

Safety Data Sheet acc. to OSHA HCS

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1 Identification

Product identifier

Trade name: 4X Laemmli Sample Buffer

Catalog or product number: 1610747

Application of the substance / the mixture Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547

(510)741-1000

Information department: lsg_techserv_us@bio-rad.com

Emergency telephone number:

1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.

510-741-1000

2 Hazard(s) identification

Classification of the substance or mixture

Eye Dam. 1 H318 Causes serious eye damage.

Label elements

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS05

Signal word Danger

Hazard-determining components of labeling:

Lithium dodecyl sulphate

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

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.

P310 Immediately call a poison center/doctor.

Emergency overview:

Routes of exposure: Ingestion

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

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3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with non-hazardous additions.

Listing of dangerous and non-hazardous components:

56-81-5 glycerol	35-50%
2044-56-6 Lithium dodecyl sulphate	2.5-5%

Flam. Sol. 2, H228
Eye Dam. 1, H318
Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335
Aquatic Acute 3, H402

Additional information For the wording of the listed risk phrases refer to section 15.

4 First-aid measures

Description of first aid measures

General information

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation Supply fresh air; consult doctor in case of complaints.

After eye contact Rinse opened eye for several minutes under running water.

After swallowing

Immediately call a doctor.

Rinse mouth with water. Seek medical attention and appropriate follow-up.

Information for doctor

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents Use fire fighting measures that suit the environment.

Special hazards arising from the substance or mixture No further relevant information available.

Advice for firefighters

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective clothing.

Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

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

Dispose contaminated material as waste according to item 13.

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Reference to other sections

No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Protective Action Criteria for Chemicals

· PAC-1:	glycerol	45 mg/m ³
· PAC-2:	56-81-5 glycerol	180 mg/m ³
· PAC-3:	56-81-5 glycerol	1,100 mg/m ³

7 Handling and storage

- Handling
- Precautions for safe handling No special precautions are necessary if used correctly.
- Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage
- Requirements to be met by storerooms and receptacles: According to product specification
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: None.
- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- Components with limit values that require monitoring at the workplace:
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.
- 56-81-5 glycerol
PEL Long-term value: 15* 5** mg/m³
mist; *total dust **respirable fraction
TLV TLV withdrawn-insufficient data human occup. exp.
- Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
- Personal protective equipment
- General protective and hygienic measures
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
- Breathing equipment: Not necessary if room is well-ventilated. Adequate ventilation required.

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- Protection of hands: Protective gloves.
- Material of gloves Synthetic gloves
- Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection: Safety glasses

9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:

Form:	Liquid
Color:	Blue
Odor:	Odorless
Odor threshold:	Not determined.
- pH-value at 20 °C: 6.8
- Change in condition

Melting point/Melting range:	undetermined
Boiling point/Boiling range:	100 °C
- Flash point: > 100 °C
- Flammability (solid, gaseous) Not applicable.
- Ignition temperature: 400 °C
- Decomposition temperature: Not determined.
- Auto Igniting: Product is not selfigniting.
- Danger of explosion: Not determined.
- Explosion limits:

Lower:	0.9 Vol %
Upper:	Not determined.
- Vapor pressure at 20 °C: 23 hPa
- Density: Not determined.
- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with Water: Fully miscible
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:

dynamic:	Not determined.
kinematic:	Not determined.

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Solvent content:	
Organic solvents:	48.6 %
Water:	44.5 %
Solids content:	2.9 %
Other information	No further relevant information available.

10 Stability and reactivity

- Reactivity** No further relevant information available.
- Chemical stability**
- Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- Possibility of hazardous reactions** No dangerous reactions known
- Conditions to avoid** No further relevant information available.
- Incompatible materials:** No further relevant information available.
- Hazardous decomposition products:** No dangerous decomposition products known

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values for hazardous components per OSHA criteria:

56-81-5 glycerol

Oral	LD50	4,090 mg/kg (mouse)
		12,600 mg/kg (rat)
Dermal	LD50	10,000 mg/kg (Rabbit)

Inhalative LC50/4 h >30 mg/l (Rat)

Primary irritant effect:

- on the skin:** No irritant effect.
- on the eye:** No irritant effect.
- Sensitization:** No sensitizing effects known.
- Additional toxicological information:** Harmful

Carcinogenic categories

IARC (International Agency for Research on Cancer)

7647-01-0 hydrochloric acid

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NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

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12 Ecological information

- Toxicity**
- Aquatic toxicity:** No further relevant information available.
- Persistence and degradability:** No further relevant information available.
- Behavior in environmental systems:**
- Bioaccumulative potential:** No further relevant information available.
- Mobility in soil:** No further relevant information available.
- Additional ecological information:**
- General notes:**
- Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment**
- PBT:** Not applicable.
- vPvB:** Not applicable.
- Other adverse effects:** No further relevant information available.

13 Disposal considerations

- Waste treatment methods**
- Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose of waste in accordance to applicable national, regional, or local regulations.
- Uncleaned packagings:**
- Recommendation:** Disposal must be made according to official regulations.
- Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

UN-Number		Not Regulated
DOT, ADR, ADN, IMDG, IATA		
UN proper shipping name		Not Regulated
DOT, ADN, IMDG, IATA		Not Regulated
ADR		Not Regulated
Transport hazard class(es)		
DOT, ADR, ADN, IMDG, IATA		Not Regulated
Class		
Packing group		Not Regulated
DOT, ADR, IMDG, IATA		
Environmental hazards:		
Marine pollutant:	No	

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Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	Not Regulated

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15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)

- Section 302/304 (40CFR355.30 / 40CFR355.40):

None of the ingredients is listed.

- Section 313 (40CFR372.65):

None of the ingredients is listed.

- TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

- Hazardous Air Pollutants

7647-01-0 | hydrochloric acid

- California Proposition 65:

- Chemicals known to cause cancer:

The product does not contain listed components.

- Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

- Developmental Toxicity

None of the ingredients is listed.

- Carcinogenic categories

- EPA (Environmental Protection Agency)

None of the ingredients is listed.

- TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- National regulations

- Technical instructions (air):

Class	Share in %
NK	35-50

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- Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Environmental Health and Safety.

- Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

- Date of preparation / last revision 02/10/2020 / -

- Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Sol. 2: Flammable solids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3

- Data compared to the previous version altered.