# Safety data sheet

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

**Version 1.1 | Created: 13 January 2015 | Revised: 1 June 2015**

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

<table>
<thead>
<tr>
<th><strong>Product identifier</strong></th>
<th>Plasmid DNA (<em>samples for Nature’s dice</em>)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trade name/Brand</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Synonym(s)</strong></td>
<td>Deoxyribonucleic acid, aqueous solution</td>
</tr>
<tr>
<td><strong>REACH number</strong></td>
<td>Mixture, not applicable</td>
</tr>
<tr>
<td><strong>CAS number</strong></td>
<td>Mixture, not applicable</td>
</tr>
<tr>
<td><strong>EC number</strong></td>
<td>Mixture, not applicable</td>
</tr>
</tbody>
</table>

**Relevant identified uses**

This product is a laboratory preparation for educational use only.

It should be used only as described in the instructions in the NCBE *Nature’s dice kit* (see Section 16).

**Uses advised against**

None.

**Supplier of the product and of this safety data sheet**

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United Kingdom

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E: NCBE@reading.ac.uk
W: www.ncbe.reading.ac.uk

**Manufacturer of the product**

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W: www.ncbe.reading.ac.uk

**Emergency telephone number**

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

Classification according to

Label elements None required

Other hazards None

SECTION 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name of component (Synonym) [CLP index number]</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>95</td>
<td>231-791-2</td>
<td>7732-18-5</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DNA (Deoxyribonucleic acid)</td>
<td>5</td>
<td>–</td>
<td>9007-49-2</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

SECTION 4. First aid measures

General information These solutions are not hazardous.

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

Skin contact Wash with water. Contaminated clothing can be washed as normal.

Eye contact No action is necessary (rinsing the eye with water is likely to cause irritation).

Ingestion No action is necessary.

Self-protection of the first aider No action is necessary.

Most important symptoms and effects, both acute and delayed None.

Indication of any immediate medical attention and special treatment None.

Advice to doctor None.
SECTION 5. Firefighting measures

The product is 95% water.

**Extinguishing media**
Not applicable.

**Special hazards arising from the substance or mixture**
None known.

**Advice for firefighters**
Not applicable.

SECTION 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Not applicable.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so.

**Methods and material for containment and cleaning up**
Wash down a foul water drain. After cleaning, wash away traces with water.

**Reference to other sections**
See Section 13 for disposal instructions.

SECTION 7. Handling and storage

**Precautions for safe handling**
Wear a lab coat to prevent spills from damaging clothing.

**Conditions for safe storage, including any incompatibilities**
Store container tightly closed and frozen at –18 to –20 °C to prevent deterioration of the DNA.

**Specific end use(s)**
In the NCBE *Nature’s dice kit*, the plasmid solution is used to simulate human DNA in gel electrophoresis.

SECTION 8. Exposure controls/personal protection

**Control parameters**

<table>
<thead>
<tr>
<th>Control parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exposure limits</strong></td>
<td>The product as supplied does not contain any hazardous materials with occupational exposure limits established by regulatory bodies.</td>
</tr>
<tr>
<td><strong>Biological limit values</strong></td>
<td>The product as supplied does not contain any hazardous materials with occupational exposure limits established by regulatory bodies.</td>
</tr>
<tr>
<td><strong>Derived no effect level</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Predicated no effect level</strong></td>
<td>No information available.</td>
</tr>
</tbody>
</table>
Exposure controls

Exposure limits
The product as supplied does not contain any hazardous materials with occupational exposure limits established by regulatory bodies.

Biological limit values
The product as supplied does not contain any hazardous materials with occupational exposure limits established by regulatory bodies.

Derived no effect level
No information available.

Predicated no effect level
No information available.

SECTION 9. Physical and chemical properties

Appearance
Clear, colourless.

Physical state
Liquid.

Odour
Odourless.

Odour threshold
Does not apply, as the mixture is odourless.

pH
7.0 @ 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 products.

SECTION 10. Stability and reactivity

Reactivity
No information available.

Chemical stability
When stored at –18 to –20 °C, the product is stable.

Possibility of hazardous reactions
No known hazardous reactions.

Conditions to avoid
Do not freeze and thaw repeatedly and avoid excess heat, as both can lead to degradation of the DNA.

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

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>DNA is biodegradable.</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No information available.</td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>No information available.</td>
</tr>
<tr>
<td>Results of PBT and vPVB assessment</td>
<td>No information available.</td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>None known.</td>
</tr>
</tbody>
</table>

SECTION 13. Disposal considerations

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste from residues/unused product</td>
<td>Wash down a foul water drain with plenty of water.</td>
</tr>
<tr>
<td>Contaminated packaging</td>
<td>Dispose of in normal waste according to local regulations. The bottle is made of polypropylene and can be recycled.</td>
</tr>
</tbody>
</table>

SECTION 14. Transport information

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport hazard class</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Packaging group</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

SECTION 15. Regulatory information

Not regulated.


An updated (October 2014) version of Chapter 16, covering work with DNA, can be found on the NCBE's web site: [www.ncbe.reading.ac.uk/naturesdice](http://www.ncbe.reading.ac.uk/naturesdice) and on the Association for Science Education’s web site: [www.ase.org.uk](http://www.ase.org.uk)

SECTION 16. Other information

Please refer to the Teacher’s guide which accompanies the NCBE Nature’s dice kit. This can be downloaded from the NCBE’s Web site: [www.ncbe.reading.ac.uk/naturesdice](http://www.ncbe.reading.ac.uk/naturesdice)

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.

This Safety Data Sheet was revised on 1 June 2015, when the older (67/548/EEC [DSD]) safety classifications were deleted.

END OF SAFETY DATA SHEET