

MATERIAL SAFETY DATA SHEET

NCPV – IRRADIATED VIRUS

Material Safety Data Sheet for: Irradiated mpox

Issued to: Users of UKHSA NCPV Frozen irradiated viruses

Access: Document to be downloaded from Culture Collections website
www.culturecollections.org.uk

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MATERIAL SAFETY DATA SHEET FOR UKHSA IRRADIATED VIRUSES

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

Product name: Irradiated mpox (MPXV)

Volume: 0.5 ml per tube

Refer to the relevant data entry on the Culture Collections website:

www.culturecollections.org.uk

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2. Hazards Identification

Chemical Hazards: None

Biological hazards:

This material has been X-ray irradiated and there is no evidence that it is infectious (see details below). However, as a precaution, this material should be handled at Containment Level 2 by, or under the supervision of, competent personnel who have received appropriate training in safe working practices in microbiology.

A proportion (2.5% final volume) of the irradiated product was inoculated onto Vero E6 cells, incubated for one week and observed for evidence of cytopathic effect (cpe). The irradiated virus was passaged three times. No evidence of cpe was observed during any of the passages. Samples were taken at the beginning and end of each passage. No decrease in RT-qPCR Ct value was observed over the course of the passages. The non irradiated control virus showed the expected cpe and decrease in Ct value. The product has been handled in a Containment Level 2 (CL2) laboratory so should be handled observing standard CL2 laboratory practice.

Health Effects: Not known

Physical Hazards:

It is recommended that persons handling this material should wear a laboratory coat or gown, protective gloves and eye protection (safety glasses). The shipping container contains dry ice which can cause severe cold burns and is an asphyxiant in high concentrations.

3. Composition/information on ingredients

Plastic tube containing frozen irradiated virus.

4. First aid measures

Follow the first aid measures normally applied following exposure to ACDP hazard group 2 organisms.

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

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

Ingestion: Seek medical advice

Inhalation: Seek medical advice

5. Fire-fighting measures

No specific recommendations

6. Accidental release measures

Local risk assessments should be in place prior to purchasing and handling tubes containing NCPV irradiated viruses.

Personal precautions: Avoid direct contact with the material. Do not open the primary containers unless authorised to do so. Wear a laboratory coat or gown, protective gloves and eye protection (safety glasses).

Environmental precautions: If a spillage occurs, place absorbent material over the spillage and pour over disinfectant. Leave for 30 minutes prior to cleaning and disposal following local procedures. The preferred disinfectant is 10% v/v sodium hypochlorite. This should not be used in combination with other disinfectants. See local risk assessments or contact the manufacturer of the disinfectant for additional information.

7. Handling and storage

Shipping containers contain dry ice so packages should be stored in well ventilated areas.

Store frozen in a laboratory environment which, as defined by national regulations or guidelines, is suitable for handling HG2 microorganisms.

Details of laboratory safety procedures are provided by the Advisory Committee on Dangerous Pathogens (ACDP) in the 2019 publication “Management and operation of microbiological containment laboratories” (<https://www.hse.gov.uk/biosafety/assets/docs/management-containment-labs.pdf>) and by the Center for Disease Control and Prevention (CDC) in the 2026 publication “Biosafety in Microbiological and Biomedical Laboratories (BMBL)” ([Biosafety in Microbiological and Biomedical Laboratories \(BMBL\) 6th Edition | CDC Laboratories](#)).

8. **Exposure controls / personal protection**

Use good laboratory practice. Wear a laboratory coat or gown, protective gloves and eye protection. Avoid aerosol production and inhalation.

Engineering control measures: As detailed for ACDP 2 Containment

Respiratory protection: Avoid aerosol production and inhalation

Skin Protection: Wear protective gloves at all times

Eye protection: Wear eye protection at all times

9. **Physical and chemical properties**

Appearance: Coloured liquid (typically pink or yellow)

State: Frozen liquid

Additional components: Cell culture medium

Other properties: None

10. **Stability and reactivity**

Reactivity data: Not known

Conditions to avoid: Exposure to direct heat

Hazardous decomposition products: Dry ice supplied in transport packaging will sublime to gaseous carbon dioxide.

11. **Toxicological information**

This material is considered inactivated, however contents must be manipulated inside a suitable laboratory according to local risk assessment.

12. **Ecological information**

Not applicable

13. **Disposal considerations**

MPXV is a double stranded DNA virus so the nucleic acid may persist in the environment. Disinfection with 10% v/v sodium hypochlorite is recommended prior to disposal. Surface

disinfection with 70% IPA is effective. Follow all national, regional and local regulations. The UK Environmental Protection Act 1990 applies. The disinfected material must be disposed of in accordance with all local and national regulations

14. Transport information

Additional information arising from the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2007:

UN numbers: 1845 and 3373

Packing Instruction: PI 650 (UN3373)

Refer to the IATA and ADR Dangerous Goods Regulations for the transport of Infectious substances – Division 6.2. Category B (UN3373 – Biological substance Category B).

15. Regulatory information

Not applicable

16. Other information

All material 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. It is recommended that persons using this material are fully acquainted with the hazards/safety in use procedures before handling. This data sheet does not constitute an assessment as required by the Control of Substances Hazardous to Health Regulations 2002 (as amended). The information contained in this publication is provided in good faith and is accurate to the best of our knowledge.