# Laboratory process risk assessment for a process using a chemical

Table F-4

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| **Laboratory Process Risk Assessment Checklist Overview** |
| **Laboratory Director / Principal Investigator:****Location:****Process Title:****Description:** |
|  |
| **Laboratory Process Risk Assessment Checklist** | **How could you be exposed to this hazard?**  | **Given the exposure, what is negative outcome?** | **Severity of Consequences** | **Probability of** **Occurrence** | **Risk Rating****(CV\*OV)**  |
| **What is the expected harm?** | **(CV)****Value****(1,5,10,20)** | **Existing Control Measure In Place** | **(OV)****Value (0,1,2,3,4)** |
| **Training and Documentation** |
| Specialized training required for the process or material hazards? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Specialized procedures developed for the safe completion of this operation? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| **Spill and Emergency Planning** |
| Does the process present risk of fire? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Will any part of the process be unattended while in operation? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Are sufficient means of egress available for the nature and scale of hazards? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Are aisle spaces clear of obstructions and walking surfaces in good condition? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| **Personal Protective Clothing, Equipment and Engineering Controls** |
| Is there risk of splashing materials into eyes or on skin? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Is there risk of eye or face impact? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Will there be exposure to sharp objects? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| **Chemical Safety and Exposure Assessment** |
| Does chemical process present risk of explosion, hazardous polymerization, or other uncontrolled reaction? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Will a combustible dust be used or generated? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Is there risk of exposure to corrosive materials? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Is there risk of exposure to acutely toxic materials? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Is there risk of exposure to respiratory sensitizers, mutagens, carcinogens, reproductive toxins, materials that target specific organs, or aspiration hazards? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Are any materials classified as nanomaterials?  |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| **Biological Safety and Exposure Assessment** |
| Will there be exposure to human blood, , tissue, fluids, or other potentially infectious materials (Bloodborne Pathogens) |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Will there be exposure to bacteria, viruses, or other research biological hazards? |  |  |  |  |  |  |  |
| Will there be exposure to animals? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| **Radiation Safety and Exposure Assessment** |
| Will there be exposure to non-ionizing radiation? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Will there be exposure to ionizing radiation? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| **Compressed and Cryogenic Gas Safety and Exposure Assessment** |
| Are compressed gases used? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| **Equipment and Physical Hazards Exposure Assessment** |
| Will there be exposure to electrical hazards? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Is any part of the process conducted at elevated or low pressure? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Is any part of the process conducted at elevated or low temperature? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Will the process involve generation of excessive noise? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Will there be exposure to equipment that presents risk of pinching or crushing body parts? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Will any part of the operation be conducted on an elevated area? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |
| Will personnel be required to lift or otherwise manipulate heavy objects? |  |  |  | No=1Minor=5Mod=10High=20 |  | N/A=0Rare=1Poss=2Likely=3Certain=4 |  |

This file is excerpted from “Identifying and Evaluating Hazards in Research Laboratories: Guidelines developed by the Hazard Identification and Evaluation Task Force of the American Chemical Society’s Committee on Chemical Safety”.

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