

NSLS Nano-Science Safety Requirements (Course Material)

LS-NANO-SAFETY

Instructions: Read the material below and then close this document. You will receive credit for training through the BNL training system.

Applicability: This course applies to all experimenters who perform experiments at the NSLS involving the use of nanomaterials. Training is required every two years.

Course Objective: This course is designed to provide experimenters with interim information to protect human health, the environment, and to meet Laboratory and Government regulations for handling nanomaterials.

Training: To mitigate risks, experiments at the NSLS involving the use of nanomaterials will require appropriate engineering controls, administrative controls, and personal protective equipment.

- Nano-scale materials must be handled with controls aimed at minimizing personnel exposure and environmental release potential. The NSLS requirements for work with nanoscale materials are included on experiment safety approval forms.
- Nano-scale materials have unique properties that differ from the same material in the bulk state. The health hazards and environmental effects of these nanoscale materials are not well defined. Following the NSLS handling requirements will assure that nano-science work at the NSLS is well controlled.
- Given the incomplete health effect information available, all nano-scale materials must be respected as potentially toxic.
- Personnel exposure can result from inhalation, accidental ingestion, or through intact skin.
- Work with nano-scale powders presents the greatest risk of dispersion and of personnel exposure or environmental release. Powders must be contained at the beam lines and may only be manipulated within the HEPA filtered hood or glove box.

Instructions: To perform experiments at the NSLS involving the use of nanomaterials, read the following:

LS-PRM-1.3.5a, Section 7, "NSLS Nano-Science Safety Requirements," located at http://www.nsls.bnl.gov/esh/SAF/nano_req.pdf

The following additional training may be required. If nanomaterial particulate manipulation is required, it must be completed inside a HEPA filtered lab exhaust hood or HEPA filtered glove box in Lab 1-128.

To use the NanoHood in Room 1-128, you must also complete this training:

- NSLS SOP LS-ESH-0051 NanoHood Ops, Rm 1-128 (LS-PROC-NANOHOOD-128)

To use the Glove Box in Room 1-128, you must also complete this training:

- NSLS SOP LS-ESH-0053 Nano Glove Box Ops, Rm 1-128 (LS-PROC-NANOBOX-128)

These courses are available through the BNL training website at:

<http://www.bnl.gov/training>