# HAZARD IDENTIFICATION CHECKLIST

Check items for which there is anticipated need. See next page for detailed descriptions of categories.

| **Flammable Gases or Liquids** | | **Other Gas Emissions** | | **Hazardous Chemicals** | | **Other Hazardous /Toxic Materials** |
|---|---|---|---|---|---|---|
| Type: | | Type: | | | Cyanide plating materials | List hazardous/toxic materials planned for use in a beam line or an experimental enclosure: |
| Flow rate: | | Flow rate: | | | Hydrofluoric Acid | |
| Capacity: | | Capacity: | | | Methane | |
| **Radioactive Sources** | | **Target Materials** | | | photographic developers | |
| | Permanent Installation | | Beryllium (Be) | | PolyChlorinatedBiphenyls | |
| | Temporary Use | | Lithium (Li) | | Scintillation Oil | |
| Type: | | | Mercury (Hg) | | TEA | |
| Strength: | | | Lead (Pb) | | TMAE | |
| **Lasers** | | | Tungsten (W) | | Other: Activated Water? | |
| | Permanent installation | | Uranium (U) | | | |
| | Temporary installation | | Other: | **Nuclear Materials** | | |
| | Calibration | **Electrical Equipment** | | Name: | | |
| | Alignment | | Cryo/Electrical devices | Weight: | | |
| Type: | | | Capacitor Banks | **Mechanical Structures** | | |
| Wattage: | | | High Voltage (50V) | | Lifting Devices | |
| Class: | | | Exposed Equipment over 50 V | | Motion Controllers | |
| | | | Non-commercial/Non-PREP | | Scaffolding/ Elevated Platforms | |
| | | | Modified Commercial/PREP | | Other: | |
| **Vacuum Vessels** | | **Pressure Vessels** | | **Cryogenics** | | |
| Inside Diameter: | | Inside Diameter: | | | Beam line magnets | |
| Operating Pressure: | | Operating Pressure: | | | Analysis magnets | |
| Window Material: | | Window Material: | | | Target | |
| Window Thickness: | | Window Thickness: | | | Bubble chamber | |

## NUCLEAR MATERIALS

### Reportable Elements and Isotopes / Weight Units / Rounding

| Name of Material | MT Code | Reporting Weight Unit Report to Nearest Whole Unit | Element Weight | Isotope Weight | Isotope Weight % |
|---|---|---|---|---|---|
| Depleted Uranium | 10 | Whole Kg | Total U | U-235 | U-235 |
| Enriched Uranium | 20 | Whole Gm | Total U | U-235 | U-235 |
| Plutonium-242[1] | 40 | Whole Gm | Total Pu | Pu-242 | Pu-242 |
| Americium-241[2] | 44 | Whole Gm | Total Am | Am-241 | – |
| Americium-243[2] | 45 | Whole Gm | Total Am | Am-243 | – |
| Curium | 46 | Whole Gm | Total Cm | Cm-246 | – |
| Californium | 48 | Whole Microgram | – | Cf-252 | – |
| Plutonium | 50 | Whole Gm | Total Pu | Pu-239+Pu-241 | Pu-240 |
| Enriched Lithium | 60 | Whole Kg | Total Li | Li-6 | Li-6 |
| Uranium-233 | 70 | Whole Gm | Total U | U-233 | U-232 (ppm) |
| Normal Uranium | 81 | Whole Kg | Total U | – | – |
| Neptunium-237 | 82 | Whole Gm | Total Np | – | – |
| Plutonium-238[3] | 83 | Gm to tenth | Total Pu | Pu-238 | Pu-238 |
| Deuterium[4] | 86 | Kg to tenth | $D_2O$ | $D_2$ | |
| Tritium[5] | 87 | Gm to hundredth | Total H-3 | – | – |
| Thorium | 88 | Whole Kg | Total Th | – | – |
| Uranium in Cascades[6] | 89 | Whole Gm | Total U | U-235 | U-235 |

[1] Report as Pu-242 if the contained Pu-242 is 20 percent or greater of total plutonium by weight; otherwise, report as Pu 239-241.

[2] Americium and Neptunium-237 contained in plutonium as part of the natural in-growth process are not required to be accounted for or reported until separated from the plutonium.

[3] Report as Pu-238 if the contained Pu-238 is 10 percent or greater of total plutonium by weight; otherwise, report as plutonium Pu 239-241.

[4] For deuterium in the form of heavy water, both the element and isotope weight fields should be used; otherwise, report isotope weight only.

[5] Tritium contained in water (H2O or D2O) used as a moderator in a nuclear reactor is not an accountable material.

[6] Uranium in cascades is treated as enriched uranium and should be reported as material type 89.

## OTHER GAS EMISSION

### Greenhouse Gasses (Need to be tracked and reported to DOE)

- ❑ Carbon Dioxide, including $CO_2$ mixes such as $Ar/CO_2$
- ❑ Methane
- ❑ Nitrous Oxide
- ❑ Sulfur Hexafluoride
- ❑ Florinaded Gases (eg; Hydrofluorocarbons, perfluorocarbons)
- ❑ Nitrogen Trifluoride