Laemmli buffer (1x)

Safety data sheet

Prepared in accordance with Regulation (EC) No. 1907/2006 (REACH)

Version 1.0 | Created: 23 January 2014 | Revised: 1 June 2015

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

<table>
<thead>
<tr>
<th>Product name and description</th>
<th>Laemmli buffer (1x)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name/Brand</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Synonym(s)</td>
<td>SDS sample loading buffer</td>
</tr>
<tr>
<td>REACH Number</td>
<td>Not applicable, mixture</td>
</tr>
<tr>
<td>CAS Number</td>
<td>Not applicable, mixture</td>
</tr>
<tr>
<td>EC Number</td>
<td>Not applicable, mixture</td>
</tr>
</tbody>
</table>

Recommended use

This product is a laboratory preparation for educational use only.

The buffer is ready-to-use. It should be used for protein gel electrophoresis as described in the relevant Teacher’s and Students’ guides provided by the NCBE.

Please note that this laemmli buffer is a special formulation for school use. Most laemmli buffer recipes include mercaptoethanol, but this one does not. It is not the same as similar products manufactured by Severn Biotech or supplied by other manufacturers.

Uses advised against

None

Supplier of the product and of this safety data sheet

National Centre for Biotechnology Education (NCBE)
University of Reading
2 Earley Gate
Whiteknights
READING
RG6 6AU
United Kingdom

T: 0118 9873743
F: 0118 9750140
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Manufacturer of the product

Severn Biotech Limited
Unit 2
Park Lane
KIDDERMINSTER
DY11 6TJ

Emergency telephone number

0118 9873743 (NCBE, University of Reading. 08.30–17.00 weekdays only)
SECTION 2. Hazards identification

Classification according to Regulation (EC) No. 1272/2008 [CLP]

H302 Harmful if swallowed.
H315 Skin corrosion/irritation (Category 2).
H319 Causes serious eye irritation (Category 2B).

Label elements

WARNING
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. + P338 + P315 Remove contact lenses if present and easy to do. Continue rinsing.

P337+ P313 If eye irritation persists: Get medical advice/attention.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water P308 + P313 IF exposed or concerned: Call a POISON CENTRE or doctor/physician.

Other hazards
None found.

Note: Some statements above are omitted from the product label, as the volume of the mixture is less than 125 ml.

SECTION 3. Composition/Information on the ingredients

<table>
<thead>
<tr>
<th>Name of component (Synonym)</th>
<th>Weight (%)</th>
<th>EC (EINECS) number</th>
<th>CAS number</th>
<th>REACH registration number</th>
<th>Classification under Regulation (EC) No 1272/2008 [CLP]*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>~69.07</td>
<td>231-791-2</td>
<td>7732-18-5</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Glycerol (Propane-1,2,3-triol)</td>
<td>29.00</td>
<td>200-289-5</td>
<td>56-81-5</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>SDS (Sodium dodecyl sulphate; Sodium lauryl sulfate)</td>
<td>1.84</td>
<td>205-788-1</td>
<td>151-21-3</td>
<td>–</td>
<td>Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td>TRIS (Trometamol; tris(hydroxymethyl)aminomethane; 2-Amino-2-hydroxymethyl-propane-1,3-diol)</td>
<td>0.07</td>
<td>201-064-4</td>
<td>77-86-1</td>
<td>–</td>
<td>Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)</td>
</tr>
<tr>
<td>Bromophenol blue, sodium salt</td>
<td>0.009</td>
<td>252-170-2</td>
<td>34725-61-6</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Note that these classifications refer to the pure (100%) substances, not necessarily to the mixture supplied.

For the full text of the safety classifications (H-statements), refer to Section 16.
SECTION 4. First aid measures

**General information**

The principal hazards from this concentrate are skin and eye contact.

**Inhalation**

Move the casualty to fresh air. If respiratory problems occur, consult a doctor.

**Skin contact**

Remove contaminated clothing, which can then be washed as normal. Wash the Laemmli buffer off the skin immediately with plenty of water. Seek medical attention if irritation occurs.

**Eye contact**

Check for and remove contact lenses if present. Rinse opened eye immediately with running water, also wash under the eyelids, for several minutes. Seek medical advice if irritation persists. (Note that SDS is a surfactant used in shampoos, etc. A typical shampoo may contain 5–10% SDS — far more than the ~2% found in Laemmli buffer).

**Ingestion**

Rinse out mouth with water, then drink plenty of water. Do not induce vomiting.

**Self-protection of the first aider**

Rinse your hands with water after handling anything that has been contaminated with the TB buffer solution.

**Most important symptoms and effects, both acute and delayed**

Irritation to the skin and eyes.

**Indication of any immediate medical attention and special treatment**

First Aid as outlined above, decontamination of clothing etc, treatment by a medical professional if symptoms persist.

**Advice to doctor**

Treat symptomatically.

SECTION 5. Fire fighting measures

**Suitable extinguishing media**

Use water spray, dry chemical or carbon dioxide.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Special hazards arising from the substance or mixture**

No information available.

**Advice for fire fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures

The volumes of Laemmli buffer that are likely to be used in a school are small enough that any spill can be cleaned up easily and safely. The principal dangers are skin and eye contact, as described in Section 4 above.

**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Wear personal protective equipment, such as a lab coat, gloves and eye protection. Keep students away from the spill.

**Environmental precautions**

If spill, the Laemmli buffer should be washed away (diluted) with plenty of water.

**Methods and materials for containment and cleaning up**

Soak up the spill with inert absorbent material (e.g., paper towels). Place the waste in a suitable, closed container (e.g., a plastic bag) for disposal. Wash away any residue with plenty of water.
SECTION 7. Handling and storage

Precautions for safe handling  Ensure adequate ventilation and avoid the formation of aerosols. Wear personal protective equipment, such as a lab coat, gloves and eye protection. Do not get into eyes, on skin or clothing. Do not breathe in vapours or dust from dried-up solution. Do not ingest.

Conditions for safe storage  Keep the Laemmli buffer in a tightly-closed container. Store in a dry, cool and well-ventilated place. Do not refrigerate.

SECTION 8. Exposure control/personal protection

Control parameters

Exposure limits  Components with workspace control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>Workplace exposure limit</th>
<th>Legal basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol, mist</td>
<td>56-81-5</td>
<td>Long term exposure limit (8 hour time-weighted average reference period) 10 mg/m³</td>
<td>UK. EH40 WEL</td>
</tr>
</tbody>
</table>

Biological limit values  No information available.
Derived no effect level  No information available.
Predicated no effect level  No information available.

Exposure controls  Handle in accordance with good laboratory hygiene and safety practice. Wash hands before breaks and after handling the mixture.

SECTION 9. Physical and chemical properties

Appearance  Clear, blue/violet colour.
Physical state  Liquid.
Odour  Odourless.
Odour threshold  Does not apply, as the mixture is odourless.
pH  6.8 @ 20 °C
Melting point / Range  No data available.
Boiling point / Range  > 100 °C @ 760 mm Hg.
Flash point  Not applicable; does not flash.
Evaporation rate  No data available.
Flammability (solid, gas)  Not applicable as the mixture is a liquid.
Explosion limits  No data available.
Vapour pressure  No data available.
Vapour density  No data available.
Density @ 20 °C  ~ 1.00 g / ml
Relative density  Not applicable as the mixture is a liquid.
Solubility in water  Readily soluble.
Solubility in other solvents  No data available.
Partition coefficient: n-octanol/water  No data available.
Autoignition temperature  No data available.
Decomposition temperature  No data available.
Viscosity  No data available.
Explosive properties  No data available.
Oxidising properties  No data available.

Other information  No additional information relevant to the safe use of the substance.
SECTION 10. Stability and reactivity

Reactivity
No information available.

Chemical stability
When stored at room temperature, the product is stable.

Possibility of hazardous reactions
No known hazardous reactions.

Conditions to avoid
Do not refrigerate.

Incompatible materials
No information available.

Hazardous decomposition products
No hazardous decomposition products.

SECTION 11. Toxicological information

Acute toxicity
No information available.

Irritation
No information available.

Corrosivity
No information available.

Sensitisation
No information available.

Repeated dose toxicity
No information available.

Carcinogenicity
No information available.

Mutagenicity
No information available.

Toxicity for reproduction
No information available.

SECTION 12. Ecological information

Toxicity
No information available.

Persistence and degradability
No information available.

Bioaccumulative potential
No information available.

Mobility in soil
No information available.

Results of PBT and vPvB assessment
No information available.

Other adverse effects
None known.

SECTION 13. Disposal considerations

Waste from residues/unused product
Wash down a foul water drain with water. Wipe up any spills of the solution with absorbent material (e.g., paper towels) and water. Dispose of the paper towels in the normal waste.

Contaminated packaging
Rinse with water and dispose of in normal waste according to local regulations. Recycle (the bottles are HDPE) where appropriate facilities are available.

SECTION 14. Transport information

UN number
Not applicable.

UN proper shipping name
Not applicable.

Transport hazard class
Not applicable.

Packaging group
Not applicable.

Environmental hazards
Not applicable.

SECTION 15. Regulatory information

Not regulated.
SECTION 16. Other information

Full text of GHS hazard statements

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Please refer to the Teacher’s guide that accompanies the NCBE Protein power! kit you are using the Laemmli buffer with. This can be downloaded from the NCBE’s Web site: www.ncbe.reading.ac.uk

The information given in this safety data sheet is based on the present state of our knowledge.

This safety data sheet has been compiled and is solely intended for this product.

END OF SAFETY DATA SHEET