MATERIAL SAFETY DATA SHEET

Nucleic Acids (DNA, RNA and cDNA)

Material Safety Data Sheet for:
Nucleic acids, DNA, RNA and cDNA, derived from cell cultures supplied by the Culture Collections of Public Health England (PHE).

Review date:	17 July 2020
Issued to:	Users of nucleic acids derived from cell cultures supplied by the Culture Collections of PHE.
Access:	Document to be downloaded from PHE Culture Collections website at www.phe-culturecollections.org.uk

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MATERIAL SAFETY DATA SHEET FOR NUCLEIC ACIDS

Advisory Committee on Dangerous Pathogens (ACDP) Levels 1 or 2

This Material Safety Data Sheet (MSDS) has been written in accordance with the European Union Council Directive 98/24/EC of 7th April on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual directive within the meaning of Article 16(1) of the Directive 89/391/EEC). Commission Directive 2001/58/EC of 27th July 2001 amending for the second time Directive 91/155/EEC defining and laying down the detailed arrangements for the system of information relating to dangerous preparations in implementation of Article 14 of the European Parliament Directive 1999/45/EC and relating to dangerous substances in Implementation of Article 27 of Council Directive 67/548/EEC (safety data sheets). (Text with EEA relevance).
Appropriate risk phrases are cited in this MSDS

1. Identification of the product and the establishment

Product: This MSDS applies to nucleic acids, including genomic DNA, RNA and cDNA, derived from human and animal cell cultures.

Contact:
Culture Collections
Public Health England
Porton Down
Salisbury
SP4 0JG
UK
Telephone: +44 (0)1980 612512; working hours (9:00 – 17:00 hours)
Telephone: +44 (0)1980 612100; out of working hours or
On-call Mobile: +44 (0)7796 946660
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2. Physical and Chemical properties and information on ingredients

Appearance: (1) Clear fluid in a 2ml plastic tube. (2) Clear fluid in a plastic 96 well plate.

Solid/liquid/gas: Solid when frozen, liquid when thawed.

This product is supplied either frozen on dry ice or thawed on cold ice packs. The DNA is dissolved in an aqueous, inorganic buffer containing 10mM Tris-HCL and 1mM EDTA (known as TE buffer). The RNA is dissolved in water. cDNA is supplied in a buffer containing residual dNTP's, deactivated reverse transcriptase, and a reverse transcriptase buffer.

3. Hazards identification

Chemical Hazards:
TE in high concentrations is an irritant.

Biological Hazards:
Nucleic acids derived from human and animal cell cultures supplied by the Culture Collections are not known to contain any agents capable of harm to healthy adult humans.

Health Effects:
Eyes: Not known; Skin: Not known; Ingestion: Not known; Inhalation: Not known

Physical Hazards:
It is recommended that persons handling nucleic acids should wear a laboratory coat, protective glasses and latex/plastic gloves.

In the case that the nucleic acid is shipped on dry ice, it is recommended that the user handle the samples using appropriate personal protective equipment such as insulated gloves and a laboratory coat. In its solid state dry ice will quickly cause serious freeze damage so contact with skin should be avoided.

Any dry ice should be allowed to evaporate in a well-ventilated area. Do not dispose of dry ice in a sealed container.

This sheet does not constitute an assessment as required by the Control of Substances Hazardous to Health Regulations 1994.

The information contained in this publication is given in good faith and is accurate to the best of our knowledge.

Environmental hazards:
Not applicable

4. First aid measures

If accidental contact with material occurs laboratory staff must follow the local first aid procedures that are normally applied following exposure to organisms of ACDP Hazard Group 2.

Eyes: Irrigate with physiological saline or water. Seek medical advice immediately.

Skin: Wash thoroughly with soap and water. Seek medical advice immediately.

Ingestion: Seek medical advice immediately.

Inhalation: Seek medical advice immediately.

5. Fire fighting measures

Extinguisher medium: Not applicable

Unsuitable Extinguisher medium: Not applicable

Protective equipment for fire fighting: Not applicable

6. Accidental release measures

Personal precautions: avoid direct contact with the material. Do not open the primary containers unless authorised to do so. Wear a laboratory coat, disposable latex/plastic gloves and safety glasses.

Environmental precautions: if spillage occurs place absorbent material over the spillage and disinfect, see below.

Spillage: wear a laboratory coat, safety glasses and disposable latex/plastic gloves. Place paper towels or other absorbent material over the spillage. Pour disinfectant over spillage to saturate and leave for 30 minutes prior to cleaning and disposal. The preferred disinfectant is 10% v/v sodium hypochlorite (10,000 parts per million available chlorine). This should not be used in combination with other disinfectants. See your local risk assessment or contact the manufacturer of the disinfectant for additional information.

7. Handling and storage

In the case that the nucleic acid is shipped on dry ice, it is recommended that the user handle the samples using appropriate personal protective equipment such as insulated gloves and laboratory coat. In its solid state dry ice will quickly cause serious freeze damage so contact with skin should be avoided.

Any dry ice should be allowed to evaporate in a well-ventilated area. Do not dispose of dry ice in a sealed container.

Personal protective equipment comprised of laboratory coat, disposable latex/plastic gloves and safety glasses should be worn when handling (unpacking) nucleic acids.

Detailed discussions of laboratory safety procedures are provided in: “Laboratory Safety: Principles and Practice” (Fleming, et al, 1995); the Journal of Tissue Culture Methods (Caputo, 1988), and in the U.S. Government Publication, “Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition” (CDC, 2009). This publication is available on the Center for Disease Control, Office of Health and Safety’s website http://www.cdc.gov/biosafety/publications/bmbl5/.

8. Exposure controls/Personal protection

Engineering control measures: Tubes or plates containing nucleic acids should be opened in a Class II microbiological safety cabinet under conditions of Containment (Biohazard) Level 2. Personal protective equipment comprised of laboratory coat, disposable gloves and safety glasses should be worn.

Respiratory protection: Avoid aerosol production and inhalation. Handle as for ACDP2.

Hand Protection: Wear latex gloves at all times.

Eye protection: Wear safety glasses at all times.

9. Physical and chemical properties

Plastic tube or plate containing clear aqueous liquid or frozen liquid if supplied on dry ice. See above.

10. Stability and reactivity

Reactivity data. Stable under normal conditions of use. Do not mix with strong acids, strong alkalis or strong oxidizing reagents.

11. Toxicological information

Routes of exposure: Not applicable

Acute effects: Not applicable

Chronic effects: Not applicable

Special considerations: In its liquid state this substance is not normally toxic but avoid aerosol formation and inhalation. The DNA is dissolved in a weak Tris-EDTA solution which is an irritant.

12. Ecological information

Persistence / degradability: Not applicable

Bioaccumulation: Not applicable

Ecotoxicity: Not applicable

13. Disposal considerations

Spillage: Wear a laboratory coat, safety glasses and disposable gloves. Place paper towels or other absorbent material over the spillage. Pour disinfectant over spillage to saturate and leave for 30 minutes prior to cleaning and disposal. The most appropriate disinfectant is 10% v/v Sodium hypochlorite (10,000 parts per million available chlorine). This should not be used in combination with other disinfectants. See your local risk assessment or contact the manufacturer of the disinfectant for additional information.

Waste disposal: Decontaminate prior to disposal with a 10% solution of sodium hypochlorite and dispose of decontaminated liquid waste down a designated sink

with running water. Solid waste should be placed in a sealed bag and labelled and destroyed by incineration.

Follow all national, regional and local regulations. The UK Environmental Protection Act 1990 applies.

14. Transport information

Additional information arising from the Carriage of Goods by Road & Air (Classification, Packaging and Labelling) Regulations:

UN no: 1845- applicable to dry ice if nucleic acid is transported frozen

Packing group: 3 - lowest form of packing

The nucleic acids are not classified as dangerous goods and because they are non-infectious to humans or animals they are not subject to IATA or ADR regulation for dangerous goods.

15. Regulatory information

Classification and Labelling According to EU Directives

Not hazardous according to Directive 67/548/EEC

Caution: Substance not yet fully tested (EU)

Danger symbol: Not applicable

Contains: Not applicable

R-phrases: R:22, R:36/37/38

S-phrases:S:9, S:23, S:26, S:36 – applies to dry ice if nucleic acid is transported frozen

Observe the normal safety regulations when handling this material.

16. Other information

In the event of an accident involving exposure of staff to the material contained in the samples, contact the Culture Collections (+44 (0)1980 612512) during normal UK working hours. Refer to section 1 for full contact details.

The above information is correct to the best of our knowledge. All materials and mixtures may present unknown hazards and should be used with caution.

The user should make independent assessments and decisions regarding the completeness of the information based on all sources available.

The Culture Collections shall not be held liable for any damage resulting from handling or contact with the above product.