

SAFETY DATA SHEET

Safety Data Sheet according to (EC) No. 1907/2006.

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

Lysis 2

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

Aqueous preparation for research and analysis. Restricted to professional users.

1.3. Details of the supplier of the safety data sheet:

ChemoMetec A/S

Gydevang 43

Phone: (+45) - 48 13 10 20

DK - 3450 Allerød

Fax: (+45) - 48 13 10 21

Denmark

e-mail: contact@chemometec.comResponsible person for the safety data sheet (e-mail): contact@chemometec.com**1.4. Emergency telephone number:**

NHS (England or Wales): Dial 111 or 0845 4647 NHS 24 (Scotland): Dial 111

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture:**

Environmentally hazardous liquid.

CLP (1272/2008): Aquatic Chronic 3;H412

2.2. Label elements:

H412: Harmful to aquatic life with long lasting effects

P273: Avoid release to the environment.

2.3. Other hazards: None known.

PBT/vPvB: No ingredients are PBT/vPvB, according to the criteria in REACH Annex XIII.

SECTION 3: Composition/information on ingredients**3.2. Mixtures:**

% w/w	Substance name	CAS-no.	EC-no.	Index-no.	REACH reg.no.	Classification
<2.5	Citric acid monohydrate	5949-29-1	201-069-1*	-	-	Eye Irrit. 2;H319
<0.25	Cetylpyridinium chloride	123-03-5	204-593-9	-	-	Acute Tox. 3;H301 Acute Tox. 2;H330 Skin Irrit. 2;H315 Eye Irrit. 2;H319 STOT SE 3;H335 Aquatic Acute 1;H400 (M=10) Aquatic Chronic 1;H410 (M=10)
<0.2	Trisodium citrate dihydrate	6132-04-3	200-675-3*	-	-	Not classified

* EC-no (EINECS) corresponds to the CAS-no for the anhydrous compound.

Wording of hazard statements - see section 16.

SECTION 4: First-aid measures**4.1. Description of first aid measures:**

Inhalation: Move the affected person to fresh air. Keep at rest. If needed: Get medical attention.

Skin contact: Remove contaminated clothing and wash skin with water and mild soap. If irritation persists: Seek medical advice.

Eye contact: Immediately flush with water or physiological salt water, holding eyelids open, remember to remove contact lenses, if any. If irritation persists: Seek medical advice.

Ingestion: Rinse mouth and drink plenty of water. In case of discomfort: Seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed:

May cause slight irritation of skin, eyes, lungs and gastrointestinal tract.

4.3. Indication of any immediate medical attention and special treatment needed:

Show this safety data sheet to a physician or emergency ward.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media:

Not flammable.

5.2. Special hazards arising from the substance or mixture:

Not relevant (the product is not combustible).

5.3. Advice for firefighters:

Do not inhale smoke fumes. When extinguishing surrounding fires use breathing apparatus with an independent source of air.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment - see section 8.

6.2. Environmental precautions:

Do not empty into drains – see section 12. Inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up:

Absorb spilled liquid with inert material and place in a suitable container for disposal. Clean with water. Further handling of spillage - see section 13.

6.4. Reference to other sections:

See references above.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

Provide adequate ventilation. Avoid contact with skin, eyes and clothing. After work, wash hands with water and mild soap.

7.2. Conditions for safe storage, including any incompatibilities:

Store cool and dry in a tightly closed original container.

7.3. Specific end use(s):

See section 1.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters:

Occupational exposure limits (EH40/2005): None

DNEL/PNEC: No CSR.

8.2. Exposure controls:

Appropriate engineering controls: None particular.

Personal protective equipment:

Inhalation: Normally not necessary

Skin: Wear protective gloves of e.g. nitrile or butyl (EN374). Breakthrough time, approx. 3 hours.

Eyes: Wear tight fitting safety goggles (EN166) when there is a risk of splashes.

Environmental exposure controls: None particular.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No available data

pH: No available data

Melting point / freezing point (°C): ~ 0

Initial boiling point and boiling range (°C): ~ 100

Decomposition temperature (°C): No available data

Flash point (°C): No available data

Evaporation rate: No available data

Flammability (solid, gas): Not relevant

Upper/lower flammability or explosive limits (vol.-%): Not relevant

Vapour pressure (mbar, 25°C): No available data

Vapour density (air=1): No available data

Relative density (g/ml): ~ 1.0

Solubility: Miscible

Partition coefficient: n-octanol/water, Log K_{ow}: No available data

Auto-ignition temperature (°C): No available data

Viscosity: No available data

Explosive/Oxidising properties: Not relevant

9.2. Other information: None relevant

SECTION 10: Stability and reactivity

10.1. Reactivity:

No available data.

10.2. Chemical stability:

Stable under the recommended storage conditions - see section 7.

10.3. Possibility of hazardous reactions:

None known.

10.4. Conditions to avoid:

Excessive heating.

10.5. Incompatible materials:

Nylon, galvanized steel and chloride. Contact with materials containing chlorine may produce toxic gases.

10.6. Hazardous decomposition products:

When heated to high temperatures (decomposition) toxic gasses are formed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects:

Hazard class	Data	Test	Data source
Acute toxicity:			
Inhalation	LC ₅₀ (rat) = 0.09 mg/l, dust (Cetylpyridinium chloride)	No info.	RTECS
Dermal	LD ₅₀ (rat) = >2000 mg/kg (Citric acid)	OECD 402	ECHA
	LD ₅₀ (rat) = >2000 mg/kg (Trisodiumcitrate dihydrate)	OECD 402	ECHA
Oral	LD ₅₀ (mouse) = 5790 mg/kg (Citric acid)	OECD 401	ECHA
	LD ₅₀ (mouse): 5,4 g/kg (Trisodiumcitrate dihydrate)	OECD 401	ECHA
	LD ₅₀ (rat) = 200 mg/kg (Cetylpyridinium chloride)	No info	Litt.
Corrosion/irritation:	No irritation, skin and moderate irritation eye, rabbit (Citric acid)	OECD 404, 405	ECHA
	No irritation (Trisodiumcitrate dihydrate)	OECD 404, 405	ECHA
	Severe irritation, eye and skin, rodents (Cetylpyridinium chloride)	Several	Litt.
Sensitization:	No skin sensitization, guinea pig (Cetylpyridinium chloride)	No info	Litt.
	No sensitization, Guinea pig (Trisodiumcitrate dihydrate)	OECD 406	ECHA
CMR:	No Mutagenicity (Citric acid)	OECD 475	ECHA
	No CMR-effects (Trisodiumcitrate dihydrate)No carcinogenicity nor mutagenicity (Cetylpyridinium chloride)	No info	ECHA
		No info	Litt.

Information on likely routes of exposure: Inhalation, skin and ingestion.

Symptoms:

Inhalation: Vapours may cause slight irritation to the airways.

Skin: May cause slight irritation by prolonged contact with skin.

Eyes: May cause eye irritation.

Ingestion: May cause irritation of the gastrointestinal tract, nausea, vomiting and headache.

Chronic effects: Long term or repeated skin contact may degrease and cause red, dry, cracked and thickened skin.

SECTION 12: Ecological information

12.1. Toxicity:

Cetylpyridinium chloride is very toxic to the aquatic environment.

Aquatic	Data	Test (Media)	Data source
Fish	LC ₅₀ (Cyprinus carpio, 96h) = 0.011 mg/l (Cetylpyridinium chloride)	No Info (FW)	EPA Ecotox
	LC ₅₀ , (Leuciscus idus melanotus, 96h) = 440 mg/ (Citric acid)	OECD 203	ECHA
	LC ₅₀ , 24h = >10 mg/ (Trisodiumcitrate dihydrate)	No info	ECHA
Daphnia	EC ₅₀ , (Dreissena polymorpha, 48h) = >50 mg/l (Citric acid)	OECD 202	ECHA
	EC ₅₀ , 48h = 736 mg/l (Trisodiumcitrate dihydrate)	No info	ECHA
Algae	EC ₅₀ , (Scenedesmus quadricauda) = 640 mg/l (Citric acid)	No info	IUCLID

12.2. Persistence and degradability:

Cetylpyridinium chloride: 25% degraded in 28 d. (OECD 301D) - Not readily degradable.

Citric acid is easily degradable, 98% (OECD 301B). Trisodiumcitrate dihydrate is easily degradable.

12.3. Bioaccumulative potential:

Cetylpyridinium chloride: Log K_{ow} = 1.71 – possible bioaccumulation.

Citric acid: Log K_{ow} = <1 – no bioaccumulation.

12.4. Mobility in soil:

No available/applicable data

12.5. Results of PBT and vPvB assessment:

No ingredients are PBT/vPvB, according to the criteria in REACH Annex XIII.

12.6. Other adverse effects:

None known

SECTION 13: Disposal considerations

13.1. Waste treatment methods:

The mixture is to be considered as hazardous waste. Disposal should be according to local, state or national legislation. Dispose of through authority facilities or pass to chemical disposal company.

EWC-code: 16 05 08 (mixture itself)
15 02 02 (paper towel, inert material etc. contaminated with the mixture)

SECTION 14: Transport information

Not dangerous goods (ADR/RID/IMDG/IATA).

14.1. UN-no.: None

14.2. UN proper shipping name: None

14.3. Transport hazard class(es): None

14.4. Packing group: None

14.5. Environmental hazards: No

14.6. Special precautions for user: None

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code: Not relevant.

SECTION 15: Regulatory information

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

None.

15.2. Chemical Safety Assessment:

No CSR.

SECTION 16: Other information

Hazard statements mentioned in section 2 and 3:

H301: Toxic if swallowed.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H330: Fatal if inhaled.

H335: May cause respiratory irritation.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

H412: Harmful to aquatic life with long lasting effects

Abbreviations:

CMR = Carcinogenicity, mutagenicity and reproductive toxicity.

CSR = Chemical Safety Report

DNEL = Derived No-Effect Level

EC₅₀ = Effect Concentration 50%

FW = Fresh Water

LC₅₀ = Lethal Concentration 50%

LD₅₀ = Lethal Dose 50%

PBT = Persistent, Bioaccumulative, Toxic

PNEC = Predicted No-Effect Concentration

vPvB = very Persistent, very Bioaccumulative

Literature:

ECHA = European Chemicals Agency

EPA Ecotox = The US Environmental Protection Agency's database on ecotoxicological effects for chemicals.

IUCLID = International Uniform Chemical Information Database.

RTECS = Register of Toxic Effects of Chemical Substances

Training advice:

No special training is required. However, the user should be well instructed in the execution of his/her task, be familiar with this Safety Data Sheet and have normal training in the use of personal protective equipment.

Changes since the previous edition:

Not relevant – first edition