

**SAFETY MANAGEMENT PLAN
FOR
HAZARDOUS CHEMICAL MATERIALS
AT THE
DUKE UNIVERSITY HEALTH SYSTEM
2022**

I. Introduction

The Hazardous Chemical Materials Management Plan defines the mechanisms for oversight for controlling exposures to chemical materials in the workplace. The related policies and procedures are developed to provide guidance for worker safety and are based on regulatory requirements or current safety guidelines.

II. Organization of Participants

The administration and oversight of occupational safety management for hazardous chemical materials is shared by the *Occupational Hygiene and Safety Division* and the *Laboratory Safety Division* of the Occupational and Environmental Safety Office. Specific responsibilities within the OHS Division include:

Operational Management	Nicole Greeson CIH
Respiratory Protection	Nicole Greeson CIH
OSHA Recordkeeping	Frankie Fogg
Hazard Communication	Nicole Greeson CIH
Hazardous Drugs	Nicole Greeson CIH
Hospital Response to Chemical Event	Nicole Greeson CIH
Coordination, Evaluation, Monitoring	Nicole Greeson CIH

Specific responsibilities within the Lab Safety Division include:

Operational Management	Matthew Stiegel PhD
Laboratory Auditing	Matthew Stiegel PhD
Laboratory Building Plan Review	Courtney Stanion CIH, CSP
Chemical Purchasing Approval	Courtney Stanion CIH, CSP
Laboratory Startups/Relocations	Tristan White CSP
Laboratory Closeouts	Rashida Lawrence MPH
Clinical Laboratory Support	Andrea Vogel PhD

III. Management

A. Policy Development and Review

The primary policies for managing chemical hazards throughout the Hospital and Clinics, including the Duke Primary Care facilities, are found in the following chapters of the Duke University Safety Manual:

- I-3 Reporting of Injuries and Illnesses
- I-4 Hazard Determination/Control
- I-7 Reproductive Health
- II-1 Personal Protective Equipment
- II-2 Respiratory Protection
- II-4 Hazardous Materials
- II-7 Asbestos Management
- V-1 Chemicals in Laboratories
- V-2 Hazard Communication
- VII-1 Chemical Waste Management
- Supplement V – Safe Handling of Hazardous Drugs

All of the above sections, as well as their related supplements are reviewed and modified when necessary or on a triennial basis, whichever is more frequent. All additions or modifications are submitted to the Duke University Safety Committee for review and approval.

B. Planning Objectives.

The Director of the Occupational Hygiene and Safety Division and the Director of the Laboratory Safety Division are responsible for the development of annual Planning Objectives for their respective Divisions. These objectives are developed in accordance with the mission of the Institution and the OESO, any applicable laws or regulations, and all relevant accreditation standards. These planning objectives define the focus for resource commitment by the Divisions. Where objectives include measurable outcomes, they are considered for establishment of performance standards. Planning Objectives are submitted to the Duke University Safety Committee for review and approval.

The Planning Objectives for the Occupational Hygiene and Safety Division and Laboratory Safety Division are incorporated into the Planning Objectives for OESO.

IV. Activities

A. Selection, Use, and Storage of Hazardous Chemical Materials (EC.02.02.01 EP 1, 3, 4, 5, 9, 11, 12)

Chapter II-4 of the Duke University Safety Manual details the requirements for the selection, storage, and use of hazardous materials. Each department using hazardous materials is responsible for managing a list of such materials and access to related safety

information (SDSs). At DUH, the Pharmacy Formulary and Hospital supply catalog is acceptable as a list of chemicals. SDSs are available through OA's office or through the OESO website. The use of any material identified as a *Particularly Hazardous Substance* requires a written SOP and, in some cases, prior approval by the Occupational and Environmental Safety Office (OESO). Disposal of hazardous materials is arranged through the Environmental Programs Division of OESO.

B. Exposure Monitoring (EC.02.02.01 EP 10)

Monitoring of employee exposures to hazardous vapors, gases, or airborne particulates may be conducted for the following circumstances:

- Monitoring is required by law or regulation.
- Significant potential exists for airborne contaminants to exceed permissible limits.
- Strong concern about overexposure is expressed by employees.

All monitoring is conducted with calibrated equipment using validated sampling and analytical methods. Where significant exposures are measured, controls are developed and implemented.

C. Hazard Reporting and Spill Management (EC.02.02.01 EP 3, 4)

Section I-4 of the Duke University Safety Manual describes the process of identifying and assessing hazards discovered by or reported to OESO. Spill reporting procedures are described in the OESO *Emergency Response and Reporting Guide*. Emergency response for the control of major spills is done by OESO personnel who have received the appropriate level of training required by the Code of Federal Regulations, Title 29, Part 1910.120. Spills of hazardous drugs in pharmacies, on hospital units, and in clinics are managed by area personnel following the instructions provided in Supplement V of the Duke University Safety Manual (These instructions are also included with the spill kit). Training is also provided to those who may need to clean up spills of hazardous drugs.

D. Training

Employees who are required to complete Hazard Communication and/or Chemical Hygiene/Laboratory Safety training, as covered in Sections V-1 and V-2 of the Duke University Safety Manual, do so online during their initial orientation period or upon hire into a position where this training is required. Training is also provided periodically thereafter. This online training is followed up by workplace specific training, conducted by the individual supervisors. Additional training is conducted by OESO upon request, including cases where in-person training or synchronous virtual training is requested in place of on-demand online training.

V. Performance Monitoring

A. Performance Improvement Plan

The Director of the Occupational Hygiene and Safety Division and/or the Director of the Laboratory Safety Division are responsible for the development of the Performance Improvement Plan, which is based on the objectives and priorities set by the Institution, the OESO and the Duke University Safety Committee. All plans are developed in coordination with the Accreditation and Patient Safety Office to assure that all performance improvement activities are appropriately integrated into the Performance Improvement Plan for the Duke University Hospital. The DUSC approves the plan each year, and all PI activity is reported at least quarterly to the DUSC.

There are no PI plans for 2022.

B. Effectiveness Monitoring

In addition to the PI activities and reporting, the Occupational Hygiene and Safety Division monitors the effectiveness of the various programs for which it has responsibility. Programs include:

- Respiratory Protection
- Departmental Safety Committee activities
- Chemical Exposure Monitoring
- Indoor Environmental Quality
- Asbestos and Lead Management
- Hazardous Drugs

The Laboratory Safety Division monitors the effectiveness of the lab safety program. The program includes the following:

- Laboratory Safety Audits
- Laboratory-specific Standard Operating Procedures for High-Hazard Activities
- Laboratory Employee Injury/Illness Evaluations

Evaluations of these programs are done by a combination of methods including: record reviews, site audits, and air monitoring. Observations and recommendations are reported to the management of the affected area. Significant events and trends are reported routinely to the DUSC.

VI. Management Plan Evaluation

The Directors of the Occupational Hygiene and Safety Division and Laboratory Safety Division will jointly evaluate this management plan annually for its scope, objectives, performance, and effectiveness. Any changes in scope will be addressed during the annual update of the plan, and any changes in the application or interactions will be incorporated into the update.

Annual planning objectives will be developed through interactions with Administration, the OESO Director and DUSC members. These objectives will address the primary operational initiatives for maintaining and enhancing the safety of the Environment of Care. Progress toward accomplishing these objectives will be reported at least quarterly to the DUSC with an additional year-end summary of effectiveness.

The performance of the plan will be assessed in part through progress in achieving the PI standards defined herein. The annual evaluations, updates, and planning efforts will be presented for DUSC review and action during the first quarter of the new calendar year.