Task Risk Assessment

With COSHH Compliance

Before Controls	After Controls
MEDIUM 8 RISK	LOW 2 RISK

Task Title	Mass Photometer measurements		
Process Title	measuring samples with mass photometry		
Location	Protein Crystallography and Biophysics Laboratory B16		
Assessed On	24/11/2026	**Assessed By**	Nikos Pinotsis
Review Date	24/05/2027	**Reference**	BiophysX-B161255585
Signed By	Nikos Pinotsis	**Revision**	1
People Affected	Visitors, Employees, Operators		

Hazards



PPE



Task/Procedure/Method Statement

Preparation, loading, and measurement of biomolecular/nanoparticle samples (e.g., proteins, nucleic acids, viral vectors/capsids, or standards) on a benchtop mass photometer, including routine cleaning of the sample stage/objective and disposal of consumables.

Prior to starting, the user verifies that the instrument, active vibration-isolation table, and control PC are powered on and functioning normally, reviews the relevant sample-specific COSHH or biological risk assessments, and wears appropriate personal protective equipment (nitrile gloves, lab coat, and eye protection where splash risks apply).
Sample dilutions (typically in the picomolar to low-nanomolar range) are prepared on the bench or inside a microbiological safety cabinet/fume hood if hazardous agents or volatile solvents are used, using filtered, degassed aqueous buffers to minimize background noise. A clean, pre-washed glass coverslip and silicone sample gasket/well cassette are assembled using forceps or clean gloved hands, a small drop of immersion oil is applied to the objective lens, and the coverslip assembly is mounted onto the instrument stage. For each measurement, a droplet of buffer (typically 10–18 µL) is pipetted into a gasket well to establish focus and find the glass–buffer interface via the acquisition software, after which a small aliquot of diluted sample (typically 1–5 µL) is gently mixed into the well and interferometric scattering videos are recorded over 60–120 seconds with the instrument cover closed.
Following data acquisition, the coverslip and gasket are carefully removed and disposed of into the designated rigid sharps/glass or biohazard waste container, the objective lens and stage are gently wiped clean using approved lens tissue and minimal optical-grade solvent (such as isopropanol or ethanol) to remove residual immersion oil, any spills are decontaminated according to local laboratory procedures, and the instrument is returned to its agreed standby or powered-off state with usage logged.

Substance Information

Product Name	Manufacturer	Hazard Symbols
Mineral oil (M3516)	Merck Life Science UK Limited	

CAS: 8042-47-5

Spillage, Storage & Waste

the us and canada eroksection 6:accidental release measures
6.1 personal precautions, protective equipment and emergency procedures
advice for non-emergency personnel:do not breathe vapors, aerosols. evacuate the danger area, observe emergency procedures, consult an expert.
for personal protection see section 8.
6.2. environmental precautions
do not let product enter drains.
6.3 methods and materials for containment and cleaning up
cover drains. collect, bind, and pump off spills. observe possible material restrictions (see sections 7 and 10). take up with liquid-absorbent material (e.g. chemizorb®). dispose of properly. clean up affected area.
6.4 reference to other sections
for disposal see section 13.
section 7:handling and storage
7.1 precautions for safe handling
for precautions see section 2.2.
7.2 conditions for safe storage, including any incompatibilities
storage conditions
tightly closed.
storage class
storage class (trgs 510):10:combustible liquids
7.3 specific end use(s)
apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Product Name	Manufacturer	Hazard Symbols
Ethanol (02854)	Sigma-Aldrich Company Ltd.	

CAS: 64-17-5

Spillage, Storage & Waste

6:Accidental release measures 6.1 Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8. 6.2 Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13). 6.4 Reference to other sections For disposal see section 13. SECTION
7:Handling and storage 7.1 Precautions for safe handling Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition-No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2. 7.2 Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in a cool, well-ventilated place. hygroscopic 7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated SECTION
13:Disposal considerations 13.1 Waste treatment methods Product Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. Offer surplus and non-recyclable solutions to a licensed disposal company. Contaminated packaging Dispose of as unused product. SECTION

Product Name	Manufacturer	Hazard Symbols
Isopropanol (149320000, 149320010, 149320025, 149320050, 149320100, 149320250)	Fisher Scientific UK	

CAS: 67-63-0

Spillage, Storage & Waste

section 6. accidental release measures

personal precautions
use personal protective equipment as required. remove all sources of ignition. take precautionary measures against static discharges. avoid contact with skin, eyes or clothing.
environmental precautions
should not be released into the environment. see section 12 for additional ecological information.
methods for containment and clean up
prevent further leakage or spillage if safe to do so. remove all sources of ignition. soak up with inert absorbent material. take precautionary measures against static discharges. use spark-proof tools and explosion-proof equipment. keep in suitable, closed containers for disposal.
refer to protective measures listed in sections 8 and 13.

section 7. handling and storage
handling
wear personal protective equipment/face protection. keep away from open flames, hot surfaces and sources of ignition. use spark-proof tools and explosion-proof equipment. use only non-sparking tools. take precautionary measures against static discharges. do not get in eyes, on skin, or on clothing. do not breathe mist/vapors/spray. to avoid ignition of vapors by static

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safety data sheet revision date 14-dec-2020
isopropanol
electricity discharge, all metal parts of the equipment must be grounded.
storage
keep away from heat, sparks and flame. flammables area. keep container tightly closed in a dry and well-ventilated place.
specific use(s)
use in laboratories
section 13. disposal considerations

waste from residues/unused waste is classified as hazardous. dispose of in accordance with the european directives

products on waste and hazardous waste. dispose of in accordance with local regulations.

contaminated packaging dispose of this container to hazardous or special waste collection point. empty containers retain product residue, (liquid and/or vapor), and can be dangerous. keep product and empty container away from heat and sources of ignition.

other information waste codes should be assigned by the user based on the application for which the product was used. do not flush to sewer. can be landfilled or incinerated, when in compliance with local regulations.

Produced using Sevron Safety Software

Task Related Hazards & Controls



Before Controls: **Low Risk** (4/25)

Low 4 High

REQUIRED CONTROLS

After Controls: **Low Risk** (1/25)

Low 1 High

Hazard Description

Warning; Biological hazard



Before Controls: **Medium Risk** (8/25)

Low 8 High

REQUIRED CONTROLS

After Controls: **Low Risk** (2/25)

Low 2 High

Hazard Description

Biohazard



Before Controls: **Medium Risk** (8/25)

Low 8 High

REQUIRED CONTROLS

After Controls: **Low Risk** (1/25)

Low 1 High

Hazard Description

Warning; Laser beam

General Controls & Emergency Controls

Emergency Controls In Place



First aid



Emergency telephone



Wear eye protection



Wear Labcoats



Hand Sanitizer



Wear protective gloves

Health Surveillance

Not required for routine measurements with non-hazardous samples and standard cleaning wipes, as residual exposure is controlled below action levels. Where hazardous substances (e.g., sensitizers or high-consequence biological agents) are used, users must complete Occupational Health clearance/surveillance in line with the linked COSHH/Biological Risk Assessment before starting work.

Action Management

Reference	Action Type	Priority	Target Date	Action Owner
549875	Risk Assessment Review	Immediate	2026-11-24 14:01:46	Nikos Pinotsis
Action Title	Dr			
Description	approval, review			
Status	Completed			
Actionees		**Email**		
None				