

## 1.0 INTRODUCTION

The *Laboratory Chemical Safety Plan (LCSP)* is a written program for ensuring the safe use of chemicals in laboratories at Indiana University. It describes policies, procedures, and control measures that must be understood and observed by all individuals involved in the laboratory use of chemicals.

### 1.1 Regulatory Basis

The development and implementation of a *Laboratory Chemical Safety Plan* (or Chemical Hygiene Plan) is a central requirement of the federal rule entitled “Occupational Exposure to Hazardous Chemicals in Laboratories,” more commonly referenced as the Occupational Safety and Health Administration (OSHA) “Lab Standard” (Appendix A). The Lab Standard was published as a “final rule” in the January 31, 1990 issue of the *Federal Register* and was required to be fully implemented by January 31, 1991. Of particular importance in understanding the applicability of this standard are the definitions it contains for “hazardous chemical,” “laboratory,” “laboratory scale,” and “laboratory use of hazardous chemicals.” From a review of these definitions, it is clear that the Lab Standard applies to essentially all chemical use laboratories at Indiana University. Laboratories that are not covered by the Lab Standard (i.e., those that do not meet the above definitions for hazardous chemical use) or for non-laboratory uses of chemicals, safety issues are governed by other state and federal regulations such as OSHA’s “Toxic and Hazardous Substances” standard (Appendix A) which contains the hazard communication standard and permissible exposure limits for all hazardous chemical usage. Assistance in determining which regulatory requirements apply to specific work areas is provided by the Office of Environmental Health and Safety Management.

### 1.2 Responsibility for Implementation

It is the policy of Indiana University to support the use of chemicals and other potentially hazardous materials for purposes of research and teaching. At the same time, the University is committed to ensuring the safety of its students, employees, and visitors and to complying with all regulatory requirements which impact its facilities and operations. Toward this end, Indiana University has designated the following specific responsibilities for developing and implementing the *Laboratory Chemical Safety Plan*.

#### 1.2.1 Office of Environmental, Health, and Safety Management

The Office of Environmental, Health, and Safety Management (EH&S) is an administrative unit under the Vice President for Administration, which has responsibility for the development and implementation of all university programs concerning safety and environmental quality. EH&S developed the *Laboratory Chemical Safety Plan* and has the primary role in overseeing its implementation. This role is accomplished by EH&S staff through the provision of a range of safety services including project reviews and consultations, formal training sessions, and periodic laboratory audits (see Appendix B, Form LCS-1 *EH&S Laboratory Safety Audit*).

## **1.2.2 Academic Departments**

The chair of each academic department (or head of each academic unit) is responsible for the safety of all individuals working in the department's laboratories. The chair fulfills this responsibility, in part, by ensuring that all departmental faculty members understand and take seriously their roles in implementing the *Laboratory Chemical Safety Plan*. To facilitate this process, each chair must appoint a departmental Laboratory Chemical Safety Officer (LCSO) who will coordinate and monitor the implementation of the LCSP within the department.

## **1.2.3 Faculty Members**

Each faculty member (or principal investigator) is responsible for the safety of individuals working within his or her laboratories. Toward this end, faculty members must work with the respective departmental Laboratory Chemical Safety Officer to adapt and implement the provisions of the *Laboratory Chemical Safety Plan*. This includes ensuring that each individual working within the lab is provided with appropriate training on safety and regulatory requirements; that required safety equipment and personal protective devices are provided, maintained, and used; that specific standard operating procedures incorporating safety considerations are developed and observed; and that prompt action is taken to correct any unsafe acts or conditions which have been observed or reported.

## **1.2.4 Laboratory Workers**

Each laboratory worker is responsible for implementing the requirements of the *Laboratory Chemical Safety Plan*. This includes participating in required training, utilizing appropriate safety equipment and personal protection devices and apparel, observing standard operating procedures, and informing the supervisor (i.e., principal investigator or lab supervisor) of any accidents or unsafe conditions.

### 1.3 Organization and Content

The *Laboratory Chemical Safety Plan* is intended to serve as an operational guide for the incorporation of prudent safety practices into the day-to-day use of chemicals within laboratories. It was developed and issued in a general form which should be adapted and expanded by particular departments and research groups to meet their specific needs. The LCSP was organized in a format that should enable desired information to be quickly found and readily updated. The content of the LCSP was established directly from the requirements of the Lab Standard and includes the following general types of information:

- Designation of the personnel responsible for the implementation of the *Laboratory Chemical Safety Plan*.
- Criteria that the employer will use to implement control measures to reduce individual exposures to chemicals. These measures include administrative controls, engineering controls, procedural controls, and the use of personal protective equipment.
- Standard operating procedures (SOPs) relevant to safety and health considerations which are to be observed for the use of hazardous chemicals in the laboratory. A number of generic SOPs have been included in the LCSP. However, each laboratory group should develop and add specific SOPs, which are appropriate for their particular uses of chemicals.
- Provisions for personnel training.
- Provisions for medical consultations and examinations.
- Circumstances under which a laboratory procedure shall require prior approval before implementation.
- Provisions for additional personnel protection for work with carcinogens, reproductive toxins, and chemicals with high acute toxicity.
- A requirement that fume hoods and other protective equipment function properly and that measures will be taken to ensure this.