DNA extraction buffer

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

Version 1.0 | Created: 2 February 2016 | Revised: Not applicable

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

<table>
<thead>
<tr>
<th>Product name and description</th>
<th>DNA extraction buffer</th>
</tr>
</thead>
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<tr>
<td>Trade name/Brand</td>
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<tr>
<td>Synonym(s)</td>
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<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 intended for use as described in the NCBE DNA pendant kit.

Uses advised against
None

Supplier of the product and
of this safety data sheet
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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 Causes skin irritation (Category 2).
- H319 Causes serious eye irritation (Category 2B).
- H412 Harmful to aquatic life with long-lasting effects.

**Label elements**

**WARNING**
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H412 Harmful to aquatic life with long-lasting effects.

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.

**Notes**
1. A concentration of ≥10% SDS (w/w) is required to attract an eye irritant warning. The concentration of SDS in this mixture is only 1%. Note that shampoos and similar products may contain 5–10% SDS.
2. The concentration of sodium chloride in the mixture is just over 1%; legally this triggers an eye irritant warning, but note that seawater contains approximately 3% sodium chloride and physiological saline is 0.9% (w/v) sodium chloride.
3. 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>
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<th>Name of component [Synonyms]</th>
<th>Weight (%)</th>
<th>EC number</th>
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<th>Classification under Regulation (EC) No 1272/2008 [CLP]*</th>
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<td>Sodium chloride</td>
<td>1.23</td>
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<td>7647-14-5</td>
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<td>Eye Irrit. 2 (H319)</td>
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</table>
| SDS (Sodium dodecyl sulphate; Sodium lauryl sulfate) | 1.00 | 205-788-1 | 151-21-3 | – | Flam. Sol. 1 (H228)  
    Acute Tox. 4 (H302)  
    Skin Irrit. 2 (H315)  
    Eye Irrit. 2 (H319)  
    Acute Tox. 4 (H332)  
    STOT SE 3 (H335)  
    Aquatic Chronic 3 (H412) |
| TRIS (Tris(hydroxymethyl)aminomethane; 2-Amino-2-hydroxymethyl-propane-1,3-diol) | 0.79 | 201-064-4 | 77-86-1 | – | Skin Irrit. 2 (H315)  
    Eye Irrit. 2 (H319)  
    STOT SE 3 (H335) |

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

The mixture also contains a blue food dye for ease of handling.

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

General information
This mixture is essentially salty detergent solution. The detergent is SDS, which is used in many household cleaning and hygiene products. The solution supplied is less concentrated than one might encounter in the home. The principal hazards from this mixture 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 liquid 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.

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 solution.

Most important symptoms and effects, both acute and delayed
Irritation to the eyes (burning sensation, redness and impairment of vision — similar to getting soap in the eye). Irritation to the skin.

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 solution that are likely to be used 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. If large volumes have been spilt, wear personal protective equipment, such as a lab coat, gloves and eye protection.

Environmental precautions
If spilt, the solution 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.

Reference to other sections

See Section 7 for information on safe handling.
See Section 13 for disposal information.

SECTION 7. Handling and storage

Precautions for safe handling

In the unlikely event of a large spill, 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 solution in a tightly-closed container. Store in a dry, cool and well-ventilated place. Do not refrigerate, as the SDS may precipitate out of solution.

SECTION 8. Exposure controls/personal protection

Control parameters

Exposure limits

Not applicable.

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, light blue liquid.

Physical state

Liquid.

Odour

Odourless.

Odour threshold

Does not apply, as the mixture is odourless.

pH

6.4 @ 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

23 hPa @ 20 °C.

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

SDS is partly soluble in ethanol.

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.
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 as the SDS may precipitate out of solution.

Incompatible materials

No information available.

Hazardous decomposition products

No hazardous decomposition products.

SECTION 11. Toxicological information

Acute toxicity

Sodium dodecyl sulphate. Oral toxicity (LD50, rat) 1.288 g per kg.

Sodium dodecyl sulphate. Inhalation (LC50, rat) >3.9 g per m³.

Sodium dodecyl sulphate. Irritation of skin (rabbit) 50 mg/24 hours.

Irritation

Irritant to skin and mucous membranes. Irritating to the eyes.

Corrosivity

No information available.

Sensitisation

No sensitising effects known.

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

Contains a substance (SDS) which is toxic to aquatic organisms.

Persistence and degradability

Soluble in water. Persistence is unlikely.

Bioaccumulative potential

Bioaccumulation is unlikely. log Pow 1.6.

Mobility in soil

Likely to be highly mobile due to its solubility in water.

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

International inventories

<table>
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<th>TSCA</th>
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<td>Sodium dodecyl sulphate</td>
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<td>–</td>
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</table>

● = listed

National regulations

Sodium dodecyl sulphate is categorised as WGK 2 under the German Water Classification regulations (VwVwS). A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted.

SECTION 16. Other information

Full text of GHS hazard statements

H228 Flammable solid.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long-lasting effects.

Please refer to the Teacher's guide that accompanies the NCBE DNA pendant kit you are using the DNA extraction 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