulative potential
Citric acid monohydrate -1.64 (20 °C)

12.4 Mobility in soil
Data are not available

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%

12.6 Other adverse effects

Data are not available

Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 3082 IMDG: 3082 IATA: 3082

14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IATA: Environmentally hazardous substance, liquid, n.o.s.

14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: no IATA: yes

14.6 Special precautions for user

Further information

No data available

SECTION 15: Regulatory information

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

There is no additional information

National regulations(Australia)
Australian Inventory of Industrial Chemicals(AIIC)
All ingredients are listed or exempt from listing.

Other information
Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

National Fire Protection Association (U.S.A.):
Health: 1
Flammability: 0
Reactivity: 2

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

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