

## CHEMICAL SAFETY

### I. REFERENCES

- A. California Health and Safety Code
- B. California Code of Regulations, Title 8
- C. California Code of Regulations, Title 26
- D. American Conference of Governmental Industrial Hygiene (ACGIH) Threshold Limit Values
- E. *UCSD Laboratory Safety Guide*
- F. Hospital Instruction Manual, HU-813.3 Hazardous Chemicals Safety and Materials Management Policy and Procedures
- G. Uniform Building Code
- H. National Fire Protection Association (NFPA) 45
- I. Centers For Disease Control and Prevention (CDC) 42 CFR 72.6

### II. POLICY

Chemical use and storage shall be conducted in such a manner as to reduce risks of personal exposure, property loss, and institutional liability to levels as low as reasonably achievable. Chemical users must be knowledgeable of the individual hazards and particular requirements, if any, for each chemical they use and store. Training shall be conducted and well documented at all levels in the organization. Training shall include all required elements of the Hazard Communication Program, Laboratory Specific Chemical Hygiene Plan, and Standard Operating Procedures for the use of chemicals. See the *UCSD Laboratory Safety Guide* and Safety Training, PPM 516-26, for specific training requirements. In no case may personnel exposure exceed the permissible exposure levels (PEL), the Threshold Limit Values (TLV), or other recognized safety standards. Prevention of skin and eye contact shall be avoided at all times. It is University policy to achieve the lowest practical concentrations below these limits and to minimize exposure by all routes of entry. When more than one exposure limit exists for a particular substance the more conservative value will be used as the UCSD exposure limit.

### III. PROCEDURES

#### A. Chemical Storage - General Requirements

1. Chemical substances shall be obtained and stored in such quantities as will be used in a reasonable time. Chemicals which may become hazardous during prolonged storage (e.g., peroxide-forming chemicals, compressed gas cylinders containing corrosive materials) shall be disposed of before they create a hazard. Quantities of hazardous materials shall not exceed fire code limitations.

2. An effective chemical inventory management program shall be maintained in each work or laboratory unit that stores and uses hazardous chemicals. Elements of an effective program include: inspection of each chemical container and storage space on an annual basis, as a minimum, to detect signs of degradation of the container, contents or label, transformation of the chemical to a more hazardous substance (e.g., peroxide formation), storage past recommended shelf life, compatibility with nearby materials, and appropriateness/security of location.
3. All chemicals, both in use and in storage, shall be clearly labeled and identified at all times. See the *UCSD Laboratory Safety Guide* and UCSD Hazard Communication Program for specific requirements.

#### **B. Safe Use of Chemicals**

Safe use of chemicals must involve an integrated approach which ensures thorough planning, thorough knowledge of the specific hazards associated with each chemical, adequate facilities, and responsible use. These practices are presented in detail in: the *UCSD Laboratory Safety Guide*; National Research Council - Prudent Practices in the Laboratory - Handling and Disposal of Chemicals; CRC Press - Laboratory Safety; and in the laboratory specific Chemical Hygiene Plan and Standard Operating Procedures developed by the Principal Investigator. Training for the use of chemicals for non-laboratory settings is addressed by the UCSD Hazard Communication Program and Injury and Illness Prevention Plan (IIPP).

### **IV. RESPONSIBILITY**

#### **A. Chemical Safety and Surveillance Committee (CSSC)**

The CSSC is advisory to the Chancellor on all matters relating to the safe use of hazardous chemicals. The primary charge to the Committee is to reduce risks associated with hazardous chemicals; establish policies and procedures which meet or exceed applicable norms; monitor new regulations; and implement adopted policies and procedures for hazardous chemicals. Should there be a willful or negligent violation of UCSD's established chemical safety practices and procedures, the Committee has the authority to impose disciplinary measures which are subject to review and/or modification by the Chancellor or his/her designated representative. See the *UCSD Laboratory Safety Guide* and Charter to the Committee for specific CSSC responsibilities.

#### **B. Environment, Health and Safety (EH&S)**

The Office of Environment, Health and Safety is responsible for providing evaluation of facilities, work practices, and investigation of potential exposure situations or events. EH&S is to provide general and, when available, specific technical guidance to the chemical user regarding the safe handling and storage of hazardous materials. EH&S shall be the reporting body to the state and local agencies related to use and reportable incidents involving chemicals. Should there be an imminent hazard, in the opinion of EH&S, of personal injury, serious exposure, or property damage, the EH&S Director or the Chemical Hygiene Officer has the authority to impose restrictive measures on the operations of concern. These restrictions are subject to review by the CSSC. See the *UCSD Laboratory Safety Guide*, and the UCSD Industrial Hygiene, Hazard Communication, and Safety Training PPM's for related supporting information.

#### **C. Principal Investigator (PI)**

The Principal Investigator's primary responsibility is to ensure that good work practices, containment systems, and engineering controls are fully implemented when chemicals are used, stored, or handled. Each Principal Investigator or supervisor is responsible for the safety of facilities under his/her jurisdiction and operational procedures of personnel supervised. A

laboratory specific Chemical Hygiene Plan and Standard Operating Procedures must be developed by each PI if chemicals are used. The supervisor or Principal Investigator will provide or secure consultation and/or training as necessary and will enforce personnel compliance with established campus safety procedures and legal requirements. The supervisor or Principal Investigator is responsible for informing each person of the potential hazards they may be exposed to and complying with the provisions of the hazard communication/employee-right-to-know as described in PPM 516-13, Hazard Communication Program.

The supervisor or Principal Investigator is responsible for health and safety surveillance throughout his/her area.

- D.** Each chemical user is responsible for knowing and complying with safety guidelines, regulations, and procedures required for the task assigned, reporting unsafe conditions to the Principal Investigator, immediate supervisor, or EH&S; and reporting to the Principal Investigator or immediate supervisor all facts pertaining to every accident resulting in exposure to chemical agents. An individual shall not knowingly perform unsafe acts with hazardous chemicals.