

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 1 – Lysis Buffer****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

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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
<5	Orthophosphoric acid	7664-38-2	231-633-2	015-011-00-6	-	Met. Corr. 1;H290 Skin Corr. 1B;H314 Eye Dam. 1;H318
<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)

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

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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):

<u>Substance</u>	<u>8-hour TWA</u>	<u>15-min STEL</u>	<u>Comments</u>
Orthophosphoric acid DNEL/PNEC: No CSR.	1 mg/m ³	2 mg/m ³	-

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, aerosol) = 25.5 mg/m ³ (corrosion) (Orthophosphoric acid) LC ₅₀ (rat) = 0.09 mg/l, dust (Cetylpyridinium chloride)	No info No info.	RTECS RTECS
Dermal	No available/applicable data	-	-
Oral	LD ₅₀ (rat) = 1250 mg/kg (Orthophosphoric acid) LD ₅₀ (rat) = 200 mg/kg (Cetylpyridinium chloride)	No info No info	RTECS Litt.
Corrosion/irritation:	Severe corrosion, eye and skin (100 mg/24h), rabbit (Orthophosphoric acid) Moderate eye irritation, 10 µl/24h, rabbit (Octylphenol ethoxylate) Severe irritation, eye and skin, rodents (Cetylpyridinium chloride)	Draize Draize Several	IUCLID RTECS Litt.
Sensitization:	No skin sensitization, guinea pig (Cetylpyridinium chloride)	No info	Litt.
CMR:	No CMR effects. (Orthophosphoric acid) No carcinogenicity nor mutagenicity (Cetylpyridinium chloride)	Miscellaneous No info	Various, ECHA 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) LC ₅₀ (Lepomis macrochirus, 96h) = >3 mg/l (Orthophosphoric acid)	No Info (FW) No Info (FW)	EPA Ecotox ECHA
Daphnia	EC ₅₀ (Daphnia magna, 48h) = >100 mg/l (Orthophosphoric acid)	OECD 202 (FW)	EPA Ecotox
Algae	EC ₅₀ (Desmodesmus subs. 72h) = >100 mg/l (Orthophosphoric acid)	OECD 201	ECHA

12.2. Persistence and degradability:

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

Orthophosphoric acid dissociates in water and is part of the natural cycle as fertilizer

12.3. Bioaccumulative potential:Cetylpyridinium chloride: Log K_{ow} = 1.71 – possible 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:

H290: May be corrosive to metals

H301: Toxic if swallowed.

H314: Causes severe skin burns and eye damage

H315: Causes skin irritation.

H318: Causes serious eye damage.

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