SC 1904

Working Safely with Nanomaterials at Brunel University London
Policy✓ Code of Practice… Guidance… Procedure…
Organisation-wide✓ Local…
Approved by the University Health & Safety Committee
Chairperson Dr Manuel Alonso Date 05/02/2024 Review date 2027
The purpose of presenting this document to the University Health and Safety Committee Standard 3 year re-fresh ✓ Changes in practice and/or legislation... New Policy...

Contents **Page**

1. Introduction

This Policy specifies Brunel University London's (Brunel) requirements for working with nanomaterials in order to reduce the risk of injury and to meet our legal and insurance obligations.

2. Definition

Nanotechnology is a word used to describe a wide variety of different technologies and materials that share one thing in common - their very small size. Because of the wide range of technologies, it is more correct to refer to the field of nanotechnologies. Nanotechnologies involve the creation and/or manipulation of materials at the nanometre (nm) scale. One nanometre is 10^{-9} m or one millionth of a millimetre.

According to the regulatory definition, a nanomaterial is: “A natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50 % or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm - 100 nm.”

3. Scope

This policy applies to all staff, students and visitors working at, or with Brunel University London.

4. Policy Statement

- Brunel is committed to ensuring that all work with nanomaterials is done to the highest standards, and is compliant with all relevant regulatory and legal requirements. All work involving the use of nanomaterials work must be performed with minimum risk to staff, students, visitors and the environment. As a consequence, the University requires that:

- Suitable and sufficient risk assessments must be undertaken before any work with nanomaterials commences. This must include assessment of the areas where the work will be undertaken, and the equipment to be used during the course of the work to ensure that they are appropriate for the planned work. All work must be conducted by suitably trained, competent personnel.

- All work with nanomaterials must be registered locally within the College and with a named individual who will have responsibility for keeping the register up to date.

- This register must be available to the Brunel Health and Safety Team upon request, who must also be informed directly of all work involving the use or planned use of nanomaterials within a College or Institute. This will take the form of a registration document as illustrated in Appendix 1.

- All facilities handling nanomaterials shall ensure that all waste material is disposed of appropriately through one of the established waste streams within the college or institute, or through the hazardous waste route available at the university as deemed appropriate by the risk assessment. Each area must also ensure that emergency procedures are in place to deal with spillages and releases, as well as medical, fire and security arrangements.

- It is the responsibility of the principal investigator (PI) to register their project with the named individual for each College, and also to identify the potential need for Health Surveillance for those directly or indirectly involved in the project work. Where no PI has been identified it will be the responsibility of the project supervisor or project manager.

- All accidents/incidents involving nanomaterials must be reported immediately to a supervisor/manager and an accident report form must then be completed and submitted to the Health and Safety Team @ healthandsafety@brunel.ac.uk.

- Where shared laboratory facilities are in existence, someone in overall control must be identified to ensure that all individuals working in the laboratory are sufficiently informed about all the risks that may be present, and about the nature of the work being carried out.

5 Responsibilities

5.1 Executive Board (EB)

This group typically consists of the Vice-Chancellor, Secretary, Chief Operating Officer, Executive Deans and Directors who have the responsibility for influencing and shaping the strategic direction of the HEI.

As an integral part of their management responsibilities the EB will be responsible for assisting the Vice Chancellor in:

5.1.1 The implementation of this Working Safely with Nanomaterials Policy;

5.1.2 The management of health and safety within areas under their control, and the health and safety of staff, students and visitors;

5.1.3 Bringing to the attention of the Vice Chancellor any part of the Working Safely with Nanomaterials Policy where it is considered that revision is necessary.

5.2 Senior Managers (*This group may include Deputy Deans/Directors, Subject/Divisional Leads and Directors of Research)**.***

The Senior Managers (SM's) are responsible for:

5.2.1 Complying with the requirements of the Working Safely with Nanomaterials Policy, where applicable, and bringing this Working Safely with Nanomaterials Policy to the attention of those within their areas of responsibility via the communication and induction channels established.

5.2.2 Ensuring, where applicable, that an inventory is maintained of all nanomaterials within the College/Department. The information should be kept up to date and include materials both in use and in storage.

5.2.3 Ensuring that notification occurs to the Health and Safety Team (HST) in advance of intention to store or use any nanomaterials that have not been used previously within a College and/or Department.

5.2.4 Appointing a responsible person locally to co-ordinate the maintenance of records for work undertaken using nanomaterials, (if activities are split between different areas of interest or different buildings it may be necessary to appoint more than one named person).

5.3 Line Managers

This group includes both academic and professional support staff who have responsibility for the day to day implementation of activities and the management of staff in line with the strategic direction of the particular College or Department. Examples may include section leaders, Principal Investigators (PIs), Senior Administrators etc.

Such personnel are responsible for:

5.3.1 Supporting their SM's in complying with the requirements of the Working Safely with Nanomaterials Policy, where applicable, and bringing this Working Safely with Nanomaterials Policy to the attention of those within their area of responsibility via the communication and induction channels established.

5.3.2 Ensuring risk assessments, safe systems of work and local rules are prepared and adhered to and that all personnel working in those laboratory facilities shall be sufficiently trained, informed and (where necessary) supervised.

5.3.3 Ensuring that co-operation and co-ordination takes place, where shared laboratory facilities are in existence so that respective duties under the law are met.

5.4 Supervisory staff, staff and other individuals

This group has responsibility for directly overseeing activities of staff and/or students, but are unlikely to be responsible for developing strategic direction, e.g. a technical officer supervising a laboratory or a supervisor of a frontline service.

Staff, students and visitors are responsible for:

5.4.1 Being familiar with the Working Safely with Nanomaterials Policy, Health and Safety Policy, Responsible Research Policy, and local rules designed to develop and maintain a safe working environment.

5.4.2 Being conversant with the risk assessments, Control of Substances Hazardous to Health (COSHH) requirements, safe system of work and local rules that apply to their work and adopt safe practices in activities involving nanomaterials. These must be documented

5.4.3 Reporting any incident, accident or defect in equipment relating to the handling or use of nanomaterials and to cooperate with their supervisors, Health and Safety Team and/or any other person appointed to monitor safety in the department.

5.5 Health, Safety and Environment Team

The HSET are the primary point of contact with all the Regulatory Authorities. All enquiries received by Colleges and/or Directorates from any source about nanomaterials must be referred to the HST who will co-ordinate and make any statutory notifications to the Health and Safety Executive (HSE) and any other regulatory body.

The University HSET provide specialist professional guidance and advice on all aspects of biological, chemical and nanomaterial safety to the University community, to ensure compliance with relevant legislation and current best practice.

The HSET is responsible for monitoring changes in legislation and guidance relevant to nanomaterial work and, where necessary, for updating the Working Safely with Nanomaterials Policy and associated guidance. Information on any changes shall be disseminated within the University to ensure any amendments required to local arrangements within Colleges are identified.

6 Reporting Structures

The University Council is responsible for monitoring the University's system of internal control including Safety, and receives information on Safety Performance from the University Health and Safety Committee.

7 Arrangements

Prior to undertaking any work with nanomaterials all employees, students and visitors must be made familiar with Brunel University London's Health and Safety Policy, as well as the University's:

- Responsible Research Policy
- Risk Assessment Policy
- Hazardous Substances Policy
- Biological Safety Policy

A written risk assessment must be in place for all University research activities, either on campus or at other named and approved locations, COSHH forms must also be available.

Supporting the above, each laboratory must also have clear documented evidence of training and induction of staff, as well as local rules indicating the working practices that must be followed for activities in that laboratory, including emergency procedures and first aid provisions. Individual workers must have access to and adhere to those local rules.

7.1 Risk Assessment

Those in supervisory roles and other fund holding individuals are responsible for the health and safety of staff, students and visitors involved with their activities. They must hold on file a completed and up-to-date risk assessment which should be made available to the HSE when requested.

Where nanomaterials have an uncertain or not clearly defined toxicology and unless, or until, sound evidence is available on the hazards from inhalation, ingestion, or absorption a precautionary approach should be taken to the risk management.

Further advice can be found here: Using Nanomaterials at Work

8 Monitoring and Inspection

The University has various arrangements set out in the Health and Safety Policy for monitoring and inspection, the following refers specifically to nanomaterial work.

8.1 Monitoring

All persons with supervisory or managerial roles, and those appointed to safety related roles shall establish routine recorded monitoring practices to ensure the required safety standards are met. They must ensure that appropriate corrective action is taken to improve the situation if any inadequacy in the safety standards has been identified.

8.2 Inspection

Inspections mainly involve observation of facilities and working practices and each College Executive Dean is responsible for ensuring that College personnel carry out regular and systematic local health and safety inspections. Inspections should be recorded and any remedial action must be identified within a stated timescale.

Appendix 1

Registration form for projects involving Nanomaterial work

All projects using nanomaterials must be registered with the HSET before commencement. Please complete this form and return it healthandsafety@brunel.ac.uk

Academic Year:	**College/Institute:**
Department: ETC	**Date of Commencement:**
Project Title/Number:	
Please give a brief description of the project:	
Please briefly describe the nanomaterials involved	
Has the location where the work will be undertaken been assessed for suitability? (*Please outline the considerations and name the location*).	

Names of Personnel Involved

Staff	Students (please specify level, e.g. MSc/PhD)

The project supervisor must identify the hazards involved in the project and carry out a suitable and sufficient assessment of all risks arising from those hazards including the waste generated. Appropriate control measures must then be identified and put in place to minimise those risks.

As the manager/supervisor of this project I am satisfied that the possible risk of harmful exposure of persons to nanomaterials involved in this project has been mitigated by a suitable and sufficient risk assessment and the use of appropriate facilities and personal protective equipment.

Manager / Supervisor's Signature:

Date:

Appendix 2

Working with Nanomaterials at Brunel University London (Brunel)

At no stage should any work take place with nanomaterials at Brunel without following this prescribed process:

1) **An individual wishes to work with nanomaterials at Brunel**

2) **The project is registered with the Health, Safety & Environment Team (HSET) + Chief Technician(s) informed**

3) **HSET / Chief Technician(s) / the individual responsible for the project triangulate an agreed risk management strategy for the project to go ahead; the individual produces a local project risk assessment**

4) **Once approved the procurement of nanomaterials and organisation of local handling and storage is completed**

5) **Work with nanomaterials is undertaken and completed, the HSET are informed of project completion**

6) **The individual and Chief Technician coordinate to arrange any special disposal, agreed clean-up or restoration of Brunel facilities, and consult with the HS&E Team as required.**