University of Reading

Plant PCR primers

Safety data sheet

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

Version 1.0 | Created: 14 October 2014 | Revised: 1 June 2015

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

Product name and description	Plant PCR primers
Trade name/Brand	Not applicable
Synonym (s)	Deoxyribonucleic acid
REACH Number	Not applicable
CAS Number	Not applicable, mixture.
EC Number	Not applicable
Recommended use	This product is a laboratory preparation for educational use only (See Section 16).
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 E: NCBE@reading.ac.uk W: www.ncbe.reading.ac.uk
Manufacturer of the product	National Centre for Biotechnology Education (NCBE) University of Reading 2 Earley Gate Whiteknights READING RG6 6AU United Kingdom T: 0118 9873743 F: 0118 9750140 E: NCBE@reading.ac.uk 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 Regulation (EC) No. 1272/2008 [CLP] Unclassified.

Label elements None required.

Other hazards None.

SECTION 3. Composition/information on ingredients

Name of component (Synonym) [CLP index number]	Weight (%)	EC (EINECS) number	CAS number	REACH registration number	Classification under Regulation (EC) No 1272/2008 [CLP]
Water	99.99	231-791-2	7732-18-5	–	–
DNA (Deoxyribonucleic acid)	0.007	–	9007-49-2	–	–

SECTION 4. First aid measures

General information This solution is 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 99.99% 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. Wipe up any spills of the solution of DNA with absorbent material (*e.g.*, paper towels) and water. Dispose of the paper towels in the normal waste.

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
Refrigerate the solution, unopened, at 3 to 5 °C for short-term storage of a week or less. If the DNA is to be stored for longer, or if it is to be stored after opening, it is best to freeze it at –18 to –20 °C (or at –70 to –80 °C if suitable facilities are available).

Specific end use(s)
In the NCBE *PCR and plant evolution kit*, the primer solution is used with other reagents to amplify chloroplast DNA.

SECTION 8. Exposure controls/personal protection

Control parameters

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 product.

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

Toxicity	No information available.
Persistence and degradability	DNA is biodegradable.
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 plenty of water.
Contaminated packaging	Dispose of in normal waste according to local regulations. The containers are made of polypropylene and can be recycled.

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.

Schools and colleges in the UK should refer to *Topics in Safety*, which includes chapters on both practical microbiology and work with DNA: *Topics in safety* (2001) [Third edition] Association for Science Education. ISBN: 0863573169.

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/pcr** and on the Association for Science Education's web site: **www.ase.org.uk**

SECTION 16. Other information

Please refer to the Teacher's guide which accompanies the NCBE *PCR and plant evolution kit*. This can be downloaded from the NCBE's Web site: **www.ncbe.reading.ac.uk/pcr**

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