**Use of Dry NMs**

New NMs are synthesized in the lab:  _____ Yes     _____ No    _____ Used as purchased _____ Modified in the lab

Dry NMs are weighed and handled in:  _____ Chemical hood _____ Biosafety cabinet _____ Enclosure hood

**Note:** Dry NMs should not be weighed or handled on the lab bench without the engineering controls such as local capture hoods

Frequency of dry NMs handling (example, 2X per month):    ___ per day    ___ per week    ___ per month   ___ per year

Typical amount of NMs used per weighing or preparation (10mg, 20mg, 100mg, etc.): ___________ mg

PPE: At a minimum, nitrile gloves, N95 dust mask, safety glasses and lab coat should be used.

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**Reconstitution of NMs and Usage**

<table>
<thead>
<tr>
<th>NM Name</th>
<th>Maximum Weighed NM Quantity per Use (mg)</th>
<th>Solvent/Buffer Used for NM Reconstitution</th>
<th>Maximum Use NM Conc. (in Solution/Dispersion)</th>
<th>Solution Contains Multiple NMs (Yes/No)</th>
<th>NM Solution Contains Other Biological/Chemical Species (Yes/No)</th>
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</thead>
<tbody>
<tr>
<td>Example – TiO₂ + ZnO</td>
<td>2 mg, each</td>
<td>Hexane/oleic acid</td>
<td>1 mg/ml</td>
<td>Yes, 2 components</td>
<td>Yes, endotoxin + acyclovir</td>
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**Intended Use of NMs**

Animal Research:  ____ Yes    ____ No    Animal Toxicology Work:  ____ Yes    ____ No

*In Vivo Study:*  ____ Yes    ____ No  *In Vitro Study:*  ____ Yes    ____ No

Route of Application:  ____ Topical  ____ Injection  ____ Aerosols (Inhalation)  ____ Single Dose  ____ Multiple Doses

Nanomaterial Use Conc.: _____ mg/ml    Total Volume: _____ ml    Duration of Aerosol Generation: _________ minutes

Drug Delivery:  ____ Yes    ____ No  Methods Development:  ____ Yes    ____ No  Material Characterization:  ____ Yes    ____ No

Environmental/Atmospheric Aerosol Study:  ____ Yes    ____ No  Environmental Microbes Used:  ____ Yes    ____ No

Frequency of Use (example (1X per week)):  ____ per day    ____ per week    ____ per month

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EHS recommends the use of following PPE and prudent practices while working with NMs.

- **Quantity:** Use lowest concentration and lowest quantity of NMs possible (typically ≤ 1mg/ml in solution). Consult EHS for the work requiring the use of higher concentrations.

- **Engineering Control:** Perform all NMs work within a chemical fume hood, BSC or enclosure hood. If needed, animal work on the work bench/operation table should be carried out under the local ventilation system such as elephant trunk and exhausted outside.

- **PPE:** At a minimum, nitrile gloves, safety glasses and lab coat must be used. Respiratory protection with N95 dust mask or better may be required while working with dry powders and aerosols. Nonwoven coverall (such as Tyvek) and double nitrile gloves are recommended to protect against the animal skin/hair shedding and NMs.

- **Cleaning:** Clean the work benches, animal cages and bins/carriers by wet wipe method, using paper towels soaked with household bleach or alcohol-wipe, and then rinse-off/wet wipe the cages and work benches with water. If required, the dry cleaning of work bench or animal shedding should be performed with a vacuum equipment fitted with HEPA filter and ducted outside (or fume hood).