



CALIFORNIA STATE UNIVERSITY, FULLERTON

Environmental Health & Safety

Employee Medical Monitoring

I. Policy

California State University, Fullerton (CSUF) intends to provide a safe and healthful workplace, eliminate risks, prevent injuries and reduce cost. Because of this commitment to safety, the university will provide, at not cost to employees, a medical monitoring program designed to provide for safe job placement of employees, satisfactory maintenance of employee health, and to ascertain the effectiveness of hazard control methods. Failure to comply with this policy may cause the University to incur unnecessary liability.

The purpose for performing medical monitoring of employees is to detect physiological changes in an employee, which may be due to exposures to hazardous levels of physical, chemical or radioactive stresses the employee may experience on the job. Medical monitoring of employees is also used to measure the effectiveness of engineering and administrative controls, and can involve biological monitoring.

II. Authority

California Code of Regulations, Title 8 (§ 5097, 5144, 5155, 5191, 5192, 5209-5216, 5217, 5218, 5220, 1532.1, & 6053) and Title 17

California Vehicle Code Section 12804

III. Scope

This Program applies to all CSUF employees exposed to hazardous substances or situations for which Cal/OSHA would require them to enroll in a medical monitoring program

IV. Definitions

Biological Monitoring – Biological monitoring can provide a reasonable indication of exposures to hazardous environmental stresses the employee might encounter on the job. Biological monitoring is also an attempt to quantify an employee's exposure for a period of time either prior to, or as a result of employment at CSUF. It involves the collection of biological samples such as urine, their exam for the presence of hazardous materials or their metabolites, and a comparison to biological exposure indices for healthy workers.

Exposure – contact with a biological, chemical, or physical hazard.

Hazardous Material – is any substance or compound that has the capability of producing adverse effects on the health and safety of humans.

Medical Monitoring – is the systematic collection and analysis of health information on groups of workers potentially exposed to harmful agents, for the purpose of identifying health effects at an early and hopefully reversible stage. Government codes require that employees with potential exposures to certain harmful agents shall receive medical monitoring exams. These exams serve the purpose of detecting adverse health effects, which could possibly be related to workplace exposures. Early detection of disease will result in earlier treatment and will also allow for cessation of additional exposures that could aggravate a potentially serious medical condition.

Occupational Disease – is a disease caused by exposures to hazards in the workplace.

Pre-employment Screening Exams – are not part of the Medical Monitoring Program. These exams are arranged through Human Resources for potential University Police officers and Custodians prior to their employment. Custodians are specifically examined for back problems that might jeopardize their safety during their normal job duties.

V. Accountability

- A. Environmental Health and Safety (EHS) responsibilities are to:
 - 1. Develop and administer the Medical Monitoring program procedures.
 - 2. Manage the medical exam budget, and approve all medical exams by issuing a Medical Monitoring Order form prior to scheduling the exams.
 - 3. Determine which employees meet the meet the medical monitoring criteria.
 - 4. Act as liaison between the examining facility and the employee.
 - 5. Coordinate schedules with Departments, employees, and the exam facility.
 - 6. Schedule exit exams, as appropriate, for medically monitored employees leaving CSUF.

- B. CSUF Departments – Help EHS to identify all employees that require medical monitoring and make every effort to minimize the occupational exposure of employees to hazardous environmental stresses, by utilizing engineering and administrative controls on processes.

- C. Physicians shall:
 - 1. Report all medical findings to EHS as soon as possible after the exam. If the physician feels additional tests are needed, their recommendations should accompany the report of findings. CSUF will determine whether or not additional tests should be performed.

2. Not decide whether the applicant shall be employed or whether the employee shall continue to be employed. The physician merely determines whether or not the applicant/employee measures up to the medical standard set forth by CSUF specific to their work.
3. Relay any abnormalities of consequence to the applicant/employee.

VI. Program

A. The Medical Monitoring Program has the following objectives:

1. Evaluate the health status of new or potential employees, and determine whether they can perform the job in a safe and effective manner. Disabled persons will be assessed on a case by case basis to determine whether workplace conditions or exposure could be modified to accommodate their disability. The examining physician will make recommendations on disability accommodations.
2. Detect exposure-related adverse health effects at an early and hopefully reversible stage so that occupational diseases can be prevented, and proper medical care can be rendered, if necessary.
3. Periodically assesses employee's suitability for ongoing or new assignments that involve potential contact with hazardous material.
4. Correlate past occupational or environmental exposures with future workplace activities and exposures, to arrive at an opinion on the risk that the job might represent to the health status of the individual.
5. Advise the individual of the need for extramural evaluation and care of existing non-occupational health problems.
6. Provide a medical monitoring program that complies with all the pertinent Federal, State and local regulations that mandate medical monitoring.
7. Identify unrecognized effects of exposure by continually evaluating group employee health data to detect possible adverse health trends.

B. Types of exams

1. Initial Baseline Exams - The purpose of the baseline exam is pre-placement screening. All applicable employees shall be given a baseline exam before being assigned to work with respirators, in noisy environments or in areas containing potentially hazardous or OSHA regulated substances. The baseline exam may be waived if the employee has recently undergone an exam and testing for another purpose. In these situations, the employee is required to

complete the Occupational/Medical History Questionnaire and provide results of previous exams.

2. Periodic Physical Exams - All personnel who have taken the initial baseline exam and have received clearance by the Physician to participate in activities that may potentially result in exposure shall be re-examined as often as the examining physician or relative regulation requires. The date should fall on or close to the anniversary of the previous exam. Any employee who has not participated in potentially hazardous work or who is no longer required to use respirator during the past 12 months and who does not expect to continue to participate, may discontinue participation in the medical monitoring program. However, the employee must have been cleared by the physician, and has not had exposure to asbestos or certain other OSHA regulated carcinogens during this period. The employee will also receive a final physical exam at the time this determination to be removed from the medical surveillance has been made. This physical exam record will be kept in the employee's medical record for 30 years after the final employment date.
 3. Exit Exam - An exit exam shall be given to any employee whose employment has included contact with Cal/OSHA regulated agents and who has been a participant in medical monitoring. The results of this exam will be given to the employee and a copy will be placed in the employee's medical record and retained for 30 years.
 4. Special/Emergency Exam - Special testing may be required due to the potential for exposure to specific substances. The need for special testing will be assessed on an as needed basis. Emergency testing may be necessary in the event of employee exposure.
- C. Physician's Reports - Examining physicians will use information provided by the employee in the questionnaire, the exam results, and the results of laboratory tests to determine if any work restrictions or occupational health problems appear to be present. The examining physician will provide the results of the exam to EHS who will implement the physician's recommendations. The physician will provide only the Health Status Medical Report form to EHS. Non-work related health issues might arise during the course of the medical evaluation. The examining physician may recommend that employees see their family doctor or a specialist. Any additional tests required to investigate non-work related health issues will be the employee's responsibility. At the employee's request, the contract physician will provide physical exam material to the employee's physician.
- D. Record Keeping and Access to Medical Records - Medical records will be retained by the medical facility. Access to these records is authorized to the employee or his/her designated representative. EHS will maintain a secured medical monitoring file on all individuals sent for monitoring. These records include physician's authorizations and hearing exam results. No personal medical information is kept on file in EHS. EHS maintains an Excel spreadsheet, Medical Monitoring Database, to track enrollees in

the Program, due dates for tests, which enrollee needs which test, employees overdue for tests, and termination dates and exit exam status of employees who were enrolled in the Program when they worked at CSUF.

E. Medical Monitoring Program Operation

1. Initial Exams - EHS will identify job classifications requiring medical monitoring. Initial exams will be scheduled for the first week of work whenever possible.
2. Routine Exams - EHS, with the assistance of the departments, will identify employees requiring medical monitoring, and arrange with the medical facility, employees, and their immediate MPP manager a schedule of appointments. The medical facility will send results of the physicals to EHS who will then notify supervisors whenever medical restrictions are put on an employee.
3. Overdue Exams – If an employee misses a required medical monitoring exam that has been scheduled by EHS, they will be notified along with their immediate MPP manager within a month of the missed exam. Subsequent notifications will be raised to a higher level of management.

F. Exit Exam – Human Resources notifies EHS prior to termination of employment for any staff member. EHS will then send a Medical Monitoring Order form to the employee and schedule an exit exam. Employees that have left the University before an exam can be scheduled will be sent a certified letter with return receipt.

G. Special Exams

1. If an employee alleges abnormal symptoms possibly due to overexposure to a hazardous substance, they should notify their supervisor and EHS so that potential workplace problems are quickly identified and appropriate medical treatment is rendered as quickly as possible.
2. If EHS determines that a medical exam is required based on the special circumstance, a Medical Monitoring Order will be issued to the employee, and exam scheduled, and EHS relay any exposure related information.
3. The employee or their supervisor must complete the appropriate Worker's Compensation forms and forward them to Risk Management.

Appendix A: Animal Handler Participation Risk Categories

Appendix B: Medical Examination Protocols

Responsible Executive:

Vice President for Administration and Finance

Responsible Office:

Environmental Health and Safety

Originally Issued:

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Occupational Health Surveillance Program Participation Appendix A

Risk Category	Training	Health question- naire	Physical exam	T.B. testing	Vacci- nations
1. Auxiliary staff (e.g., maintenance personnel, office assistants working in animal facilities, etc.)	D	D	M	D	D
2. Individuals who work with rodents, rabbits, marine mammals, reptiles and amphibians (average of less than 8 hours per week).	A	M	M	M	M
3. Individuals who work with rodents, rabbits, marine mammals, reptiles or amphibians (average of 8 or more hours per week).	A	A	M	M	M
4. Individuals who work with dogs, cats, other land mammals (e.g., ferrets, etc.)	A	A	M	M	M
5. Individuals who work with wild animals (rodents, birds, foxes, deer, etc.)	A	A	M	M	M
6. Individuals who work with sheep, goats, cattle, horses and pigs	A	A	M	M	M
7. Individuals who work with non human primates	A	A	M	A	M
8. Individuals who work in animal biohazard areas	A	A	A	M	M
9. Animal husbandry, veterinary care, diagnostic personnel	A	A	A	A	A

Notes:

- A= All personnel regardless of frequency or duration
- M= Determined by the medical provider if there are special circumstances (e.g., history of allergy, asthma, immunosuppression, previous injury, etc.)
- D= Determined by the department chair (or their designee) in conjunction with the medical provider
- NA= Not applicable

Training must be provided including animal-specific information on the disease and health problems associated with a given species. The Principal Investigator (PI), or their designee, is responsible for ensuring that appropriate individuals receive training. On request, the Director of Animal Care can provide training regarding appropriate handling of animals.

Health Questionnaire. A confidential health questionnaire will be completed and, based upon evaluation of the information provided to the medical provider, further medical evaluations may be necessary. The medical provider will determine the frequency of further health assessment.

Physical Exams, if necessary, will be given by the medical provider with an emphasis towards problems which may be specific to the animal species a person contacts. Exams will be given at the discretion of the medical provider or at the request of the employee or student. As a condition of employment, all individuals at risk at California State University, Fullerton must receive a pre-placement examination.

T.B. - Tuberculosis skin test and/or chest radiography as prescribed by the medical provider.

Vac. Vaccinations for tetanus, rabies, etc., will be offered and given per recommendations of the medical provider. All animal husbandry staff must be vaccinated for tetanus; vaccination is strongly recommended for all people involved with animal care and use.

Appendix B to CSUF Medical Monitoring Program

Medical Examination Protocols

Acrylonitrile, Authority: 8 CCR Section 5213

Employees covered: Each employee who is or will be exposed at or above the action level, without regard to the use of respirators.

Examinations: Performed by or under the supervision of a California licensed physician without cost to the employee.

Frequency: At initial assignment and annually thereafter. A termination exam shall also be conducted unless the appropriate examination has been done within the six months preceding termination. If the employee develops signs or symptoms which may be associated with exposure, the employer shall provide and appropriate exam and emergency medical treatment.

Content of exam: A work history and medical history with special attention to skin, respiratory, and gastrointestinal systems, and those nonspecific symptoms, such as headache, nausea, vomiting, dizziness, weakness, or other CNS dysfunction that may be associated with acute or chronic exposure.

A comprehensive physical examination with particular attention to the peripheral and central nervous system, gastrointestinal system, respiratory system, skin and thyroid.

PA chest x-ray (14" X 17")

Further tests of the intestinal tract, including fecal occult blood screening for all workers 40 years of age or older and for any other affected employees for whom, in the opinion of the physician, such testing is appropriate.

Physician's report: The results of the medical examination and tests performed insofar as such findings relate to occupational exposure not revealing specific findings or diagnoses unrelated to occupational exposure; the physician's opinion as to whether the employee has any detected medical conditions which would place the employee at an increased risk of material impairment of the employee's health from exposure; any recommended limitations upon the employee's exposure or upon the use of protective clothing and equipment such as respirators; a statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

Animal Handler, Employees Covered: Employees who handle or work near animals or their excreta, including but not necessarily limited to animal caretakers, animal technicians, veterinarians, investigators, researchers, laboratory support personnel, cage wash operators and others requiring various type of contact with animals, their tissues, excreta and other

biological materials or the contaminated environmental, shall be identified and enrolled in the Employee Medical Monitoring Program.

Health Surveillance Participation: Employee participation in the Health Surveillance portion of Animal Care and Use Occupational Health Program depends on animal contact duration and species type the employee will encounter on the job. Individuals in Risk Category 3 or above shall complete a pre-employment physical examination. Individuals are assigned a risk category by their supervisor or the Director of Animal Care. These risk categories are defined in [Appendix A](#) of CSU Fullerton's Animal Care and Use Occupational Health Program.

Health Questionnaire: A pre-assignment health questionnaire must be completed by individuals in risk Category 3 or higher prior to starting work. This questionnaire elicits answers concerning an individual's medical history, employment history and family history in relation to sensitivities or conditions that may be aggravated by animal handling. This questionnaire must be forward to medical provider for review. The medical provider will then determine if special circumstances requiring further medical evaluations are necessary.

Pre-employment Physical: Employees in Risk Category 8 or above shall have pre-employment physical exams completed. Employees in lower risk categories may be required to complete a physical examination, if based on review of the health questionnaire, the medical provider deems one is necessary. Exams occur every three years and consist of a physical and laboratory testing. Blood work includes a complete blood count with differential, liver, function tests, VDRL and a baseline serum sample to be frozen for possible later use. Serial serum sample should only be obtained as needed on the basis of the infectious agents being handled. Urinalysis and stool for ova and parasites shall be performed. Screening for tuberculosis and immunizations necessary for the specific job shall be performed as will other specialized immunizations.

Asbestos, Medical Surveillance, Authority: 8 CCR Section 5208

Employees Covered: All employees, who are, or may reasonable be expected to be, exposed to asbestos at or above the action level and/or excursion limit.

Examination: Performed by or under the supervision of a licensed physician and shall be provided at no cost to the employee and at a reasonable time and place.

Frequency: Before an employee is assigned to work involving exposure or within 30 days of the employee's initial exposure to asbestos in the event of an emergency and at least annually thereafter. A termination examination shall be given unless the employee has had an exam within the past one year.

Content of Exam: In addition to evaluating for asbestos-related disease, the physician shall evaluate for fitness to wear personal protective equipment including respirators.

Medical and work history plus completion of the required Initial Medical Questionnaire for pre-placement or initial examination or the Periodic Medical Questionnaire for subsequent examination found in Title 8 CCR Section 5208 Appendix D.

Complete examination with emphasis on the respiratory system, cardiovascular system and the gastrointestinal system.

Chest x-rays shall consist of 14" X 17" AP and right and left anterior oblique views interpreted by a NIOSH certified B-reader on a ILO rating form. The following frequencies for chest x-rays shall be observed.

Years Since First Exposure	Age of employee	
	Less than 40	40 and older
0-10	Every 3 years	Annually*
10+	Annually*	Annually*

*Oblique x-rays need only be performed every three years.

Spirometry to include forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV 1) performed by a technician certified by NIOSH in pulmonary function testing. Additional tests deemed appropriate or necessary by the examining physician.

Information Provided

To the Physician: A copy of 8 CCR 5208 and appendices D, E, and I; a description of the employee's duties; his representative or anticipated exposure levels; description of any personal protective equipment to be used; information from previous medical examinations.

Physician Report: Shall contain the results of the examination without diagnosis disclosure unrelated to occupational exposure to asbestos. It shall also contain any recommended limitations on the employee or upon the use of personal protective equipment; the physician's opinion as to whether the employee has any detected medical conditions that would place the employee at an increased risk of material impairment from exposure to asbestos; and a statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions resulting from asbestos exposure that require further explanation or treatment.

Benzene, Authority: 8 CCR Section 5218

Employees covered: All employees who are or may be exposed at or above the action level for 30 or more days per year; for employees who are or may be exposed to benzene at or above the PEL and/or STEL 10 or more days per year; for employees who were exposed above 10 ppm of benzene for 30 or more days in any year prior to December 10, 1989 while employed by their current employer; and for employees involved in the building operations called tire building operators, who use solvents containing greater than 0.1 percent benzene.

Examinations: Shall be performed by or under the supervision of a licensed physician and that all laboratory tests are conducted by an accredited laboratory. This shall be without cost to the employee and at a reasonable time and place. The results of the laboratory tests shall be reviewed by the examining physician.

Frequency: An initial examination shall be performed before the time of initial assignment unless adequate records show that the employee has been examined in accordance with these procedures within the past twelve months. They shall then be performed annually following the previous examination.

Where the employee develops signs and symptoms commonly associated with toxic exposure to benzene, the employer shall provide the employee with an additional medical examination which shall include those elements considered appropriate by the examining physician.

Content of exam:

Components of the initial examination: A detailed work history and a medical history:

- a. with particular attention to past benzene exposure or any other hematological toxins;
- b. family history of blood dyscrasias including hematological neoplasms;
- c. a history of blood dyscrasia including genetic hemoglobin abnormalities, bleeding abnormalities, abnormal function of formed blood elements;
- d. a history of renal or liver dysfunction;
- e. a history of medicinal drugs routinely taken;
- f. a history of previous exposure to ionizing radiation;
- g. exposure to marrow toxins outside work.

A complete physical examination

- a. A complete blood count including: white blood count with differential platelet count, hematocrit, hemoglobin, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC)
- b. Additional tests as necessary in the opinion of the examining physician, based on alterations, to the components of the blood or other signs which may be related to benzene exposure.
- c. For all workers required to wear respirators for at least 30 days a year, the physical examination shall pay special attention to the cardiopulmonary system and shall include a pulmonary function test.

Components of the periodic examination:

- a. A brief history regarding any new exposure to potential marrow toxins, changes in medicinal drug use, and the appearance of physical signs relating to blood disorders.
- b. A complete blood count including: white blood count with differential platelet county hematocrit, hemoglobin, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC)

- c. Appropriate additional tests as necessary, in the opinion of the examining physician, in consequence of alterations in the components of the blood or other signs which may be related to benzene exposure.
- d. For persons required to use respirators at least 30 days a year, a pulmonary function test shall be performed every 3 year, but is recommended annually. A specific evaluation of the cardiopulmonary system shall be made at the time of the pulmonary function test.

Emergency examinations: If an employee is exposed to benzene in an emergency situation, the employer shall have the employee provide a urine sample at the end of the employee's shift and have a urinary phenol test performed on the sample within 72 hours. The urine specific gravity shall be corrected to 1.024.

If the result of the urinary phenol is <75 mg phenoVL of urine, no further testing is required.

If the result is 2 75 mg phenol/L of urine, the employee shall have a complete blood count including an erythrocyte count, leukocyte count with differential, and platelet count at monthly intervals for a duration of three months following the emergency exposure.

If any abnormalities are found included under the section "Additional Examinations and Referrals", then these requirements shall be met and the employer, shall, in addition, provide the employees with periodic examinations if directed by the physician.

Additional Examinations and Referrals: If the complete blood count indicates any of the following, it shall be repeated within two weeks:

- a. The hemoglobin level or the hematocrit falls below the normal limit or if these indices show a persistent downward trend from the individual's pre-exposure norms; provided these findings cannot be explained by other medical reasons.
- b. The platelet count varies more than 20 percent below the employee's most recent values or falls outside the normal limit as determined by the laboratory.
- c. The leukocyte count is below 4,000 per mm³ or there is an abnormal differential count.

If the abnormality persists, the examining physician shall refer the employee to a hematologist or internist for further evaluation unless the physician has good reason to believe such referral is unnecessary. Examples of conditions that could make a referral unnecessary despite abnormal blood limits are iron or folate deficiency, menorrhagia, or blood loss due to some unrelated medical abnormality.

The employer shall provide the hematologist or internist with the information required to be provided to the physician and the medical record required by this regulation. The hematologist's or internist's evaluation shall include a determination as to the need for additional tests, and the employer shall assure that these tests are provided.

Information provided to the physician:

A copy of 8 CCR Section 5218 and its appendices; a description provided to the affected employee's duties as they relate to the employee's exposure; the employee's actual or representative exposure level; a description of any personal protective equipment used or to be used; and information from previous employment-related medical examinations of the affected employee which is not otherwise available to the examining physician.

Physician's report: Shall contain the occupationally pertinent results of the medical examination and tests; the physician's opinion concerning whether the employee has any detected medical conditions which would place the employee's health at greater than normal risk of material impairment from exposure to benzene; the physician's recommended limitations upon the exposure to benzene or upon the employee's use of protective clothing or equipment and respirators; and a statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions resulting from benzene exposure which require further explanation or treatment. The written opinion obtained by the employer shall not reveal specific records, findings and diagnoses that have no bearing on the employee's ability to work in a benzene-exposed workplace.

Medical removal plan

When a physician makes a referral to a hematologist/internist as required, the employee shall be removed from areas where exposures may exceed the action level until such time as the physician makes the following decisions:

After evaluation by the hematologist/internist, a decision to remove an employee from areas where benzene exposure is above the action level or allow the employee to return to areas where benzene exposure is above the action level shall be made by the physician in consultation with the hematologist/internist and shall be in writing to the employer and employee. For removal, the physician shall state the required probable duration of removal from exposure to benzene above the action level and the requirements for future medical examinations to review the decision.

For any employee removed, the employer shall provide a follow up exam. The physician in consultation with the hematologist/internist, shall make a decision within 6 months of the date employee was removed as to whether the employee shall be returned to the employee's former job or whether the employee should be removed permanently.

Employees removed from exposure shall be placed in positions where benzene exposures are as low as possible but which are no higher than the action level. The employee shall retain his current wage rate, seniority and other benefits.

Bloodborne Pathogens, Authority: 8 CCR 5193

Employees Covered: All employees who could be "reasonably anticipated" to have occupational exposures to blood or other potentially infectious materials. Potentially infectious materials is defined in the regulations as: The following human body fluids:

semen, vaginal secretions, peritoneal fluid, amniotic fluid, saliva in dental procedures, any other body fluid that is visibly contaminated with blood such as saliva or vomits and all body fluids in situations where it is difficult to differentiate between body fluids such as emergency response; any unfixed tissue or organ (other than intact skin) from human (living or dead); and HIV containing cell or tissue cultures, organ cultures, and HIV or HBV containing culture medium or other solutions.

Examinations: The rule requires that hepatitis B vaccine and vaccination series be made available to all employees who have occupational exposure and that post-exposure evaluation and follow-up be made available to employees who have had an exposure incident. All medical evaluations and procedures are to be done under the supervision of another licensed healthcare professional. A "licensed healthcare professional" is defined in the regulation as a person whose legally permitted scope of practice allows him or her to independently perform the activities required.

Program: Voluntary hepatitis vaccinations must be offered to all employees: employees who refuse must sign a waiver. Prescreening is not a condition for receiving the vaccine. Following an exposure incident, a confidential medical evaluation must be performed to include documentation regarding circumstances of exposure, source testing if feasible, testing exposed employees' blood (with consent) post-exposure prophylaxis, counseling and evaluation of reported illness.

All diagnoses must remain confidential. The physicians must inform the employer regarding the employee's ability to receive the hepatitis B vaccine.

Information Provided to the Physician: The health care professional must be provided specific information to facilitate the evaluation and their written opinion on the need for hepatitis B vaccination following the exposure.

Medical Record Retention: Duration of employment plus 30 years. Records must be confidential and include name, social security number, hepatitis B vaccination status (including dates), results of any examinations, testing and follow-up procedures, and a copy of information provided to the health care professional. Records must be made available to the employee, anyone with the employee's written consent, OSHA and NIOSH but not to the employer. Disposal of records must be in accordance with OSHA's standards.

Carcinogen Exposure, Authority: 8 CCR Section 5209

Employees covered: Those employees who are in an area in which any of the substances listed below is manufactured, processed, used, repackaged, released, stored or otherwise

handled but does not apply to solid or liquid mixtures with a content less than the percent specified below:

<u>Chemical</u>	<u>Percent</u>
2-Acetylaminofluorene	1.0
4-Aminodiphenyl	0.1
Benzidine (and its salts)	0.1
3,3'-Dichlorobenzidine (and its salts)	1.0
4-Dimethylaminoazobenzene	1.0
alpha-Naphthylamine	1.0
beta-Naphthylamine	0.1
4-Nitrobiphenyl	0.1
N-Nitrosodimethylamine	1.0
beta-Propiolactone	1.0
bis-Chloromethyl ether	0.1
Methyl Chloromethyl ether	0.1
Ethyleneimine	1.0

Examinations: A program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees. Exams are provided at no cost to the employee.

Frequency: Before an employee is assigned to enter a regulated area and not less than annually thereafter.

Content of exam: Employee's personal history and that of the employee's family insofar as these are related to genetic, occupational or environmental factors. The physician shall consider whether factors exist, which would predispose the employee to increase risk, such as reduced immunological competence, treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

Special medical surveillance shall be instituted within 24 hours for employees present in a potentially affected area at the time of an emergency.

Physician's report: A report shall be furnished to the employer containing a Statement concerning the employee's suitability for employment in areas containing the specific exposure.

Dibro Chloropropan, Authority: California General Industry Safety Orders, Title 8, section 5212 and 29 CFR 1910.1044.

Substances: Any material, liquid or solid, containing Dibro Chloropropan (DBCP).

Frequency: To be examined at the time of initial assignment to work involving exposure, or subject to such exposure in an emergent situation, and annually thereafter.

Medical History: Completion of medical history questionnaire as indicated under Asbestos, with particular emphasis given the reproductive history.

Occupational History: Detailed work history with emphasis on previous work contacts.

Physical Examination: Standard comprehensive medical examination with special attention to the genito-urinary tract, including testicular size and body habitus. Shall include a respirator fit test.

Laboratory Procedures:

1. Radiography- Optional
2. Pulmonary Function Test- Optional
3. Blood Chemistry- Full panel of 20 determinations.
4. Hematology- Complete blood count.
5. Urinalysis- Complete analysis including microscopic examination.
6. Electrocardiography- Optional.

Sperm Analysis- Sperm analysis for number, configuration, and motility. If specimen cannot be obtained, the following procedures are to be conducted by radioimmunoassay techniques, utilizing National Institutes of Health (NIH) specific antigen or one of equivalent sensitivity:

- Serum follicle-stimulating hormone (FSH)
- Serum luteinizing hormone (LH)

Divers, Authority: 8 CCR Section 6053

Employees covered: Dive team members who are, or are likely to be, exposed to hyperbaric conditions, have passed a current physical examination and have been declared legally fit to engage in diving activities.

Examinations: Performed by or under the supervision of a licensed physician without cost to the employee.

Frequency: Before an employee may dive, unless an equivalent medical examination has been given within the preceding 12 months and the employer has obtained the results of the examination and an opinion from the examining physician of the employee's medical fitness to dive; at one year intervals from the date of initial examination or last equivalent examination; after an injury or illness requiring hospitalization of more than 24 hours; or after an episode of unconsciousness related to diving activity. A copy of the medical requirements of this standard; and a provided to the summary of the nature and extent of

the diving conditions to physician:which the dive team member will be exposed, including diving modes and the level of physical activity which is expected.

Content of exam:

1. General medical history
2. Diving-related medical history
3. Basic physical examination
4. Tests required in the following table:

Test	Initial Exam	Annual Exam
Chest x-ray	X	(b)
Visual acuity	X	X
Spirometry	X	X
Master's step test (or equivalent)	X	X(a)
Hearing test	X	X
Hematocrit or hemoglobin	X	X
CBC	X	X
Urinalysis	X	X

(a) for those age 35 or older (b) every two years

5. Any additional tests the physician considers necessary.

Medical examinations conducted after an injury or illness requiring hospitalization of more than 24 hours or after an episode of unconsciousness related to diving activity shall be appropriate to the nature and extent of the injury or illness as determined by the examining physician.

Physician's written The examining physician's opinion of the employee's fitness to Report: dive, including any recommended restrictions or limitations. The report shall not include diagnoses or details unrelated to diving. The employer shall provide the employee with a copy of the physician's report.

The following disorders may restrict or limit occupational exposure to hyperbaric conditions depending on severity, presence of residual effects, response to therapy, number of occurrences, diving mode, or degree and duration of isolation:

- History of seizure disorder other than early febrile convulsions.
- Malignancies (active) unless treated and without recurrence for years.
- Chronic inability to equalize sinus and/or middle ear pressure.
- Cystic or cavitory disease of the lungs.

- Impaired oxygen function caused by alcohol or drug use.
- Conditions requiring continuous medication for control (e.g., antihistamines, steroids, barbiturates, mood altering drugs, or insulin).
- Meniere's disease.
- Hemoglobinopathies.
- Obstructive or restrictive lung disease.
- Vestibular end organ destruction.
- Pneumothorax.
- Cardiac abnormalities (e.g., pathological heart block, valvular disease, intraventricular conduction defects other than isolated right bundle branch block, angina pectoris, arrhythmia, coronary artery disease).
- Juxta-articular osteonecrosis.

revised: 11/21/01

Ethylene Dibromide, Authority: California General Industry Safety Orders, Title 8, Section 5219; NIOSH 77-221.

Substances: 1,2- Dibromoethane. Colorless, nonflammable liquid used as fumigant and as a solvent. Work may involve manufacture, blending storage, use or handling of EDB.

Frequency: At time of work assignment with EDB and annually thereafter.

Medical History: Completion of medical history questionnaire as indicated under Asbestos above with special attention to a history of disorders of the heart, liver, kidneys, and central nervous system.

Occupational History: Detailed work history with emphasis on previous work contacts.

Physical Examination: Standard comprehensive medical examination with special emphasis on the cardiovascular, pulmonary, neurologic, hepatic and renal systems, and the skin.
Respirator fit test.

Laboratory Procedures: 1. Radiography - A 14" X 17" poster-anterior chest roentgenogram.

1. Pulmonary Function Test - Complete
2. screening.
3. Blood Chemistry - Full panel of 20
4. determinations, including procedures indicative of the status of liver and kidney function.
5. Hematology - Complete blood count.
6. Urinalysis - Complete analysis including microscopic examination.
7. Electrocardiography - 12- lead resting electrocardiogram.

Personal Protection: Protective clothing must be resistant to penetration and chemical action of EDB, thus excluding most forms of rubber and leather.

1. If direct contact with EDB anticipated, to wear gloves, hip-type apron, boots, and overshoes.
2. Supplied-air hoods or suits resistant to EDB penetration when entering confined spaces, such as pits or storage tanks.
3. If heat stress is likely to be experienced, supplied-air suits, preferably cooled, should be worn.
4. All personal protective items must be inspected for defects, cleanliness, and satisfactory performance at regular intervals.
5. Eye protection is mandatory, such as chemical safety goggle or plastic face shields, 8-inch minimum, and made of EDB resistant materials.
6. Respirators shall be provided.
7. Chemical cartridges are not to be used with EDB except for evaluations or escape because of EDB's poor warning properties at the recommended occupational exposure limit: a ceiling limit of 130 ppb, TWA.

Reports: The employer will be informed by the examining physician of the results of all examinations, without specific diagnostic conclusions. Particularly, the physician is to give to the employer and the employee a statement declaring the individual's fitness to work with EDB, without impairing or compromising his/her health status.

Records: All records shall be available to OSHA and NIOSH and designated medical representative of employer and of employee. Records are to be retained for 30 years after termination of employment, and shall include environmental exposure records.

Standards for Employment or Continuing Employment: Each applicant for employment involving EDB exposure, as indicated above, should have a careful multi-system evaluation, and deficits of any one system should be considered with caution before placement. As dermal sensitization to EDB may develop, such comparable status of the skin may preclude contact with EDB.

Education: Training required as to toxicity and hazards involved with EDB exposure, and for an understanding of maximal care in work practices. Must be trained in the use and leakage testing of respirators assigned. In addition, the training program must cover the MSDS for EDB, which may be obtained from the manufacturer or seller. There shall be included an explanation of, or rationale for, the medical surveillance program. The emergency procedures indicated following skin or eye contact with liquid EDB or liquid mixtures containing >0.1% EDB by weight, as described in Section 5219 (1), shall be covered. Particularly, there must be included information concerning the interaction of disulfiram (antabuse) with EDB for there may be employees who are taking that medication.

Note: EDB is considered cancer-suspect agent of potential occupational carcinogen.

Ethylene Oxide, Authority: 8 CCR Section 5220

Employees covered: All employees who are or may be exposed to ethylene oxide at or above the action level, without regard to the use of respirators, for at least 30 days a year. Employees who are exposed to ethylene oxide in an emergency situation.

Examinations: All medical procedures and examinations shall be performed by or under the supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

Frequency: Prior to assignment where exposure may be at or above the action level for at least 30 days a year and annually thereafter; and at termination of employment or reassignment to an area where employee exposure is not at or above the action level for at least 30 days a year; as medically appropriate for any employee exposed during an emergency; or as soon as possible when the employee has developed signs or symptoms indicating possible overexposure to ethylene oxide or when the employee desires medical advice concerning the effects of current or past exposure to ethylene oxide on the employee's ability to produce a healthy child; and as recommended more frequently by a physician.

Content of exam: Components of the examination:

A medical and work history with special emphasis directed to symptoms related to the pulmonary, hematologic, neurological, and reproductive systems and to the eyes and skin.

Physical examination with emphasis on the pulmonary, hematologic, neurologic, and reproductive systems and to the eyes and skin.

A complete blood count to include at least a white cell count with differential and red cell count and hematocrit and hemoglobin.

Any other test which the examining physician deems necessary by sound medical practice.

The content of examinations or consultations made available because of develop of symptoms or because of reproductive concerns shall be determined by the examining physician and shall include pregnancy testing or laboratory evaluation of fertility if requested by the employee and deemed appropriate by the physician.

Information provided to the physician: A copy of 8 CCR Section 5220 and appendices A, B, and C; a description of the affected employee's duties as they relate to the employee's exposure; the employee's representative exposure level or anticipated exposure level; a description of any personal protective and respiratory equipment used or to be used, and information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

Physician's written opinion: Shall contain the results of the medical examination and shall include the physician's opinion as to whether the employee has any detected medical conditions that would place the employee at an increased risk of material health impairment from exposure to ethylene oxide; any recommended limitations on the employee or upon the use of personal protective equipment such as clothing or respirators; and a statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions resulting from ethylene oxide exposure that require further explanation or treatment. The physician shall not reveal in the written opinion to the

employer specific findings or diagnoses unrelated to occupational exposure to ethylene oxide. The employer shall provide a copy of the physician's written opinion to the affected employee within 15 days from its receipt

Fetal Protection

Education: Implementation of the procedure initially require that the health and safety off at each campus to provide instruction to all employees at potential risk (usually those enrolled in medical monitoring), about this procedure and the risks of exposure to chemicals inside and outside of the workplace during pregnancy. All employees will complete a form acknowledging being informed about these risks, and the procedures for protection.

Protective Measures: Employees are strongly urged to inform their supervisor when pregnancy (self or spouse) is imminently planned, suspected or confirmed. No supervisor is authorized to take any action that would violate an employee's right to continue normal duties while pregnant, or attempting to have a spouse become pregnant. All information will be kept strictly confidential.

Risk Assessment:

1. Any employee whose duties involve chemical handling and/or exposure, and who plans, suspects or has confirmed pregnancy, may request a workplace evaluation to determine the likelihood that chemical exposure can occur.
2. Health and Safety is responsible for conducting this evaluation which may include, but is not limited to, an evaluation of the procedure(s), chemical(s) and engineering controls used by the employees, and workplace monitoring to determine the exposures that are experienced.
3. A physician should review the information and may consult with the employee's personal physician, conduct a reproductive history evaluation and/or request completion of a questionnaire.

Accommodation and Transfer:

1. After an analysis of the workplace assessment results and the risks, Health & Safety will decide whether the employee may, or may not, be transferred to alternate duties. The Health & Safety staff and the medical practitioner will decide on the specific engineering and/or administrative controls to be used.
2. If a transfer is approved, such transfer shall last for the duration of the pregnancy for women. Transfer for men shall last until spousal pregnancy is confirmed, or for a reasonable period of time while attempting pregnancy.
3. If a transfer is not approved, the employee may be granted a personal leave of absence for the period of the pregnancy not defined as medical disability. Employees granted this leave shall not forfeit seniority nor accrual of benefits.
4. Any employee transferring to alternate duties during pregnancy shall continue to receive their normal rate of pay, and seniority in their position shall be fully protected through the end of the pregnancy

Formaldehyde, Authority: 8 CCR Section 5217

Employees covered: All employees exposed to formaldehyde at concentrations at or exceeding the action level (0.5 ppm) or exceeding the short term exposure limit (STEL) – 2 ppm for 15 minutes.

Examinations: Available for employees who develop signs and symptoms of overexposure and for those exposed to formaldehyde in emergencies. All medical procedures, including administration of medical disease questionnaires, shall be performed by or under the supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

Frequency: Prior to assignment where exposure is at or above the action level or above the STEL, and annually thereafter or upon determining that an employee is experiencing signs and symptoms indicative of possible overexposure to formaldehyde.

Content of exam: Medical disease questionnaire, which is to elicit information on work history, smoking history, any evidence of eye, nose or throat irritation; chronic airway problems or hyperactive airway disease; allergic skin conditions or dermatitis; and upper or lower respiratory problems.

A determination by the physician based on evaluation of the medical disease questionnaire, of whether a medical examination is necessary for employees not required to wear respirators to reduce exposure to formaldehyde.

Medical examinations shall be given to any employee who the physician feels may be of increased risk from exposure and to those employees who are required to wear a respirator.

Components of the examination:

Physical examination with emphasis on evidence of irritation or sensitization of the skin and respiratory system, shortness of breath, or irritation of the eyes.

Spirometry including FVC, FEV₁, and forced expiratory flow(FEF).

Any other test which the examining physician deems necessary.

Counseling of employees having medical conditions that would be directly or indirectly aggravated by exposure to formaldehyde on the increased risk of impairment of health.

Hearing, Authority: 8 CCR Section 5097

Employees covered: All employees whose workplace noise exposures equal or exceed the action level.

Examinations: Shall be provided at no cost to the employee. Shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who

is certified by the Council of Accreditation in Occupational Hearing Conservation who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used. The technician must be responsible to an audiologist, otolaryngologist or physician. Testing shall be performed by equipment meeting the standards in [Appendices B, C, and D](#) of the Section.

Frequency: Within 6 months of first exposure. At least annually after obtaining the valid baseline audiogram. If using a mobile test van, exams shall be conducted within one year of first exposure.

Content of exam: Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. This requirement may be met by wearing hearing protectors which will reduce the employee's exposure to a sound level of 80 dBA or below. The employer shall inform the employee of the need to avoid high levels of non-occupational noise exposure during the preceding 14 hours. The audiogram shall be compared to the baseline to determine if a standard threshold shift (STS) has occurred. A retest may be obtained within 30 days if a STS has occurred and consider the results of the retest as the annual audiogram. A STS is defined as a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear. Allowance may be made for presbycusis by correcting the audiogram according to the procedure described in Title 8's Table F.

Physician's report: If a STS has occurred, the employee shall be notified in writing within 21 days; and shall be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary. If a STS has occurred, the employer shall institute the wearing of hearing protection and/or retraining the employee in the proper use of hearing protection.

Laboratory Employees, Authority: 8 CCR Section 5191

Employees covered: Those engaged in the laboratory use of hazardous chemicals as defined in the regulation.

Examinations: The employer shall provide all employees who work with hazardous chemicals an opportunity to receive medical attention, including any follow-up examinations which the examining physician determines to be necessary, under the following circumstances:

- a. whenever an employee develops signs or symptoms associated with a hazardous chemical;
- b. where exposure monitoring reveals an exposure to a regulated substance where medical surveillance requirements have already been established;
- c. other exposure has occurred, whenever an incident such as a spill, leak, explosion or a medical consultation shall be provided in determining the need for a medical examination.

Regular medical surveillance should be established to the extent required by regulations. Anyone whose work involves regular and frequent handling of toxicologically significant quantities of a chemical should consult a qualified physician to determine on an individual basis whether a regular schedule of medical surveillance is desirable.

Frequency: Immediately upon any of the above and as determined by the examining or consulting physician.

Content of exam: As determined by the examining physician appropriate for that exposure.

Information provided The identity of the hazardous chemical; a description of the physician: conditions under which the exposure occurred including quantitative data; a description of the signs and symptoms of exposure that the employee is experiencing.

Physician's report: Recommendations for further medical follow-up; the results of the medical examination and any associated tests, if requested by the employee; any medical condition which may be revealed in the course of the examination which may place the employee at increased risk as a result of exposure to a hazardous chemical found in the workplace; and a statement that the employee has been informed by the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment. The written opinion shall not reveal specific findings of diagnoses unrelated to occupational exposure.

Lasers

1. Individuals operating Class 1, Class 2 and Class 3a lasers are exempt from medical surveillance.
2. Class 3b and Class 4 laser operators are required to have a baseline eye examination prior to using the laser that covers: ocular history, visual acuity, amsler grid test, & Color vision.
3. Incident personnel (individuals working in areas where there is potential for exposure to laser radiation from a Class 3b or Class 4 laser, but do not operate the laser) shall have a baseline eye examination for visual acuity.
4. An eye examination is recommended when an individual terminates his or her work in a laser laboratory.

Lead, Authority: 8 CCR Section 5216

Employees covered: All employees who are or may be exposed at or above the action level for more than 30 days per year.

Examinations: Shall be performed by or under the supervision of a licensed physician. This shall be without cost to the employee and at a reasonable time and place.

Frequency: At least annually for each employee:

Indicating a blood lead level at or above 40 ug/100 grams.

Prior to assignment for each employee being assigned for the first time to an area in which 8-hour time weighted concentrations of airborne lead are at or above the action level.

As soon as possible when either the employee has developed signs or symptoms commonly associated with lead.

Biological monitoring shall be performed at least every 6 months, every two months for each employee whose blood lead level was at or above 40 ug/100 g until two samples in a row are less than 40 ug/100 g; at least monthly during the removal period for each employee removed from exposure to lead due to an elevated blood lead.

The employee may designate a second physician to review any findings, determinations, or recommendations of the initial physician and to conduct a second examination.

Content of exam: Biological monitoring shall consist of a zinc protoporphyrin and blood lead level performed at least every six months or as scheduled above.

Medical examinations shall be performed upon initial exposure, and annually, for blood lead levels greater than 40 ug/100 g. or as otherwise required above. Components of the examination:

A detailed work history and a medical history with particular attention to past lead exposure (occupational and Non-occupational), personal habits (smoking, hygiene), and past gastrointestinal, hematologic, renal, cardiovascular, reproductive and neurological problems.

A thorough physical examination with particular attention to and neurological systems. Pulmonary status should be evaluated if respiratory protection will be used.

Blood pressure

Blood sample to include:

- a. blood lead level
- b. hemoglobin and hematocrit, red cell indices and peripheral smear morphology
- c. zinc protoporphyrin (ZPP)
- d. blood urea nitrogen and creatinine

Urinalysis with microscopic examination

Any laboratory or other test which the examining physician deems necessary by sound medical practice. The contents of the examinations made available because of concerns about symptoms or reproductive hazards shall be determined by the examining physician

and, if requested by the employee, shall include pregnancy testing or laboratory evaluation of male fertility.

Medical removal The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that the average of the last three blood sampling tests (or the average of the last 3 blood tests over the previous 6 months whichever is longer) indicates that the employee's blood lead level is at or above 50 ug/100 g; an employee need not be removed if the last blood sampling indicated a level at or below 40 ug/100 g.

The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a final medical determination results in a medical finding or opinion that the employee has a detected medical condition which places the employee at increased risk of material impairment to health from exposure.

Return to former The employee shall be returned to former job status:

job status:

- a. if removed for a blood lead level at or above 80 ug/100 g when the employee's blood lead level is at or below 60 mg/100 g of whole blood;
- b. if removed for a level at or above 70 ug/100 g when two consecutive tests indicate the blood lead level is at or below 50mg/100 g;
- c. if removed due to a level at or above 60 ug/100 g or due to an average blood lead level at or above 50 ug/100 g when two consecutive blood tests indicate the level is at or below 40 ug/100 g.
- d. when removed due to a final medical determination when a subsequent final medical determination states that the employee no longer has a detected medical condition which places the employee at increased risk of material impairment to health.

MBOCA, 4,4'- methylenebis (2- chloroniline), also referred to as **MOCA**: 4,4'- diamino- 3,3'- dichlorodiphenylmethane or 4,4'- methylene- 2,2- dichloroaniline.

Authority: California General Industry Safety Orders, Title 8, Section 5215 and similarities in CFR 1910.1003- 1910.1016.

Substances: MBOCA is a carcinogen and all contact with it should be avoided.

Frequency: To be conducted prior to time of initial assignment and triennially during first 10 years of employment involving the use of MBOCA and annually thereafter and on termination.

Medical History: Completion of medical history questionnaire as indicated under Asbestos, with particular attention to the pertinent medical, occupational, genetic, and environmental factors of both the employee and employee's family, including use of alcohol, medications, and tobacco.

Occupational History:carcinogens Detailed work history with emphasis on previous work contacts, especially known or cancer-suspect agents.

Physical Examination: Standard comprehensive medical examination with special attention to the detection of abnormalities of the liver, the respiratory tract, the urinary system, breast, and hematopoietic system. Respirator fit test.

Laboratory Procedures: 1. Radiography - 14" x 17" postero-anterior and lateral chest roentgenograms.

1. Pulmonary Function Test - Complete screening.
2. Blood Chemistry - Full panel of 20 determination to include serum total bilirubin; serum alkaline phosphatase; serum glutamic oxaloacetic transaminase (SGOT); and serum glutamic pyruvic transaminase (SGPT). Most panels include all the determinations specified.
3. Hematology - Complete blood count.
4. Urinalysis - Complete analysis including microscopic examination. See Notes, for special analysis.
5. Electrocardiography - Optional.

Personal Protection: In addition to air-supplied respirator, gloves and protective clothing are needed. Change of clothing and shower at end of shift mandatory. Separation of work and street clothing required in change area.

Reports: A written opinion by the examining physician to the employer concerning the results of the evaluation, and notation of any medical condition (without specific diagnostic information) that would place the employee at an increase risk of material impairment of health from the employment exposure. In turn, the employer is to provide the employee with a copy of the written opinion.

Records: Medical records should be complete and shall be maintained for duration of individual's employment plus 30 years.

Standards for Employment or Continuing Employment: No applicant or incumbent with chronic pulmonary or hepatic disease or who has a history of extensive alcohol usage of who has a history of moderate heavy smoking should be placed in contact with liver or lung carcinogens.

Education: Worker to be given all information concerning MBOCA from Material Safety Data Sheet (MSDS), including the nature of the carcinogenic hazard, including local and systemic toxicity; the specific nature of the operation involving MBOCA which could result in exposure in excess of the permissible exposure limits (PEL) and the necessary protective steps; the purpose, correct use, and limitations of protective respiratory devices, gloves, and protective clothing; the purpose and application of decontamination procedures; the purpose and significance of emergency practices and procedures; the employee's specific role in the prescribed emergency procedures; familiarization with the prescribed emergency procedures and rehearsal in their application; specific information of aid in the recognition

of conditions likely to lead to MBOCA exposure; the purpose and application of specific first aid procedures and practices; the purpose and description of the monitoring program the employee's rights under the regulations and the CAL/OSHA PROGRAM; and a review of this material at the first training and indoctrination program and annually thereafter.

Note: Special urinalysis will be conducted to determine that no employee's urine contains >100 mg of MBOCA/liter of urine when the specific gravity (SG) is adjusted to 1.024. When urine sample are not received, the exposure shall not exceed an 8-hour time weight average (TWA) concentration of MBOCA in excess of 10 r/m³ of air and employee shall not be exposed to a ceiling concentration in excess of 50 rg/m³ during any 15 minute period. Accessible surfaces which employees are likely to contact in controlled access areas during their normal work shall not exceed 100 rg MBOCA/100 cm² of surface. The average of at least five wipe samples shall be used.

If one sample exceeds the mean by a factor of 10 or more, it will be rejected as not being representative. Use of >1 kg of MBOCA, irrespective of concentration, dilution, or form, except frozen pre-mix, in any 6-month period, a program of surface-contamination monitoring and urinalysis (for MBOCA) should be instituted. Any employee entering a controlled-access area will have the urinalysis repeated quarterly with samples to be collected near the end of the work shift. Any employee whose urinary MBOCA level exceeds 100 rg/1 with SG adjusted 10 1.024, shall be tested at least each month until two consecutive samples taken not <3 days apart have been reduced to <100 rg/1. The method of monitoring and measurement shall be accurate and precise so that 95% of the determination are within 25% of the true value at the exposed limit. Employees are to be notified in writing, if exposed in excess of PEL, within 10 days of the numerical results of the monitoring.

Methylene Chloride, Authority: CCR Title 8 § 5202

Covered Employees: Employees which may be exposed at or above the action level of 12.5 ppm on 30 or more days per year or above the 8 hour permissible exposure limit (PEL) of 25 ppm on 10 or more days per year. Employees exposed to at or above the PEL for any time and identified as being at risk for cardiac disease or other serious Methylene chloride related health condition.

Frequency: Initial medical surveillance shall be provided prior to initial assignment. Periodic surveillance shall be provided to employees 45 years or older and within 12 months of initial or subsequent surveillance and employees 45 years or younger within 36 months of initial or subsequent surveillance.

Displaced employees shall receive medical surveillance within six months of displacement or re-assignment.

Examination: The content of medical surveillance shall consist of:

- History of neurological symptoms, skin conditions, hematological disease, and heart disease

- Previous MC exposures;
- Physical examination with emphasis on pulmonary and cardiac function, liver, nervous system, and skin;
- Post shift or emergency laboratory examinations including carboxyhemoglobin determinations, resting ECG, hemotcrit, liver function and cholesterol levels.

Information provided to the Physician: The following shall be given to the provider performing diagnosis of Methylene chloride related illness:

- copy of Title 8 §5202;
- description of the affected employee's past current future and anticipated duties as related to Methylene chloride exposures;
- past or current exposure levels to Methylene chloride;
- description of PPE;
- information from previous employment related medical surveillance of the affected employee not otherwise known.

Medical Opinion: The physician providing examinations pursuant to this requirement shall return all pertinent to CSUF EH&IS within 30 days of examination completion. This information shall include: physician's opinion whether the employee has a medical condition that could be exacerbated by exposure to Methylene chloride; recommended limitations for PPE; physician notification to employee of the risks and hazards associate with Methylene chloride and the results of their examination.

Pesticides, Authority: California Code of Regulations, Title 3, Division 6. Pesticides and Pest Control Operations, Chapter 3. Pest Control Operations, Subchapter 3. Pesticide Worker Safety, Article 2. General Safety Requirements, Section 6728.

Substances: Included under the general heading of Pesticides are the organophosphates; carbamates; chlorinated hydrocarbons, bipyridyls; rodenticides; fungicides; herbicides; fumigants (acrylonitrile and ethylene dibromide have already been covered); and some miscellaneous preparations such as lead arsenate and arsenite, nicotine, pyrethrum, and rotenone (lead and arsenic covered above.) Pesticides classified in toxic category one must have the word "DANGER" displayed on the label, while those materials in toxic category two must bear the word "WARNING" on the label.

Frequency: At time of first employment or assignment and at least annually thereafter; semi-annually if total work assignment involves exposure to pesticides.

Medical History: Completion of medical history questionnaire as indicated under Asbestos, with particular attention to disease of the hepatic, renal, and central nervous system; to

cardiovascular and respiratory disease, to glaucoma; to substance abuse; and to any illness resulting from past exposures to pesticides.

Occupational History: Detailed work history with emphasis on previous work contacts, particularly pesticides.

Physical Examination: Standard comprehensive medical examination with particular attention to the eyes, liver, kidneys, lungs, and central and peripheral nervous systems. Ability to use negative pressure and positive-pressure respirators must be determined by respirator fit testing. The complete examination will be repeated if adverse health effects are encountered within one month following termination.

- Pulmonary Function Test- Complete screening.
- Blood Chemistry- Full panel of 20 determination, including enzymes indicative of liver function status.
- Hematology- Complete blood count.
- Urinalysis- Complete analysis, including microscopic examination.
- Electrocardiography- 12-lead resting electrocardiogram.
- Special Procedures- Red blood cell cholinesterase determination (RBC ChE)

If RBC ChE is less than 70% of baseline:

Advise employee of finding. Conduct industrial hygiene (IH) survey unless the cause is known and corrective action initiated

If RBC ChE is less than 60% of baseline:

Not allowed to return to pesticides work exposure until RBC ChE is greater than 75% of baseline.

Personal Protection: All employees assigned to work with Categories I or II pesticides shall wear the following when in exposure areas:

- Washable socks and underwear.
- Washable or disposal coveralls or pants and long sleeved shirts, aprons, or other special outer wear.
- Washable work footwear or disposal footwear covers.
- Washable cap, if hard hat not required.
- Employees shall wear a clean set of work clothing each day. A complete second set of such clean clothing shall be provided and used to replace any that underwent obvious contamination during the work shift.
- A means shall be provided of storing contaminated work clothing from the time of removal by employees until either disposal or laundering, which requires, in addition:
 - Clear identification of the nature of the contamination
 - Prevention of dissemination of the contamination
- A means of either disposal or laundering of contaminated garments shall be provided. (If commercial laundry is used, it must be ascertained that the company is familiar

with special laundering requirements and that its personnel are knowledgeable and aware of the hazard.) If outside facility is used, clothing should not be distributed to, or used by, other employers.

Reports: Human Resources Management to be informed of results of RBC ChE determination and will notify EHOS of the results. Report of examination results, exclusive of diagnostic information, to be submitted to employer.

Records: All records of examination, emergency treatment, an environmental exposure measurements are to be retained for 30 years following termination of employment. They shall be available on written authorization to the employee's designated medical representative, or that of OSHA or NIOSH, or of the employer.

Standards for Employment or Continuing Employment: Applicants or incumbent must be free of hepatic, renal, cardiovascular, nervous system, or respiratory disease, and free of glaucoma and previous pesticide-exposure illness, and must not be a substance-abuser.

Education: A complete training program must be provided so that the workers know of the extreme toxicity of the materials they are using. Employees must wear required protective equipment.

Radiation, Authority: 10 CFR 20

Employees covered: All persons who receive, possess, use or transfer material licensed by the Nuclear Regulatory Commission, or who use radioactive material and who may have had exposure to a total occupational dose in excess of the standard.

Assessment of individual intakes of radioactive materials should be in accordance with U.S. Nuclear Regulatory guides 8.9. External radiation monitoring is done with Thermoluminescent dosimeters (TLD's).

Frequency: Baseline tests will be performed on any individuals who may use Iodine-125 or Tritium under conditions which might require bioassay. Routine bioassays are performed depending on the circumstances. Bioassays are also performed after exposure has been discontinued. When respiratory protection equipment is used to limit inhalation exposure, examination by a physician prior to initial use of respirators and at least every 12 months thereafter is required.

Content of exam: The Nuclear Regulatory Commission incorporates appropriate surveillance (bioassay) provisions in each license. Determination of ability to wear a respirator is per 8 CCR Section 5144 and 29CFR 1910.134.

Respirators, Authority: 8 CCR Section 5144

Employees covered: Any employee who has the occasion to use any form of respiratory protective equipment.

Examinations: Persons should not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work while using the required respiratory equipment. A licensed physician shall determine what health and physical conditions are pertinent.

OSHA recommends that no employee should be assigned work requiring respirators without first receiving a physical examination and approval by a licensed physician. It should be noted that medical approval becomes mandatory when employees are required to work with certain contaminants such as asbestos, and those listed in Title 8 CCR Article 10 Regulated Carcinogens.

Frequency: The medical status of persons assigned use of respiratory equipment should be reviewed at least annually.

Content of exam: Although not specified as to the examination's content in the CCR, the following are suggested as a minimum:

Mandatory Tests: Medical history pertaining to a condition that could affect the employee's ability to wear a respirator. Physical examination with emphasis on the respiratory and cardiovascular condition. A single view (PA) chest x-ray may be obtained depending on medical history. Spirometry test for forced vital capacity (FVC) and forced expiratory volume in one second (FEV 1).

Optional Tests: Single view (PA) chest x-ray depending on the medical history. Electrocardiogram (EKG) may be obtained depending on medical history.

Note: Chest x-rays and EKGs are an optional consideration and should only be done when medical conditions indicate.

Physician's report: Should indicate if there are any restrictions to the wearing of respiratory protective equipment; should indicate what levels of respiratory equipment may be worn

Tuberculosis, Authority: 8 CCR Section 5197

Employees covered: The scope of this exposure control program at California State University, Fullerton focuses on risk group employees and students (i.e., Student Health Center, University Police, athletic trainers, International Education, and animal care personnel).

Examinations: Shall be performed by or under the supervision of a licensed physician and that all laboratory tests are conducted by an accredited laboratory. This shall be without cost to the employee and at a reasonable time and place. The results of the laboratory tests shall be reviewed by the examining physician.

Frequency: TB screening tests for risk group individuals shall be conducted prior to assignment and annually thereafter if negative. Positive individuals must submit to a chest X-ray to determine the disease's state of activity. If the chest X-ray reveals an active TB

condition, the individual will be referred to Orange County Health Department (OCHD) for treatment.

Content of exam: Employees placed in at risk groups will undergo Tuberculin testing annually via Purified Protein Derivative (PPD) method. Booster testing will be completed for new at risk employees 1 - 3 weeks following initial negative PPD test. If PPD tests results are positive, the individual will complete a chest X-ray examination.

Emergency examinations: Exposed individuals shall undergo Tuberculin skin testing immediately. If test results are negative, the individual shall undergo follow-up testing in 12 weeks to allow sufficient time for antibody generation.

Additional Examinations and Referrals: If subsequent X-ray examinations yield positive results, the individual will be reported to the OCHD and will not be allowed to return to work until cleared by the OCHD or their physician.

Information provided to the physician: A copy of 8 CCR Section 5197 and it's appendices; a description provided to the affected employee's duties as they relate to the employee's exposure; a description of any personal protective equipment used or to be used; and information from previous employment-related medical examinations of the affected employee which is not otherwise available to the examining physician.

Physician's report: Shall contain the occupationally pertinent results of the medical examination and tests; the physician's opinion concerning whether the employee has any detected medical conditions which would place the employee's health at greater than normal risk of material impairment from exposure to benzene; the physician's recommended limitations upon the exposure to benzene or upon the employee's use of protective clothing or equipment and respirators; and a statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions resulting from tuberculosis exposure which require further explanation or treatment. The written opinion obtained by the employer shall not reveal specific records, findings and diagnoses that have no bearing on the employee's ability to work in a tuberculosis-exposed workplace.

Vinyl Chloride, Authority: 8 CCR Section 5210

Employees covered: All employees exposed, without regard to the use of respirators, in excess of the action level.

Examinations: Performed by or under the supervision of a licensed physician and shall be provided without cost to the employee.

Frequency: At the time of initial assignment and every 6 months for each employee who has been employed in vinyl chloride or polyvinyl chloride manufacturing for 10 years or longer; and annually for all other employees.

Each employee exposed to an emergency shall be afforded appropriate medical surveillance.

Content of exam: A medical history to include the following topics:

- a. Alcohol intake
- b. Past history of hepatitis
- c. Work history and past exposure to potential hepatotoxicagents including drugs and chemicals
- d. Past history of blood transfusions
- e. Past history of hospitalizations

General physical examination with specific attention to detecting enlargement of the liver, spleen or kidneys, or dysfunction in these organs and for abnormalities in skin, connective tissues, and the pulmonary system.

Serum specimen for:

- a. Total bilirubin
- b. Alkaline phosphatase
- c. Serum glutamic oxalacetic transaminase (SGOT) ASAT
- d. Serum glutamic pyruvic transaminase (SGPT) ALAT
- e. Gamma glutamyl transpeptidase (GGT)

Physician's report: A statement of employee's suitability for continued exposure to vinyl chloride including use of protective equipment and respirators with a copy sent to the employee. If an employee's health would be materially impaired by continued exposure, such employee shall be withdrawn from possible contact with vinyl chloride.