

GUIDELINES FOR HEALTH CARE WORKERS

7. DIRECTORY OF OCCUPATIONAL SAFETY AND HEALTH INFORMATION FOR HOSPITALS

7.1 GOVERNMENT AGENCIES AND ORGANIZATIONS

The standard-setting and enforcement responsibilities of government agencies and private accreditation organizations are described in Section 2.4. The present section lists occupational safety and health agencies and resource organizations that may be helpful in obtaining information on hospital safety and health hazards. Most of this assistance is in the form of written materials such as individual publications, newsletters, journals, and other periodicals. Some organizations also provide consultation, education conferences, and other forms of assistance. A listing of this nature is necessarily incomplete, and NIOSH welcomes information regarding organizations and publications not listed.

7.1.1 National Institute for Occupational Safety and Health (NIOSH)

One of the main functions of NIOSH is to conduct research on workplace hazards and to develop recommendations for exposure limits and safe working procedures. Many NIOSH publications are therefore applicable to hospital hazards. All requests for information concerning NIOSH publications should be sent to the following address:

National Institute for Occupational Safety and Health
Attention: Publications Dissemination
Robert A. Taft Laboratories
4676 Columbia Parkway
Cincinnati, OH 45226

Telephone: (513) 533-8287
FTS: 684-8287

NIOSH regional offices are listed below:

REGION I
Regional Program Consultant, NIOSH
DHHS/PHS/Prevention - Region I
Government Center
JFK Federal Building, Room 1401
Boston, MA 02203

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REGION IV

Regional Program Consultant, NIOSH
DHHS/PHS/Prevention - Region IV
101 Marietta Tower, Suite 1110
Atlanta, GA 30323

REGION VIII

Regional Program Consultant, NIOSH
DHHS/PHS/Prevention - Region VIII
1961 Stout Street, Room 1185
Denver, CO 80294

7.1.2 Occupational Safety and Health Administration (OSHA)

OSHA has both State and Federal offices (see the listing at the end of this section). Twenty-three States plus Puerto Rico and the Virgin Islands have their own OSHA programs. The remaining States are covered under Federal OSHA standards.

The primary function of OSHA is to see that employers comply with the health and safety provisions of the Occupational Safety and Health Act. OSHA should be contacted to:

- Request a workplace inspection
- Review records of previous inspections and citations
- Obtain information on current standards

OSHA also provides employers with a free consultation service to advise them on eliminating potential workplace hazards.

7.1.2.1 Regional Offices for the Federal Occupational Safety and Health Administration

REGION I (CT, ME, MA, NH, RI, VT)
U.S. Department of Labor - OSHA
16-18 North Street
Boston, MA 02109

REGION VI (AR, LA, NM, OK, TX)
U.S. Department of Labor - OSHA
525 Griffin Street
Federal Building, Room 602
Dallas, TX 75202

REGION II (NY, NJ, PR, VI)
U.S. Department of Labor - OSHA
1515 Broadway Street, Room 3445
New York, NY 10036

REGION VII (IA, KS, MO, NE)
U.S. Department of Labor - OSHA
911 Walnut Street, Room 406
Kansas City, MO 64106

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REGION III (DE, DC, MD, PA, VA, WV)
U.S. Department of Labor - OSHA
Gateway Building, Suite 2100
3535 Market Street
Philadelphia, PA 19104

REGION IV (AL, FL, GA, KY, MS, NC, SC, TN)
U.S. Department of Labor - OSHA
1375 Peachtree Street, N.E., Suite 587
Atlanta, GA 30367

REGION V (IL, IN, MN, MI, OH, WI)
U.S. Department of Labor - OSHA
230 South Dearborn Street, Room 3244
Chicago, IL 60604

REGION VIII (CO, MT, ND, SD, UT, WY)
U.S. Department of Labor - OSHA
Federal Building, Room 1576
1961 Stout Street
Denver, CO 80294

REGION IX (AZ, CA, HI, NV)
U.S. Department of Labor - OSHA
Box 36017
450 Golden Gate Avenue, Room 11349
San Francisco, CA 94102

REGION X (AK, ID, OR, WA)
U.S. Department of Labor - OSHA
Federal Office Building, Room 6003
909 First Avenue
Seattle, WA 98174

7.1.2.2 Offices for States that have OSHA-Approved State Plans

ALASKA

Alaska Department of Labor
P.O. Box 1149
Juneau, AK 99802

ARIZONA

Occupational Safety & Health Division
Industrial Commission of Arizona
P.O. Box 19070
800 W. Washington
Phoenix, AZ 85007

CALIFORNIA

Department of Industrial Relations
525 Golden Gate Avenue
San Francisco, CA 94102

CONNECTICUT

Connecticut Department of Labor
200 Folly Brook Boulevard
Wethersfield, CT 06109

HAWAII

Labor & Industrial Relations
825 Mililani Street
Honolulu, HI 96813

INDIANA

Indiana Department of Labor
1013 State Office Building
100 N. Senate Avenue
Indianapolis, IN 46204

IOWA

Department of Employment Services
Division of Labor Services
307 E. 7th Street
Des Moines, IA 50319

KENTUCKY

Kentucky Labor Cabinet
U.S. Highway 127 South
Frankfort, KY 40601

MARYLAND

Department of Licensing & Regulation
Division of Labor & Industry
501 St. Paul Place
Baltimore, MD 21202

MICHIGAN

Michigan Department of Labor
7150 Harris Drive
Lansing, MI 48909

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MICHIGAN (continued)

Michigan Department of Public Health
P.O. Box 30035
3500 North Logan Street
Lansing, MI 48909

MINNESOTA

Department of Labor & Industry
444 Lafayette Road
St. Paul, MN 55101

NEVADA

Department of Occupational Safety
and Health
Nevada Department of Industrial
Relations
Capitol Complex
1370 S. Curry Street
Carson City, NV 89710

NEW MEXICO

Environmental Improvement Division
Health & Environment Department
P.O. Box 968
Sante Fe, NM 87504-0968

NEW YORK

New York Department of Labor
One Main Street
Brooklyn, NY 11201

NORTH CAROLINA

North Carolina Department of Labor
214 W. Jones Street, Shore Building
Raleigh, NC 27603

OREGON

Workers' Compensation Department
Labor and Industries Building
Salem, OR 97310

PUERTO RICO

Puerto Rico Department of Labor
and Human Resources
Prudencio Reveria Martinez Building
505 Munoz Reveria Avenue
Hato Rey, Puerto Rico 00918

SOUTH CAROLINA

South Carolina Department of Labor
3600 Forest Drive
P.O. Box 11329
Columbia, SC 29211-1329

TENNESSEE

Tennessee Department of Labor
501 Union Building
Suite A, Second Floor
Nashville, TN 37219

UTAH

Utah Occupational Safety and Health
160 E. 3rd South
P.O. Box 5800
Salt Lake City, UT 84110-5800

VERMONT

Department of Labor & Industry
120 State Street
Montpelier, VT 05602

VIRGIN ISLANDS

Virgin Islands Department of Labor
P.O. Box 890
Christainsted
St. Croix, Virgin Islands 00820

VIRGINIA

Department of Labor & Industry
P.O. Box 12064
Richmond, VA 23241-0064

WASHINGTON

Department of Labor & Industries
General Administration Building
Room 334-AX-31
Olympia, WA 98504

WYOMING

Occupational Health and Safety
Department
604 E. 25th Street
Cheyenne, WY 82002

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7.1.3 The Centers for Disease Control (CDC)

The Centers for Disease Control (CDC) in Atlanta, GA, collects statistics on hospital infection control programs and publishes guidelines for infection control in hospital workers and for hospital environmental control.

7.2 HOSPITAL ASSOCIATIONS AND ORGANIZATIONS

7.2.1 American Hospital Association (AHA)

840 North Lake Shore Drive
Chicago, IL 60611

The AHA has numerous publications of interest, including those on hospital infection control, anesthetic waste gas, and hospital safety. They also sponsor conferences on hospital health and safety.

7.2.2 Federation of American Hospitals (FAH)

1405 N. Pierce, No. 311
Little Rock, AR 72207

The FAH is an organization of privately-owned and investor-owned hospitals.

7.2.3 Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

875 North Michigan Avenue
Chicago, IL 60611

The JCAHO evaluates hospitals who choose to apply for accreditation every 3 years. Although their concern is primarily patient care, they have also established criteria for hospital health and safety activities.

7.3 SAFETY AND HEALTH ORGANIZATIONS

7.3.1 National Fire Protection Association (NFPA)

Batterymarch Park
Quincy, MA 02269

The NFPA has developed publications on various aspects of fire safety (e.g., extinguishers, sprinkler systems, and electrical codes). Many of their guidelines are enforced by local and State fire marshals.

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7.3.2 National Safety Council (NSC)

444 North Michigan Avenue
Chicago, IL 60611

The NSC publishes general recommendations for safety standards, with particular concern for fire safety. Health care concerns are emphasized.

7.3.3 Committees on Occupational Safety and Health (COSH)

COSH groups are coalitions of workers and health professionals who are concerned about hazardous work environments. Among the services often provided by these groups are health and safety information hotlines, educational materials, conferences, research on workplace hazards, and the sharing of experiences in investigating and controlling workplace hazards. COSH groups now exist in more than 30 cities in the United States.

7.4 HEALTH PROFESSIONAL AND WORKER ORGANIZATIONS

7.4.1 American Federation of Government Employees (AFGE)

80 F Street, N.W.
Washington, DC 20001

AFGE represents several hundred thousand workers in the Veterans Administration system. They have a health and safety program.

7.4.2 American Federation of State, County, and Municipal Employees (AFSCME)

1625 L Street N.W.
Washington, DC 20036

AFSCME maintains an active health and safety staff and publishes material on hospital health and safety.

7.4.3 American Association of Occupational Health Nurses (AAOHN)

3500 Piedmont Road, N.E.
Atlanta, GA 30305

AAOHN consists of registered nurses and other health professionals interested in occupational health issues.

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7.4.4 American Occupational Medical Association (AOMA)

2340 South Arlington Heights Road
Arlington Heights, IL 60005

The AOMA Committee on Occupational Health in Medical Centers has recently published guidelines.

7.4.5 Association of Hospital Employee Health Professionals

P.O. Box 2029
Chula Vista, CA 92012-2029

The members of this professional and educational organization are involved with health and safety issues in hospitals. The organization is working to establish guidelines for hospital employee health. The association publishes the Journal of Hospital Occupational Health and sponsors a 3-day national conference annually.

7.4.6 Association of Operating Room Nurses (AORN)

10170 East Mississippi Avenue
Denver, CO 80231

This organization consists of registered nurses employed in operating rooms. Their goal is to improve operating room standards.

7.4.7 Hospital Workers Union 1199, AFL-CIO

625 Broadway
New York, NY 10012

Hospital Workers Union 1199 was one of the first hospital unions to develop a full health and safety staff and program. The Union has produced many publications and holds conferences on health and safety on a regular basis.

7.4.8 College of American Pathologists (CAP)

5202 Old Orchard Road
Skokie, IL 60077

CAP has published guidelines for the operation of clinical laboratories.

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7.4.9 Service Employees International Union (SEIU)

**1313 L Street, N.W.
Washington, DC 20005**

The SEIU maintains an active health and safety staff and publishes many materials on hospital health and safety.

7.5 MANUFACTURER'S ASSOCIATIONS

7.5.1 American Association for the Advancement of Medical Instrumentation (AAMI)

**1901 North Fort Myer Drive, Suite 602
Arlington, VA 22209**

The AAMI is concerned with worker safety and health in the handling of medical instruments. The association has published recommended guidelines for the use of ethylene oxide.

7.5.2 Health Industry Manufacturers Association (HIMA)

**1030 15th Street, N.W.
Suite 1100
Washington, DC 20005**

The HIMA represents domestic manufacturers of hospital devices and diagnostic products. They develop programs and sponsor activities on matters affecting the industry.

7.6 PUBLICATIONS

7.6.1 Newsletters

Hospital Infection Control

Published monthly by American Health Consultants, Inc., 67 Peachtree Park Drive N.E., Atlanta, GA 30309.

Infection Control Digest

Published monthly by the American Hospital Association, 840 North Lake Shore Drive, Chicago IL 60611.

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Hospital Employee Health

Published monthly by the American Health Consultants, Inc., 67 Peachtree Park Drive N.E., Atlanta, GA 30309.

7.6.2 Checklists and Manuals

Health and Safety Manual for Hospitals

Prepared by the Health and Safety Department, Canadian Union of Public Employees, March 1981.

Hospital Workers: Who Cares About Your Health on the Job?

Prepared by the Public Employee Department, AFL-CIO, 815 16th Street N.W., Washington, DC 20006.

Safety and Health Hazards on the Job: A Manual for Health Care Employees

Available from the Service Employees International Union, 2020 K Street, N.W., Washington, DC 20006, 1982.

OSHA and the Hospital Manager: Checklist of OSHA Regulations for Health Care Institutions

Prepared by the Catholic Hospital Association, St. Louis, MO 63104.

Hospital Safety. Vol. I, Hospital Safety Manual. Vol. II, Hospital Hazard Recognition

Prepared by the Hospital Safety Training Program Committee, Bureau of Safety and Regulation, Michigan Department of Labor, February 1977.

Regulations for Health Care Workers

Available from the Labor Occupational Health Project (LOHP), 2521 Channing Way, Berkeley, CA 94720.

How to Look at Your Workplace

Prepared by Urban Planning Aid, 120 Boylston Street, Boston, MA 02116.

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7.6.3 Journals

American Journal of Industrial Medicine

American Journal of Public Health

Hospitals

Infection Control

Journal of Hospital Occupational Health

Journal of Occupational Medicine

Occupational Health and Safety

Occupational Health Nursing

Scandinavian Journal of Work, Environment and Health

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APPENDIX 1

DISTRIBUTION OF HOSPITAL WORKERS (SIC 806) BY OCCUPATION*

Type of worker	Number	Percent [†]
Professional and technical workers:		
Professionals, technicals	883,029	22.64
Dentists	3,140	.08
Dietitians	23,708	.61
Pharmacists	16,292	.42
Physicians and osteopaths	111,406	2.86
Podiatrists	392	.01
Registered nurses	652,054	16.72
Therapists	74,552	1.91
Other	1,485	.04
Health technologists, technicians	302,047	7.74
Clinical laboratory technologists, technicians	143,610	3.68
Dental hygienists	368	.01
Health record technologists	14,279	.37
Radiologic technologists	73,971	1.90
Therapy assistants	4,130	.11
Other	65,739	1.69
Other professional, technical	157,913	4.05
Total professional and technical workers	1,342,989	34.43
Managers, professionals, proprietors	120,833	3.10
Sales workers	2,234	.06
Clerical workers	628,533	16.11
Crafts and kindred workers	98,355	2.52
Operatives	89,802	2.30
Service workers:		
Cleaning service workers	207,598	5.32
Food service workers	155,988	4.00
Miscellaneous service workers	67,645	1.73
Health service workers	1,152,104	29.54
Dental assistants	2,939	.08
Health aides excluding nursing	120,971	3.10
Health trainees	13,600	.35
Nursing aides and orderlies	667,517	17.11
Practical nurses	347,077	8.90
Total service workers	1,583,335	40.59
Laborers	34,253	.88
Total hospital workers	3,900,334	99.99

*Source: Adapted from Occupation by Industry, 1980, Census of Population, Volume 2, U.S. Department of Commerce, Bureau of the Census, 1984.

†Figures may not add because of rounding.

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APPENDIX 2

NIOSH GUIDELINES FOR EVALUATION OF HOSPITAL OCCUPATIONAL HEALTH AND SAFETY PROGRAMS*

An effective hospital occupational health program should provide, but is not limited to, the following services:

- A. Preplacement physical examinations, including a complete medical history
- B. Periodic health appraisal examinations
- C. Health and safety education
- D. Immunizations
- E. Care for illness and injury at work
- F. Health counseling
- G. Environmental control and surveillance
- H. Health and safety records system
- I. Coordinated planning with hospital departments and services

The established guidelines are outlined as follows.

A. PREPLACEMENT PHYSICAL EXAMINATIONS

1. Physical examinations should be given to all new workers and should include:
 - a. Routine blood tests
 - (1) Complete blood count
 - (2) Fasting blood sugar or 2-hr postprandial
 - (3) Renal function tests
 - (4) Creatinine
 - (5) SGOT

*Adapted from: NIOSH (1977). Hospital occupational health and safety. Cincinnati, OH: U.S. Department of Health, Education and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, DHEW (NIOSH) Publication No. 77-141.

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- (6) SGPT
- (7) Serology for syphilis
- (8) Serology for rubella
- (9) Others at the physician's discretion, guided by the worker's medical history

- b. Routine urinalysis
 - c. Electrocardiogram for workers over age 35 at the physician's discretion
 - d. Chest X-ray, posterior and anterior and lateral
 - e. Skin testing for TB
 - f. Vision tests (near and far, with and without correction) and tonometry
 - g. Audiogram, speech range
 - h. Cervical cytology (Pap smear) for females
2. A record of the occupational history of the worker should be included in the preplacement examination.

B. PERIODIC HEALTH APPRAISAL EXAMINATIONS

Periodic health appraisal examinations should be provided for the following:

1. Workers who are exposed to hazardous environments,
2. Workers who are returning from an absence caused by illness or injury,
3. Workers who are being transferred to another department or service, and
4. Workers who are retiring.

C. HEALTH AND SAFETY EDUCATION

In addition to job orientation, a program instructed by a knowledgeable person should provide health, safety, and environmental information for all workers on a continuing basis.

The instruction should include information on safe working habits, relevant health information, and use of the occupational health unit for reporting injuries and illnesses.

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D. IMMUNIZATIONS

1. Immunizations should be provided in accordance with the Centers for Disease Control (CDC) policy for hospital workers.*
2. Elective immunizations should be considered for special situations such as epidemics, unusual laboratory conditions, or accidental exposures (e.g., HBV needlestick accident).
3. A suspense system for updating immunizations should be maintained.

E. CARE FOR ILLNESS AND INJURY AT WORK

1. A specific site within the hospital should be available for workers to receive medical, psychological, and other consultative services on a 24-hr basis.
2. An adequate facility should be provided to give medical, surgical, psychological, and rehabilitative services to all workers.
3. A competent consulting staff should be maintained.
4. A formal procedure should be outlined for contacting a family or a private physician.
5. Adequate followup measures for facilitating continuity of care should be maintained for all workers.
6. Treatment and reporting of occupational injuries and illnesses should conform to the State compensation laws and to OSHA standards under Public Law 91-596, the Occupational Safety and Health Act of 1970.

F. HEALTH COUNSELING

1. A program should be made accessible and available to provide medical, psychological, and social counseling. Such counseling should include help for workers with various addictive problems (i.e., tobacco, drugs, food, and alcohol), as well as for those with problems associated with HIV infection and the HIV epidemic.
2. A formal system for referral and review should be provided for workers with problems that need professional intervention unavailable in the facility.

*See Appendix 8 of this document.

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3. Where a social service or psychiatric department is not available, persons with special interests or training should be designated to assist in counseling sessions.

G. ENVIRONMENTAL CONTROL AND SURVEILLANCE

1. An environmental control and surveillance program should be part of the occupational health program and should be directed by an individual or consultant capable of managing harmful exposures in the hospital.
2. A single individual should be responsible for nuclear medicine and radiological activities.
3. Conformance should be maintained to State and Federal rules and regulations pertaining to radiation and safety hazards.

H. HEALTH AND SAFETY RECORDS SYSTEM

1. Each worker should have a health record maintained in the health unit. The record should include all examinations, reports of injuries and illnesses, reports to and from physicians, and all other safety and health matters.
2. Reports should be kept on a monthly and yearly basis to indicate injury and illness rates, accident facts, and reports on the monitoring and control of environmental hazards.
3. Records should be confidential and should be available only to appropriate personnel.

I. COORDINATED PLANNING WITH HOSPITAL DEPARTMENTS AND SERVICES

1. A committee that represents all hospital departments and services should advise the hospital administration on the policy, direction, and requirements of the occupational health program.
2. A safety committee and an infection control committee should consider the health of all workers in their planning.
3. A member of the hospital's occupational health program should be on both the safety committee and the infection control committee.

GUIDELINES FOR HEALTH CARE WORKERS

APPENDIX 3

OCCUPATIONAL HAZARDS BY LOCATION IN THE HOSPITAL*

Location	Hazard	Location	Hazard
Central supply	Ethylene oxide Infection Broken equipment (cuts) Soaps, detergents Steam Flammable gases Lifting Noise Asbestos insulation Mercury	Housekeeping	Soaps, detergents Cleaners Solvents Disinfectants Glutaraldehyde Infection Needle punctures Wastes (chemical, radioactive, infectious) Electrical hazards Lifting Climbing Slips, falls
Dialysis units	Infection Formaldehyde		
Dental service	Mercury Ethylene oxide Anesthetic gases Ionizing radiation Infection	Laboratory	Infectious diseases Toxic chemicals Benzene Ethylene oxide Formaldehyde Solvents Flammable and explosive agents Carcinogens Teratogens Mutagens Cryogenic hazards Wastes (chemical, radioactive, infectious) Radiation
Food service	Wet floors Sharp equipment Noise Soaps, detergents Disinfectants Ammonia Chlorine Solvents Drain cleaners Oven cleaners Caustic solutions Pesticides Microwave ovens Steam lines Ovens Heat Electrical hazards Lifting	Laundry	Wet floors Lifting Noise Heat Burns Infection Needle punctures Detergents, soaps Bleaches Solvents Wastes (chemical and radioactive)

(Continued)

*Although this list is not exhaustive, it demonstrates the variety of hazards that can exist in a hospital environment. Stress is reported by hospital workers in all job categories and is not listed separately by location.

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APPENDIX 3 (Continued)

OCCUPATIONAL HAZARDS BY LOCATION IN THE HOSPITAL*

Location	Hazard	Location	Hazard			
Maintenance and engineering	Electrical hazards	Pathology	Infectious diseases			
	Tools, machinery		Formaldehyde			
	Noise		Glutaraldehyde			
	Welding fumes		Flammable substances			
	Asbestos		Freons			
	Flammable liquids		Solvents			
	Solvents		Phenols			
	Mercury		Patient care	Lifting		
	Pesticides			Pushing, pulling		
	Cleaners			Slips, falls		
	Ammonia	Standing for long periods				
	Carbon monoxide	Infectious diseases				
	Ethylene oxide	Needle punctures				
	Freons	Toxic substances				
	Paints, adhesives	Chemotherapeutic agents				
	Water treatment chemicals	Radiation				
	Sewage	Radioactive patients				
	Heat stress	Electrical hazards				
	Cold stress (refrigeration units)	Pharmacy	Pharmaceuticals			
	Falls		Antineoplastic agents			
Lifting	Mercury					
Climbing	Slips, falls					
Strains and sprains	Print shops		Inks			
Nuclear medicine			Radionuclides	Solvents		
			Infection	Noise		
			X-irradiation	Fire		
			Office areas and data processing	Video display terminals	Radiology	Radiation
				Air quality		Infectious diseases
		Ergonomic/body mechanics		Lifting		
		Chemicals		Pushing, pulling		
		Ozone		Operating rooms		Anesthetics
		Operating rooms	Antiseptics		Antiseptics	
	Methyl methacrylate		Methyl methacrylate			
Compressed gases	Compressed gases					
Sterilizing gases	Sterilizing gases					
Infection	Infection					
Electrical	Electrical					
Sharp instruments	Sharp instruments					
Lifting	Lifting					

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APPENDIX 4

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS*

Occupation and chemical

Clinical laboratory technologists and technicians (OC 080)+:

Acetic acid
Acetic anhydride
Acetone
Acrylamide
Ammonium chloride
Ammonium hydroxide
Ammonium lauryl sulfate
Aniline
Arsenic
Barbital
Barbituric acid, 5,5-diethyl-, sodium salt
Benzene
Benzethonium chloride
Benzidine
Benzoic acid
Benzyl alcohol
Biphenylol, sodium salt, 2-
Butanol
Butanone, 2-
Butyl acetate
Butyl alcohol, sec-
Butylamine
Caffeine
Carbon tetrachloride
Cetylpyridinium chloride
Chloroform
Cholesterol
Chromium trioxide
Citric acid
Cobaltous acetate
Copper (II) sulfate (1:1)
Cyclohexanone
Dichloroethane, 1,2-
Dichloromethane
Diethylamine

(Continued)

See footnotes at end of table.

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APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Diethylene glycol
Dinitrophenylhydrazine, 2,4-
Dioxane, 1,4-
Diphenylamine
Dipropylene glycol monoethyl ether
Ethanol, 2-butoxy
Ethyl alcohol
Ethylene glycol
Ethylenediaminetetraacetic acid
Ethylenediaminetetraacetic acid, sodium salt
Ethylenediaminetetraacetic acid, tetrasodium salt
Ethylene oxide
Ferrous sulfate
Formaldehyde
Formamide, N,N-dimethyl
Galactose
Glutaraldehyde
Glycerol
Hydrazine sulfate
Hydroxylamine
Isopropyl acetate
Isopropyl alcohol
Isopropylamine
Lactic acid
Lactose
Lead acetate
Leucine
Lithium
Lithium carbonate
Lithium chloride
Magnesium chloride
Maleic acid
Maleic anhydride
Manganese chloride
Mercaptoethanol, 2-
Mercury, ((o-carboxyphenyl) thio) ethyl-, sodium salt

(Continued)

See footnotes at end of table.

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APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Mercuric chloride
Methanol
Methoxyethanol, 2-
Methyl paraben
Methyl-2-pentanone, 4-
Naphthol, alpha-
Naphthylamine, alpha-
Nitrilotriethanol, 2,2',2''-
Nitrobenzene
Oxalic acid
Pentanediol, 1,5-
Pentyl alcohol
Phenol
Phosphoric acid
Piperidine
Potassium chloride
Potassium cyanide
Potassium hydroxide
Propanol, 1-
Propionic acid
Propylene oxide
Pyridine
Pyrogallic acid
Resorcinol
Silver nitrate
Sodium acetate
Sodium azide
Sodium benzoate
Sodium carbonate
Sodium chloride
Sodium dodecylbenzenesulfonate
Sodium hypochlorite
Sodium iodide
Sodium nitrate
Sodium nitrite
Sodium phosphate, dibasic

(Continued)

See footnotes at end of table.

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APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Sorbic acid
Stearic acid
Succinic acid
Sulfanilamide
Sulfur dioxide
Sulfuric acid
Thioacetamide
Thiosemicarbazide
Thiourea
Toluene
Toluidine, ortho-
Trichloroacetic acid
Trichloroethane, 1,1,1-
Trichloroethylene
Tungstic acid
Urea
Xylene
Zinc oxide
Zinc sulfate (1:1)

Cleaners and charpersons (OC 902):

Acetic acid
Acetone
Acrylic acid, ethyl ester
Acrylontrile
Ammonium chloride
Ammonium hydroxide
Benzene
Benzoic acid
Benzothiazolethiol, 2-
Biphenylol, sodium salt, 2-
Butanol
Butanone, 2-
Butyl acetate
Carbon tetrachloride
Chloroform

(Continued)

See footnotes at end of table.

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APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Chromium trioxide
Citric acid
Copper (II) sulfate (1:1)
Coumarin
Cyclohexanol
Dichloromethane
Dioxane, 1,4-
Dipropylene glycol monomethyl ether
Ethanol, 2-(2-ethoxyethoxy)-, acetate
Ethanol, 2-butoxy-
Ethoxyethanol, 2-
Ethyl alcohol
Ethyl ether
Ethylene glycol
Ethylene oxide
Ethylenediaminetetraacetic acid
Ethylenediaminetetraacetic acid, disodium salt
Ethylenediaminetetraacetic acid, tetrasodium salt
Formaldehyde
Glycerol
Glycolic acid
Isopropyl alcohol
Lactic acid
Maleic anhydride
Methanol
Methyl methacrylate
Methyl salicylate
Morpholine
Nitrilotriethanol, 2,2', 2''-
Nonylphenol
Oxalic acid
Pentanediol, 1,5-
Pentylphenol, para-tert
Phenol
Phenol, 4-chloro-2-cyclopentyl-
Phenylmercuric acetate

(Continued)

See footnotes at end of table.

GUIDELINES FOR HEALTH CARE WORKERS

APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Phosphoric acid
Phosphoric acid 2,2-dichloro-vinyl dimethyl ester
Phosphorothioic acid, 0,0-diethyl 0-(2-isopropyl-6-methyl-4-pyrimidinyl) ester
Phthalic acid, dibutyl ester
Potassium chloride
Potassium hydroxide
Propanediol, 1,2-
Propylene glycol monomethyl ether
Propylene oxide
Salicylic acid
Sodium carbonate
Sodium chloride
Sodium dodecylbenzenesulfonate
Sodium hypochlorite
Sodium lauryl sulfate
Sodium metasilicate
Sodium (I) nitrate
Sodium nitrite
Stearic acid
Styrene
Sulfuric
Tetrachloroethylene
Toluene
Triazine-2,4,6, (1H, 3H, 5H)-trione, 1,3-dichloro-, potassium salt, S-
Trichloroethane, 1,1,1-
Urea
Xylene
Zinc chloride
Zinc oxide
Zinc sulfate

(Continued)

See footnotes at end of table.

GUIDELINES FOR HEALTH CARE WORKERS

APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Health aides, excluding nursing (OC 922):

Acetic acid
Acetone
Ammonium hydroxide
Benzene
Benzidine
Benzoic acid
Biphenylol, 2-, sodium salt
Caffeine
Chloroform
Chromium trioxide
Citric acid
Copper sulfate
Diethylamine
Ethanol, 2-butoxy-
Ethyl alcohol
Ethyl ether
Ethylene oxide
Ethylenediaminetetraacetic acid
Formaldehyde
Glycerol
Hexamethylenetetramine
Hydrazine sulfate
Isopropyl alcohol
Lactose
Leucine
Lithium carbonate
Magnesium chloride
Menthol
Mercaptoethanol, 2-
Mercuric chloride
Mercury, ((o-carboxyphenyl) thio) ethyl-, sodium salt
Methanol
Methyl salicylate
Methyl-2-pentanone, 4-
Naphthol, alpha-

(Continued)

See footnotes at end of table.

GUIDELINES FOR HEALTH CARE WORKERS

APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Oxalic acid
Pentenediol, 1,4-
Pentylphenol, para-tert-
Phenobarbital
Phenol
Phosphoric acid
Potassium chloride
Potassium hydroxide
Potassium permanganate
Propylene glycol
Pyridine
Pyrogallic acid
Resorcinol
Salicylic acid
Silver nitrate
Sodium acetate
Sodium benzoate
Sodium carbonate
Sodium chloride
Sodium dodecylbenzenesulfonate
Sodium hypochlorite
Sodium lauryl sulfate
Sodium metasilicate
Sodium nitrate
Sodium nitrite
Sodium phosphate, dibasic
Sodium salicylate
Stearic acid
Styrene
Sulfuric acid
Thiopentyl sodium
Thiosemicarbazide
Toluene
Trichloroethane, 1,1,1-
Trichloroethylene

(Continued)

See footnotes at end of table.

GUIDELINES FOR HEALTH CARE WORKERS

APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Urea
Xylene
Zinc oxide

Health aides, orderlies, and attendants (OC 925):

Acetic acid
Acetone
Aluminum hydroxide
Ammonium chloride
Ammonium hydroxide
Ammonium lauryl sulfate
Benzethonium chloride
Biphenylol, 2-, sodium salt
Butyl acetate
Carbon tetrachloride
Citric acid
Copper sulfate
Coumarin
Dichloromethane
Diethylene glycol
Dimethoxane
Ethanol, 2-butoxy-
Ethanol, 2-ethoxy-
Ethyl alcohol
Ethyl ether
Ethylene glycol
Ethylene oxide
Ethylenediaminetetraacetic acid
Ethylenediaminetetraacetic acid, tetrasodium salt
Formaldehyde
Glycerol
Glycolic acid
Isopropyl alcohol
Isopropyl myristate
Lactose
Menthol

(Continued)

See footnotes at end of table.

GUIDELINES FOR HEALTH CARE WORKERS

APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Mercuric chloride
Mercury, ((o-carboxyphenyl) thio) ethyl-, sodium salt
Methanol
Methoxyflurane
Methyl salicylate
Methylparaben
Nitrilotri-2-propanol, 1,1',1"-
Nitrilotriethanol, 2,2"-
Pentanediol, 1,5-
Phosphoric acid
Phthalic acid, dibutyl ester
Potassium chloride
Potassium hydroxide
Potassium permanganate
Propylene glycol
Propylene glycol monomethyl ether
Quartz
Salicylic acid
Silver nitrate
Sodium acetate
Sodium carbonate
Sodium chloride
Sodium dodecylbenzenesulfonate
Sodium hypochlorite
Sodium lauryl sulfate
Sodium metasilicate
Sodium nitrate
Sodium nitrite
Stearic acid
Styrene
Sulfuric acid
Tetrachloroethylene
Trichloroacetic acid
Trichloroethane, 1,1,1-
Trichloroethylene

(Continued)

See footnotes at end of table.

GUIDELINES FOR HEALTH CARE WORKERS

APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Urea
Xylene
Zinc oxide

Practical nurses (OC 926):

Acetic acid
Acetone
Aluminum hydroxide
Ammonium chloride
Ammonium hydroxide
Benzene
Biphenylol, 2-, sodium salt
Citric acid
Clorpromazine hydrochloride
Copper sulfate
Coumarin
Dichloromethane
Ethyl alcohol
Ethyl ether
Ethylene oxide
Ethylenediaminetetraacetic acid
Ethylenediaminetetraacetic acid, tetrasodium salt
Formaldehyde
Glycerol
Isopropyl alcohol
Isopropyl myristate
Lactose
Menthol
Mercuric chloride
Mercury, ((o-carboxyphenyl) thio) ethyl-, sodium salt
Methanol
Methoxyflurane
Methyl salicylate
Methyl-2-pentanone, 4-
Methylparaben
Nitrilotri-2-propanol, 1,1'1"-

(Continued)

See footnotes at end of table.

GUIDELINES FOR HEALTH CARE WORKERS

APPENDIX 4 (Continued)

CHEMICALS ENCOUNTERED IN SELECTED HOSPITAL OCCUPATIONS

Occupation and chemical

Nitrioltriethanol, 2,2',2"-
Nitrofurazone
Pentanediol, 1,5-
Phenol
Phosphoric acid
Potassium hydroxide
Potassium permanganate
Propylene glycol
Quartz
Salicylic acid
Silver nitrate
Sodium acetate
Sodium carbonate
Sodium chloride
Sodium dodecylbenzenesulfonate
Sodium hypochlorite
Sodium iodide
Sodium lauryl sulfate
Sodium metasilicate
Sodium nitrate
Sodium nitrite
Stearic acid
Styrene
Tetrachloroethylene
Toluene
Trichloroethane, 1,1,1-
Urea
Zinc oxide

*Source: NIOSH (1984). Adapted from Report of the DSHEFS Task Force on Hospital Safety and Health. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, NIOSH Internal Report.

†Bureau of Census occupational code.