

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

Product name: Irradiated mpox (MPXV)

Volume 0.5 ml per tube

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

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Salisbury
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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). 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 good microbial practice.

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 (HG) 2 viruses.

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 irradiated viruses.

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

Environmental precautions: If a spillage occurs, place absorbent material over the spillage and pour over a suitable disinfectant. Leave for 30 minutes prior to cleaning and disposal following local procedures.

7. **Handling and storage**

Samples are shipped on dry ice so packaging should be left in a well ventilated area.

Store the irradiated virus frozen in a laboratory environment which, as defined by national regulations or guidelines, is suitable for handling ACDP HG 2 microorganisms.

8. **Exposure controls / personal protection**

Use good laboratory practice. Wear a laboratory gown, protective gloves (e.g. nitrile) and eye protection. Avoid aerosol production and inhalation.

Engineering control measures: As detailed for ACDP Containment Level 2

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 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 the transport packaging will sublime to gaseous carbon dioxide, this displaces oxygen and may cause asphyxiation.

11. Toxicological information

This material is considered to be inactivated so is not expected to cause infection.

Routes of exposure: Not applicable

Acute effects: Not applicable

Chronic effects: Not applicable

12. Ecological information

Not applicable

13. Disposal considerations

Mpox virus 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 no.s: 1845 (dry ice)

The product will be packaged to UN3373 standards but will be shipped as non-infectious.

15. Regulatory information

Not Applicable

16. Other information

All biological material may present unknown hazards and should be handled with caution. The user should make independent risk assessments and decisions regarding the completeness of the information provided in this MSDS based on all sources available. It is recommended that persons using this material are fully acquainted with the hazards/safety 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.