

CADMIUM COMPLIANCE PLAN

PRESENTED BY



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These guidelines are intended to provide information for the development of a Cadmium Compliance Plan. This information is not considered a substitute for any provisions of 1910.1027, nor will it serve as a Cadmium Compliance Plan. These guidelines were derived from OSHA standards and interpretations.

Revised 10/2007

CADMIUM COMPLIANCE PLAN

This sample Cadmium Compliance Plan has been prepared to provide assistance in compliance with the OSHA General Industry standard 1910.1027. It should not be used without consideration of the unique conditions and requirements at each site. It may be necessary to modify the sample program for your specific needs. You remain under the obligation to comply with all applicable standards, and use of this program should not be considered to be a guarantee that this compliance will be achieved. It is suggested that your final program be reviewed by a qualified person.

This compliance plan is required by 29 CFR 1910.1027(f)(2) when there is at least one employee exposed to greater than the PEL. The term "employee" as used in this plan refers only to those over the PEL. The term "exposed" means exposure to airborne cadmium regardless of respirator usage.

This plan is designed to follow the minimum requirements of the standard. There are many recommendations, suggestions, and item clarifications provided to assist you in writing your plan. These are put in brackets for quick identification.

There are many other requirements of the cadmium standard. These are found in appendices A through D which are found at the end of this plan. It is recommended you include these in this program.

If additional assistance is needed, it can be obtained at no cost by contacting Safe State at 1-800-452-5928.

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Date Published: _____

Annual Review Date: _____

I. **PURPOSE**

The purpose of this plan is to implement changes in our company that will attempt to lower our employee's cadmium exposure level below the OSHA Action Level (AL) and/or Permissible Exposure Limit (PEL). Areas of the facility where cadmium exposures remain above the OSHA exposure limits will require implementation of certain sections of this plan.

II. **SCOPE**

This plan establishes requirements on how this company will get into compliance with OSHA's cadmium standard. It includes engineering, work practice, and administrative controls. It will be reviewed and updated at least annually, or more often if necessary, until two consecutive exposure monitoring results are below the PEL. This plan can then be modified to include only those sections required when employees are exposed to cadmium above the Action Level. [If exposures are reduced below the OSHA AL this plan can be eliminated.]

III. **RESPONSIBILITY**

The [_____] is responsible for implementation, enforcement and periodic review of this plan.

All supervisors are responsible for understanding this plan and implementation of the plan in their area.

All affected employees are also responsible for following the requirements outlined here as they apply to their job. The term "employee" as used in this plan refers only to those who are exposed to greater than the PEL.

IV. **OPERATIONS WITH EXPOSURE TO CADMIUM**

	AREA	OPERATION	EXPOSURE
1.			
2.			
3.			

[AREA = Place in the plant where it was done]
 [OPERATION = The specific machinery used, material processed, controls in place, crew size, employee job responsibility, operating procedures, or maintenance procedures]
 [EXPOSURE = [In micrograms per cubic meter of air (ug/m³) or milligrams (mg/m³).]

V. **DESCRIPTION OF CONTROLS CONSIDERED**

	CONTROL	STATUS	DATE
1.			
2.			
3.			
4.			
5.			

[CONTROL = These are ideas you considered, regardless whether you adopt them. These ideas include: engineering plans and studies, and if necessary, the use of appropriate respiratory protection. This will help in future discussions and decisions if these controls are not sufficient in reducing cadmium exposures below the OSHA PEL.]

[STATUS = Did this idea work or parts back ordered?]

VI. **CONTROL IMPLEMENTATION SCHEDULE**

	CONTROL	SCHEDULE	DONE
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

[CONTROL = These are controls from Chart V that are proven feasible and you have adopted them.]

[SCHEDULE = Keep documentation such as purchase orders, contracts, etc., in support of the implementation control schedule.]

VII. **CADMIUM MONITORING**

The Company has completed an initial determination of employee exposure to cadmium in the workplace. Air sampling was performed by the Company. The initial cadmium monitoring results are provided in the table below.

ORIGINAL MONITORING RESULTS

DATE	EMPLOYEE	AREA	TIME MONITORING	RESULTS

[TIME MONITORING = This must be the full shift or no more than one hour short of the full shift.]

[RESULTS = This is expressed in either micrograms ($\mu\text{g}/\text{m}^3$) or milligrams (mg/m^3) per cubic meter.]

Based on the initial monitoring results the Company has implemented an air sampling program which includes periodic air sampling. These results are provided in the table below

SEMI-ANNUAL MONITORING RESULTS

DATE	EMPLOYEE	AREA	TIME MONITORING	RESULTS

[To stop this semi-annual requirement, two consecutive measurements taken at least seven days apart, must be below the PEL.]

[RESULTS = This is expressed in either (ug/m³) or (mg/m³) per cubic meter.]

If the Company can reduce the airborne concentration of cadmium in the air and two consecutive measurements collected seven days apart confirm cadmium exposures are below the Cadmium AL, monitoring can be discontinued for each employee whose exposure is represented by this monitoring.

The Company will conduct additional monitoring wherever there has been a change in raw materials, personnel, equipment, work practices or finished products that may result in an employee being exposed to cadmium above the AL of PEL.

Each employee monitored will be notified of the results within 15 working days after receipt of the results. The air sample results are provided to the employee using the Employee Notification of Sampling Results form found in Appendix C. For employees exposed to cadmium above the PEL, the Company will provide a written notice that the PEL was exceeded and a description of the corrective action(s) to be taken to reduce employee exposures below the PEL.

The Company requests that all companies or sources used to conduct the air sampling use American Industrial Hygiene Association (AIHA) accredited laboratories. These laboratories have strict internal quality control procedures which will follow the accuracy of measurement requirements outlined in the Cadmium Standards.

VIII. REGULATED AREAS

The Company has established regulated areas in all areas where employee exposures to cadmium exceed the OSHA PEL. The regulated area boundaries are demarcated by _____ . Access to these areas is restricted to authorized

personnel only. Smoking, eating, drinking, chewing tobacco or gum, or applying cosmetics are prohibited in the regulated areas.

Each employee will be required to wear the appropriate personal protective equipment (see Section IX) and respiratory protection required to enter the regulated area.

IX. WORK PRACTICE PROGRAM

The Company provides personal protective equipment to each employee exposed to cadmium above the OSHA PEL. The table below lists the employees and required protective clothing and equipment. The Company also provides personal protective equipment to those employees where skin or eye irritation is associated with cadmium exposure at any level.

PROTECTIVE WORK CLOTHING

EMPLOYEE	COVERALLS	GLOVES	HAT	SHOES	EYE PROTECTION

NOTE: These are provided at no cost to the employee.

[HAT AND SHOES = These may be covers rather than actual apparel items.]

Cleaning and Replacement

Employees will be provided with clean, dry protective clothing at least weekly.

Our company will provide for the cleaning, laundering, and disposal of the protective clothing.

Our company will provide for the repair or replacement of protective clothing and equipment.

Employees will remove their protective clothing at the end of the work shift only in the change room located at [_____]. Employees will not be allowed to remove contaminated clothing from the facility.

The protective clothing will be placed in marked containers. These containers will be closed immediately.

A copy of our notification letter to the laundry service is located in Appendix B. [It is recommended you have the laundry acknowledge and return a copy.]

The contaminated protective clothing container is marked with the label stated in 1910.1027(m)(3)(ii).

Employees will not remove cadmium from protective clothing or equipment by blowing, shaking, or any other means that disperses cadmium into the air.

To reduce employee exposures to cadmium, the Company has implemented a housekeeping schedule outlined in the Table below. It is employee's responsibility to help maintain the work area to reduce exposures to airborne cadmium.

HOUSEKEEPING SCHEDULE

SURFACE	METHOD OF CLEANING	FREQUENCY	RESPONSIBILITY

[NOTES:

1. All surfaces shall be maintained as free as practicable of accumulated cadmium.
2. Floors and other surfaces where cadmium accumulates may not be cleaned by the use of compressed air. High efficient particulate air (HEPA) or other equally effective filtration system should be considered for use in cleaning contaminated surfaces.
3. Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective.
4. Where vacuuming methods are selected, the vacuums shall be used and emptied in a manner which minimizes the re-entry of cadmium into the workplace.]

Hygiene Facilities and Practices

Employees will not have or consume food or beverages, chew tobacco or gum products or apply cosmetics in operations listed in part IV. Employees are responsible for washing hands and face prior to breaks and lunch.

Change Rooms

The company has provided change rooms, located at [_____]. The employees will use these change rooms and separate storage facilities for protective work clothing and equipment and for street clothes to prevent cross-contamination.

Showers

The showers for employees are located at [_____]. The employees will shower at the end of the shift. Employees will not leave the facility wearing clothing or equipment worn in the work areas with cadmium airborne concentrations are above the PEL or cause eye or skin irritation.

Lunchrooms

Employees will use the lunchroom located at [_____]. The tables for eating will be maintained free of cadmium so that no employee in the lunchroom facility is exposed at any time to cadmium at or above a concentration of 2.5 ug/m^3 . Employees are required to wash their hands and face prior to eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics. Employees will not enter the lunchroom facilities with protective work clothing unless surface lead dust has been removed by HEPA vacuuming or some other method that removes cadmium dust without dispersing it.

X. EMERGENCY SITUATIONS

[These are emergency procedures dealing with substantial release of cadmium. This should include provisions for use of appropriate respirators, personal protective equipment, restricted areas, and resumption of normal operation procedures.]

XI. MEDICAL SURVEILLANCE

The Company has implemented a medical surveillance program for all employees exposed or may be exposed to cadmium above the OSHA AL for more than 30 days per year. The medical surveillance program examinations will be performed under the supervision of a licensed physician. Medical surveillance is available for each affected employee and is provided at no cost to the employee and at a reasonable time and place. The medical surveillance program also includes biological monitoring. Medical examinations are made available at least annually and more often if required. The medical examinations and biological monitoring requirements for pre-employment,

surveillance and medical removal as outlined in the medical surveillance section of the cadmium standard are the minimal examination criteria to be followed by the licensed physician performing the medical surveillance.

The Company provides an examination for those employees assigned to an area where a respirator is required. The examination is performed by the licensed physician and includes those sections listed in 1910.1027(l)(6)(i)(A-D). The examining physician will determine if the employee can wear a respirator. [If the employee can not wear a respirator, the employee will be assigned to an area where cadmium exposures are below the OSHA PEL.]

The company will also provide examinations to those employees acutely exposed to cadmium during an emergency procedure and at the time of termination. If the terminated employee has had a medical examination within the past six months that meets the requirement of 1910.1027(l)(8)(i).

The Company provides the following information to the physician:

- A copy of this Standard and Appendices.
- Description of affected employees former, current and anticipated duties as relate to occupational exposure to cadmium.
- Employees former, current and anticipated future levels of occupational exposure to cadmium.
- Description of personal protective equipment and respiratory protection used and how long used or anticipated to be used by employee.
- Results of previous biological monitoring and medical examinations.

The Company physician will provide a written medical opinion for each medical examination performed on each employee. The medical opinion will contain the following information:

- Physician's diagnosis for employee.
- Physician's opinion of any detected medical condition(s) that would place employee at increased risks of impairment to health from further exposure to cadmium including any indications of potential cadmium toxicity.
- Results of biological, other testing or related evaluations that directly assess employee's absorption of cadmium. The physician has been instructed to not reveal specific findings or diagnoses unrelated to cadmium exposure.
- Any recommended removal from, or limitation of activities or duties of employee or restriction on use of personal protective equipment.
- A statement that physician has clearly and carefully explained results of medical evaluation including biological monitoring and medical conditions related to cadmium exposure to the employee. Any limitations on the employee's diet or use of medications will also be explained to the employee.

The Company will medically remove employees from their current job when required by medical evaluations including biological monitoring. The employees will not be returned to their former job until the examining physician has determined that continued medical removal is no longer necessary.

For employees medically removed from their current position, medical evaluation, including biological monitoring will continue at the required frequency until results indicate the frequency can be reduced or eliminated.

The Company will provide medical removal benefits protection to each employee medically removed.

The Company will provide the employee with the following information:

- A copy of the physician's written medical opinion within two weeks of receipt.
- Copy of the biological monitoring results and an explanation sheet explaining the results within two weeks of receipt.
- The information the employer provided to the examining physician will be provided to the employee within 30 days of receipt of a request.

The Company will record any abnormal condition or disorder caused by occupational exposure to cadmium on the OSHA 300 form.

XII. EMPLOYEE INFORMATION AND TRAINING

Each employee exposed or potentially exposed to cadmium will participate in the Company's Cadmium Compliance plan. Employees will be trained at the time of initial assignment to a job potentially exposed to cadmium and annually thereafter.

Employees will be informed of the information found in the Employee Information and Training Record found in Appendix D at the end of this plan. Each employee participating in the training will be required to sign the form upon completion of the training. A copy of the form will be provided to the employee. The original copy will be maintained in the _____.

Employees can request a copy of the information and training section of this compliance plan.

XIII. SIGNAGE

The Company has established regulated areas where employee exposure to cadmium exceeds or are expected to exceed the permissible exposure limit. These signs are posted in the regulated area(s) as well as the approaches to the regulated area(s). The signs are illuminated and cleaned so they are readily visible.

Warning signs contain the following information:

DANGER
CADMIUM
CANCER HAZARD
CAN CAUSE LUNG AND KIDNEY DISEASE
AUTHORIZED PERSONNEL ONLY
RESPIRATORS REQUIRED IN THIS AREA

The Company has also established warning labels for containers containing cadmium components, contaminated clothing, equipment, waste, scrap, or debris. Warning labels contain the following information:

DANGER
CADMIUM
CANCER HAZARD
AVOID CREATING DUST
CAN CAUSE LUNG AND KIDNEY DISEASE

XIV. RECORDKEEPING

The Company has established and maintains records of exposure monitoring, [objective data for exemption of initial monitoring], medical surveillance and training.

Exposure monitoring will be maintained on file for at least 30 years. The exposure monitoring information will include the following information:

- Date, duration and 8-hour time-weighted average sample results.
- Name, social security number and job classification of monitored employee or employee's assumed to have similar exposures.
- Sampling and analytical methodology used including accuracy of methodology.
- Respiratory protection utilized by employee if any.
- Notation of any conditions that might have affected monitoring results.

[The Company can use objective data for exemption from requirements of initial monitoring, including information demonstrating product or material, process, operation or activity that can not release cadmium dust or fumes above the Action Level even under worse case release conditions. This information must be kept on file. This information can be from industry wide or laboratory product testing. The data must be obtained under work place conditions closely resembling processes, types of material, control methods, work practices and environmental conditions in Company's current operations.]

The company must establish and maintain a record of the objectable data for at least 30 years.]

Medical surveillance information on each employee will be maintained on file [or maintained by the medical clinic performing the surveillance] for the duration of employment plus 30 years. Medical surveillance records will include the following information:

- Employee name, social security number and description of duties.
- Copy of physician's written opinion and explanation sheet of biological monitoring results.
- Copy of medical history, results of any physical examination, all test results required to provided, or obtained to further evaluate conditions related to cadmium exposure.
- Employee's medical symptoms that might be related to cadmium exposure.
- Copy of information provided to the physician.

Employees can request a copy of or examination of their medical records. The Company will provide these records within 15 days of the request. These records will be provided to the employee, designated representative, anyone having specific written consent or employee's family members (after death or incapacitation).

The Company has developed an Employee Information and Training Record form to certify each employee with exposure or potential for exposure to cadmium has been trained. The form includes date of training, and an area for the trainer and employee to sign. The training form certification record will be maintained on file for at least one year beyond date of training of employee.

APPENDIX A

Review Schedule

REVIEW SCHEDULE

<u>ACTION</u>	<u>DATE</u>
Cadmium Compliance Plan Adopted	
First Review/Update [At least annually]	{Projected}
Second Review/Update	{Projected}
Third Review/Update	{Projected}
“	
”	
“	
”	

[NOTE: This must be continued as long as any employee is over the PEL.]

APPENDIX B

Laundry Service Notification Letter

LAUNDRY SERVICE NOTIFICATION LETTER

[You must inform, in writing, any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to cadmium, and that the clothing and equipment should be laundered or cleaned in a manner to effectively prevent the release of airborne cadmium in excess of the PEL. Appendix A and B of the 1910.1027 standard does this and is part of your mandatory training program as found in paragraph (m)(4) of the standard.]

APPENDIX C

Employee Notification of Sampling Results
And
Employee Access to Exposure and Medical
Records Policies

XYZ, Inc.
Employee Notification of Sampling Results

As required by OSHA, this company monitored your exposure to _____. We are also required to inform you of what level you got and explain what it means.

On _____ date _____ you (or your position) were monitored for Cadmium. The amount you received was _____ $\mu\text{g}/\text{m}^3$. This level is (is not) within allowable OSHA (Permissible Exposure Limits, Action Level, Short Term Exposure Limits) levels.

Because your exposure was within the acceptable OSHA limits, there are no further actions to be taken other than this notification.

Because your exposure was above the OSHA limits, further actions will be taken by the company to remedy this situation. These will be discussed later.

_____ (Signature)

_____ (Date)

I've been informed about the results as stated above.

_____ (Employee's signature)

_____ (Date)

XYZ, Inc.
Employee Access to Exposure and Medical Records Policy

As required by OSHA, this company maintains records on possible exposures to chemical and physical hazards you may have in our facility. We also keep any medical records resulting from any exposures. By this policy, you have been informed that:

1. We may have records on you covering these areas.
2. These records are maintained by _____ of the _____ office.
3. You can access these records during normal work hours by contacting the person named above. Should you request to see these records when this person is unavailable, our company will make every effort to notify you when _____ returns. Access will be made no later than 15 working days from your request.

Please note that you have access to your records only. You may grant by written statement someone else this access to your records.

A copy of the pertinent OSHA standard (29 CFR 1910.1020) is available for your review in the _____ office.

_____ (Signature)

_____ (Date)

APPENDIX D

Employee Information and Training Record Form

Employee Information and Training Record

Company: _____

Employee Name: _____ SSN: _____

Job Title: _____ Department: _____

On _____ I attended training provided by my employer.

Topics covered included:

- A. The health hazards associated with cadmium exposure including information provided in Appendix A of the Cadmium Standard, 1910.1027.
- B. Quantity, location, manner of use, release and storage of cadmium in workplace. Operations with exposure to cadmium are also discussed.
- C. Engineering controls and work practices associated with employee's job assignment.
- D. Measures employees can take to protect themselves from exposure to cadmium including proper personnel hygiene practices. Procedures the Company has taken to protect the employee from cadmium exposure including work practices, emergency procedures and personal protective equipment assigned.
- E. Purpose, proper selection, fitting, proper selection and limitations of respirators and personal protective equipment assigned to the employee.
- F. Purpose and description of the medical surveillance program.
- G. Contents of the employee information and training section and Cadmium Standard and Appendices.
- H. Employee's rights to access medical and exposure information under OSHA Standard 1910.1020.

Supervisor of Trainer's Initials

Employee Signature