

COURSE TRAINING PLAN

1. COURSE TITLE <b>Hazardous Waste Management</b>			2. YJ NO.: <b>YJ2241</b> REV. NO.: CHANGE NO.:	
3. TRAINING CLASSIFICATION SAID NUMBER	4. PRIORITY <b>1</b>	5. TYPE OF TRAINING <b>5</b>	6. TRAINING SOURCE <b>C</b>	
7. AUTHORITY <b>NAVSHIPYDINST 5090.2</b>		8. PURPOSE OF TRAINING <b>3, 4</b>	9. TRAINING PROGRAM <b>N</b>	
10. COST CENTER <input checked="" type="checkbox"/> NON-NUCLEAR <input type="checkbox"/> NUCLEAR	11. CATEGORY <b>50</b>		12. COURSE HOURS INITIAL: <b>2</b> REFRESHER: <b>1</b>	

13. COURSE OBJECTIVES

This course is designed to train applicable Mare Island personnel in the proper handling, storage and disposal of hazardous waste products as necessary to protect employees and meet the requirements of Navy, Federal and State Standards.

Trainees will include Shipyard Hazardous Waste Coordinators, persons who handle significant quantities of hazardous waste and contract personnel (Vallejo Sanitation and Flood Control District, Sanitary landfill contractor, etc.).

Codes identified to date that should participate in the subject training include Codes 380, 452, 453, 457, 580.3, 502.14, 830, 920, 930, 964, 971, 972, 999, 105.2, 2310, NAVSTA (Codes 30 and 81), **950.**

14. COURSE CONTENT (OUTLINE OF TOPICS TO BE COVERED)
- I. Hazardous waste overview
  - II. Regulations and OPNAVINST 5090.1
  - III. Regulatory agencies
  - IV. Managing hazardous waste
  - V. Identification of hazardous waste
  - VI. Handling hazardous waste
  - VII. Hazardous waste storage
  - VIII. Hazardous waste treatment
  - IX. Hazardous waste disposal
  - X. Hazardous waste training requirements

15. APPROVAL	DATE	APPROVAL	DATE
SPONSOR SHOP/CODE <b>461</b> <i>Ralph M. Lee</i>	<b>15 Aug 85</b>	OTHER <b>Code 400</b> <i>James Hillard</i>	<b>8/15/85</b>
EMPLOYEE DEVELOPMENT DIVISION (Code 180)		OTHER <b>Code 400</b> <i>H. R. Lawrence</i>	<b>8-16-85</b>

NOTE: THIS TRAINING PLAN IS FOR REPORTING THIS INFORMATION ONLY. IT IS NOT TO BE USED FOR CONDUCTING CLASSES. THE SPONSOR WILL GENERATE AND MAINTAIN A DETAILED LESSON PLAN APPROVED BY THE COGNIZANT DEPARTMENTS AND TECHNICAL CODES FOR INSTRUCTIONAL PURPOSES.

15 August 1985

MARE ISLAND NAVAL SHIPYARD  
ENVIRONMENTAL-ENERGY MANAGEMENT DIVISION  
ENVIRONMENTAL BRANCH

HAZARDOUS WASTE MANAGEMENT PROGRAM  
TRAINING PLAN

INITIAL TRAINING FOR MANAGEMENT OF HAZARDOUS WASTE (HW)

Prepared by: Ralph M. Lee 8/15/85  
Code 461 DATE

Concurrence: James D. Allen 8/15/85  
Code 460 DATE

Concurrence: H. R. Farnsworth 8-16-85  
Code 400 DATE

Concurrence: B. D. Hillman 10/7/85  
*acting for* Code 106 DATE

HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

(Code 106)

SCOPE

- Includes All Hazardous Materials Except Those Regulated By Other Agencies (e.g., Pesticides, Food Additives, etc.)

INTENT

- TO ENSURE THAT:
  - Hazards of chemicals are identified
  - Hazard information is given to employees
  - Controls are implemented

REQUIREMENTS

- WRITTEN HAZARD COMMUNICATION PROGRAM
  - Employers Shall:
    - Develop a written program
    - Describe how the labeling, MSDS and training requirements are met
    - Generate a list of chemicals used at workplace
    - Describe how contractors are informed of hazards
    - Make the written program available to employees, union and OSHA upon request
- HAZARD DETERMINATION
  - Manufacturers Or Importers:
    - Must determine the health and physical hazards of their products
    - Are responsible for the quality of the determinations
- LABELING
  - Manufacturers, Importers, or Distributors Must:
    - Label containers with chemical identity, hazard warning and name/address of the manufacturer or importer
  - Employers Must:
    - Ensure all containers are marked/labeled with chemical identity and hazard warning
      - Includes stationary process tanks
      - Does not include portable containers (e.g., poly bottles) if used during shift

D. Physical and Health Hazards: Electroplating chemicals can be potentially dangerous because of health hazard, fire hazard, or reactivity.

1. Health Hazard. Electroplating chemicals usually enter the body in two ways: by breathing the dust, gas, vapor or mist, or by skin or eye contact with the dust, mist, liquids, or solid.

a. Inhalation can cause a wide variety of health effects.

These include nose and throat irritation, headache, nausea, and dizziness. There may be lung, liver and kidney damage with long-term exposure. Some electroplating chemicals may cause cancer. For specific effects of each chemical, see Table I.

b. Skin contact can cause skin irritation and dermatitis (skin rash). Burns may also occur. Long-term exposure may cause sensitization. See Table I for specific effects of each chemical on the skin.

c. Eye contact can cause irritation or temporary eye damage. Direct contact with some chemicals could result in blindness. See Table I for specific effects of each chemical on the eyes.

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TABLE 1. ELECTROPLATING CHEMICALS HEALTH HAZARDS: ACIDS

CHEMICAL NAME	FOUND IN TANKS: NO. DESCRIPTION	POTENTIAL EXPOSURE	ROUTE OF ENTRY SKIN INHALED	PEL MG/M <sup>3</sup>	HEALTH HAZARDS
BORIC ACID, H <sub>3</sub> BO <sub>3</sub>	3C DULL NICKEL 7C BRIGHT NICKEL 1E LEAD PLATING	GRANULES ADDED TO TANKS. SPLASHING OF PLATING SOLUTION.	X X	NONE	POSSIBILITY OF WEAKNESS, JOINT PAINS AND OTHER VAGUE SYMPTOMS.
CHROMIC ACID CrO <sub>3</sub>	5R DECORATIVE CHROME 9R CHROMIC ACID 11R CHROME ANNOODIZE	FLAKES ADDED TO TANKS. SPLASHING OF PLATING SOLUTIONS. MIST FROM TANKS.	X X	0.10 mg/m <sup>3</sup>	EYE IRRITATION AND DAMAGE, AND UPPER RESPIRATORY TRACT DAMAGE, MAY RESULT FROM EXPOSURE TO DUST OR MIST. CONCENTRATED LIQUID CAN CAUSE BURNS. PROLONGED EXPOSURE MAY CAUSE NASAL ULCERATION, ALLERGENIC DERMATITIS (SKIN RASH), ASTHMATIC BRONCHITIS, AND DENTAL EROSION. REPEATED EXPOSURES IN EXCESS OF PEL MAY CAUSE CANCER.
FLUORO- ID r <sub>4</sub> B	1E LEAD PLATING	LIQUID ADDED TO TANK SPLASHING OF PLATING SOLUTION. MIST FROM TANK.	X X	2.5 mg/m <sup>3</sup>	SEVERE IRRITATION OF EYES, MUCOUS MEMBRANES, AND SKIN. EYE DAMAGE AND SKIN BURNS CAN RESULT FROM CONTACT WITH LIQUID. BREATHING MISTS MAY CAUSE LUNG IRRITATION, AND FLUID IN LUNGS.
HYDRO- CHLORIC ACID HCl	8A ACID CLEANING 4C NICKEL STRIKE 9D SOUR WATER 4H ACID CLEANING	LIQUID ADDED TO TANKS. SPLASHING OF CLEANING SOLUTIONS. MIST FROM TANKS.	X X	7 mg/m <sup>3</sup>	MIST AND GAS CAUSE DAMAGE TO EYES, SKIN, MUCOUS MEMBRANES. ACID CONTACT WITH SKIN MAY CAUSE BURNS AND ULCERATION. ACID CONTACT WITH EYES MAY CAUSE REDUCED VISION OR BLINDNESS. BREATHING MAY CAUSE LARYNGITIS, BRONCHITIS, FLUID IN THE LUNGS, AND DEATH. REPEATED EXPOSURES CAN CAUSE EROSION OF TEETH, AND SKIN RASH.
NITRIC ACID HNO <sub>3</sub>	3A BRIGHT DIP 3C SILVER STRIP 2H BRIGHT DIP 8H PASSIVATE 6K CHROMATE CONVERSION	LIQUID ADDED TO TANKS. SPLASHING OF BRIGHT DIP SOLUTIONS. MIST FROM TANKS.	X X	5 mg/m <sup>3</sup>	EXPOSURE TO VAPORS OR MISTS CAN CAUSE EYE, THROAT, AND SKIN IRRITATION. SKIN CONTACT WITH LIQUID CAN CAUSE SKIN ULCERATION AND SEVERE BURNS; EYE CONTACT WITH LIQUID CAN CAUSE BURNS AND AT WORST BLINDNESS. INHALATION CAN CAUSE FLUID IN THE LUNGS. PROLONGED AND REPEATED EXPOSURE CAN CAUSE EROSION OF THE TEETH.
LFURIC ACID H <sub>2</sub> SO <sub>4</sub>	3A BRIGHT DIP 5B NICKEL STRIP 3C SILVER STRIP 4E RUBBER ETCHING 2H BRIGHT DIP 9R DECORATIVE CHROME 7R SULFURIC ANNOODIZE 9R CHROMIC ACID 11R CHROME ANNOODIZE	LIQUID ADDED TO TANKS. SPLASHING OF CLEANING & ETCHING SOLUTIONS. MIST FROM TANKS.	X X	1 mg/m <sup>3</sup>	CONCENTRATED SOLUTION CAUSES BURNING AND CHARRING OF SKIN, DAMAGE TO MUCOUS MEMBRANES AND EYES. MIST AND DILUTE SOLUTION CAUSES IRRITATION TO THE SKIN AND MUCOUS MEMBRANES. IRREPARABLE EYE DAMAGE AND BLINDNESS MAY OCCUR. MIST CAUSES EROSION OF TEETH. BREATHING MIST CAUSES SNEEZING AND COUGHING, DIFFICULTY IN BREATHING, AND LUNG IRRITATION & FLUID. LONG EXPOSURES MAY RESULT IN LUNG INFECTIONS, EMPHYSEMA, AND DIGESTIVE DISTURBANCES.