**WORKPLACE SAFETY INSPECTION CHECKLIST** (To be done **Monthly**)

This form is to be submitted electronically to SPMS-SAFETY@ntu.edu.sg

Select [x]  the appropriate response

|  |  |  |  |
| --- | --- | --- | --- |
| Division & Room: |  | Date: |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Principal Investigator: |  | Inspection done by SL: |  |

**Part (1) For All Workplaces**

**Part (2) For Workplaces Handling Hazardous Materials**

|  |  |
| --- | --- |
| Status during Inspection: [ ]  occupied [ ]  unoccupied | Purpose: [ ]  Lab [ ]  Equipment Room [ ]  Other |

**Part (1)**

**General Postings and Policies**

|  |  |  |  |
| --- | --- | --- | --- |
| Essential safety information displayed (contact details of PI and safety leader (SL), SPMS safety policy etc.) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Emergency escape route displayed | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Emergency phone numbers posted | [ ]  Yes | [ ]  No  | [ ]  N/A |

**General Safety and Housekeeping**

|  |  |  |  |
| --- | --- | --- | --- |
| General housekeeping acceptable (area is tided/clean, no trip/fall hazard) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Width of evacuation route is at least 1.2m clear and free of any obstructions | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Shielding available on vacuum/pressurized glassware | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Food, drink, and cosmetics banned in lab | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Suitable lightings (sufficient illumination) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Unused/empty cardboard boxes disposed off | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Division NSS local support staff are informed of the disposal of any damaged or unused equipment/instruments | [ ]  Yes | [ ]  No  | [ ]  N/A |
| PPE including gloves, safety eyewear, lab coats are properly stored | [ ]  Yes | [ ]  No  | [ ]  N/A |

**First Aid Check**

|  |  |  |  |
| --- | --- | --- | --- |
| Items in the first aid kit are according to the list shown on the kit | [ ]  Yes | [ ]  No  | [ ]  N/A |
| First Aider names and contact numbers displayed on the box | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Electrical Safety**

|  |  |  |  |
| --- | --- | --- | --- |
| Approved plugs, sockets and adapters used | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Clear access to electrical panels | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Are loose or frayed cords on electrical devices replaced or repaired | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Are sockets/plugs overloaded at one outlet | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Are electrical faults reported to NTU Fault Reporting Number 4777 | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Are cables which are running across the lab floor secured with cable protector ramps | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Fire Safety**

**\* Observations applicable to all items within same box**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/No.** | **Type** | **Items** | **Observations** |
| 1 | Fire Fighting Appliances | Fire ExtinguishersFire Hose ReelsFire Blankets | All are properly mounted | [x]  Yes | [ ]  No  | [ ]  N/A |
| All are clearly visible or indicated | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  | All are within dates of validity | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  | Pressure gauge within green range | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  | External cabinet is free of obstruction | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  | **\*All are free of obstructions** | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  | **\*All are in good working order** | [ ]  Yes | [ ]  No  | [ ]  N/A |
| 2 | Fire Detectors | SprinklersSmoke/Heat Detectors | No leakage at the sprinkler heads | [ ]  Yes | [ ]  No  | [ ]  N/A |
| **\*Free of obstruction** | [ ]  Yes | [ ]  No  | [ ]  N/A |
| 3 | Fire Auxiliary Equipment | Call Points/Alarms | Not obstructed | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Not damaged | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  | Fire Exit Signs | Well illuminated | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  |  | **\*Clearly visible** | [ ]  Yes | [ ]  No  | [ ]  N/A |
| 4 | Escape Path | Fire Doors | Tight Fit | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  |  | Always Closed | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  |  | Self-closing and latched | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  | Fire Escape Corridor | Corridor always well Illuminated | [ ]  Yes | [ ]  No  | [ ]  N/A |
|  |  |  | **\*Free of obstruction** | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Part (2)**

**Hazardous Materials Storage and Safety Check** [ ]  N/A

|  |  |  |  |
| --- | --- | --- | --- |
| All bottles/containers affixed with GHS logos and labels | [ ]  Yes | [ ]  No  | [ ]  N/A |
| No storage of chemicals in the open and on the floor | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Chemicals stored together are compatible | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Liquids stored below eye level | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Peroxide forming chemicals dated/tested, e.g. ethers, ketones | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Flammable Liquids stored/used away from ignition sources | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Gas and Cryogen Safety** [ ]  N/A

|  |  |  |  |
| --- | --- | --- | --- |
| Cylinders tightly secured on brackets and chains | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Capped when not in use | [ ]  Yes | [ ]  No  | [ ]  N/A |
| ≤ 2 Flammable/02 tanks/lab | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Regulators shut off (when not used) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Tubes dispensing cryogenics properly insulated | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Cylinders are chained individually | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Cylinders are individually labelled with PI’s name | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Hazardous Materials Safety Equipment Check** [ ]  N/A

|  |  |  |  |
| --- | --- | --- | --- |
| Fume hood sash in good working condition (Able to pull up and down) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Fume hood bench uncluttered (obstructing airflow) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Fume hood is clean and tidy | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Fume hood certified for use (Check for valid date on SMM sticker pasted on fume hood) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Biological safety cabinet clean and tidy | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Showers and eyewash not obstructed | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Eyewash in good working condition when pushed (Water is clear) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Spill kit available | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Personal Protective Equipment Check** [ ]  N/A

|  |  |  |  |
| --- | --- | --- | --- |
| Appropriate types of gloves provided (hot, cryogenic, acid, flammable, etc) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Appropriate type of goggles provided (laser, chemical, etc) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| All lab users are dress appropriately (No slippers, no exposed toes, no shorts/bermudas) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| All lab users are donned up with the required PPE (lab coat, safety googles and gloves) | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Hazardous Waste Collection and Storage** [ ]  N/A

|  |  |  |  |
| --- | --- | --- | --- |
| Hazardous waste containers are appropriately labelled | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Waste carboys segregated in secondary containments | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Waste containers up to 80% filled are promptly disposed | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Sharp objects managed properly, including disposal (razor blades, needles, broken glass, scalpels) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| No broken glassware to be used | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Containers sealed | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Containers clean | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Containers are non-leaking | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Waste are segregated according to compatibility | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Laser Safety Check** [ ]  N/A

|  |  |  |  |
| --- | --- | --- | --- |
| PPE provided and applied (laser goggles, filtering glass, UV shielding glass) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| During the operation of lasers that are Class 3B and above, laser working area is enclosed with black curtain, laser warning light at lab entrance is turned on and laser working area is surrounded by laser safety barriers | [ ]  Yes | [ ]  No  | [ ]  N/A |
| When laser beam is exposed, it is below eye level and the beam end is blocked | [ ]  Yes | [ ]  No  | [ ]  N/A |
| High power and ultrafast laser beam is totally enclosed and not exposed | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Glove Box Check** [ ]  N/A

|  |  |  |  |
| --- | --- | --- | --- |
| Availability of 2 wall/ceiling exhaust points for glove box operation? (One for “Regeneration Out” tube and another for vacuum pump outlet) | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Is there a glass trap connected to the “Regeneration Out” tube? | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Is the glass trap connected to a wall/ceiling exhaust point via a plastic hose/tubing? | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Is the plastic hose/tubing properly connected to the wall/ceiling exhaust point, via hose rings or adapters? Using tape is NOT allowed | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Is the vacuum pump outlet connected to the wall/ceiling exhaust via a hose/tubing? | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Is the vacuum pump outlet connected to a DIFFERENT wall/ceiling exhaust as the one for the “Regeneration Out” tube? | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Is the vacuum pump tubing connected properly to the wall/ceiling exhaust, via hose rings or adapters? Using tape is NOT allowed. | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Are the exhaust points and tubes labelled correctly? | [ ]  Yes | [ ]  No  | [ ]  N/A |
| Is the glass trap protected? (i.e. using a holder or wrapped in a cloth/foam) | [ ]  Yes | [ ]  No  | [ ]  N/A |

**Other observations (if any)**

*General Comments:* (Make note of particular safety issues. Unique hazards may require special precautions.)

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