**Safe Job Analysis – Handling, storing and disposal of nanoparticles**

**Unit:** Department of Chemistry/NAFUMA

**Members:** Restricted to users with adequate training

**Task**: Handling, storing and disposal of nanoparticles

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| **Tasks** | **What can go wrong** | **Prevention** |
| Handling of nano particles in powder form | Inhalation  Dermal absorption  Ingestion | Educate people working with nanomaterials, including work practice guidelines  Restricting access to areas by using signs  PPE: Goggles, Gloves, Lab coat, Closed toe shoes, respiratory protection  Fume hood, glove box or cabinet (isolation)  Transport of particles in closed containers  Use disposable bench covers  Clean nanomaterial work area daily |
| Handling of nanoparticles in suspension | Inhalation  Dermal absorption  Ingestion | See above |
| Handling of nano particles in gas phase | Inhalation  Dermal absorption  Ingestion | See above |

**SOP: Handling, storage and disposal of nanoparticles**

1. Only personnel with approved access may enter the Nanolaboratory (ØU-18).
   1. Approved access can only be obtained from the laboratory responsible.
2. Lab glasses, laboratory coat and closed toe shoes (PPE) are mandatory for any use of laboratory
   1. Lab coat and glasses shall not be taken out of the laboratory except when measurements are performed in a different laboratory (see item 6).
3. Goggles, laboratory coat, closed toe shoes, gloves (nitrile) and breathing protection are mandatory for any handling of nanoparticles in form of powders, suspensions or in gas phase.
4. All handling of nanomaterials must be performed in dedicated areas:
   1. Inside fume hood
   2. Confined environment (e.g. glove box, cabinet, plastic bag)
   3. Lab benches with disposable bench covers.
5. Seal equipment, beakers, containers etc during operation or storage to avoid exposure to the atmosphere and personnel.
6. In case a sample containing nanoparticles is transferred to a different laboratory for measurements, the precautions taken in the Nanolaboratory with respect to exposure will apply for the second laboratory as well. Information sharing to instrument responsible and possible third person is mandatory.
7. Samples containing nanoparticles in suspension, as powders or in gas phase shall be stored and/or disposed in sealed containers with proper labeling.
   1. Do not pour any waste containing nanoparticles in the sink.
   2. Dispose all waste in dedicated labled containers.
8. Cleaning
   1. General good housekeeping is mandatory.
   2. All laboratory areas and equipment that has been in use when handling nano samples must immediately be properly cleaned.
   3. Spent rag paper and gloves must be disposed in dedicated dustbins with black plastic bags. When dustbin plastic bag is full, seal the plastic bag and transport it to the container at the mechanical workshop for disposal.
   4. Launder the lab coat on periodic basis but not at home.
   5. Always end your lab work by washing your hands.
9. All spills involving nanoparticles shall be treated conservatively as hazardous spill and handled accordingly (PPE, disposal, cleaning).