

# **ENVIRONMENTAL, HEALTH & SAFETY POLICY**

# **Table of Contents**

ENVIRONMENTAL, HEALTH AND SAFETY POLICY	664
HUDSON TECHNOLGIES   MISSION STATEMENT	65
CORPORATE ENVIRONMENTAL, HEALTH AND SAFETY POLICY	66
Employer Responsibility to Provide a Safe Work Environment	66
Employee Responsibility to Follow Safety Rules and Work Safely at All Times	66
Site Manager's Responsibility to Recognize and Penalize Violators of Safety Codes	66
Intent to Comply with All Government Regulations	66
SAFE WORK RULES	67
HAZARD COMMUNICATIONS PROGRAM	66
Statement of Purpose and Scope	68
Responsibilities	68
Application	68
Procedure	68
Policy for Determination of Hazardous Materials	70
HUDSON TECHNOLOGIES COMPANY CORPORATE EMERGENCY ACTION PLAN	72
Statement of Purpose and Scope	71
General	72
Emergency Action Plan	72
Training	72
Specific Emergency Plans	72
Fire Prevention	72
General Emergency Action Plan	73
PERSONAL PROTECTIVE EQUIPMENT (PPE) TRAINING	74
EYE PROTECTION	74
HEARING CONSERVATION	74
RESPIRATORY PROTECTION	74
BLOODBORNE PATHOGENS	75
WELDING, CUTTING AND BRAZING (HOT WORK) PROGRAM	75
GENERAL	76
SCOPE	76
PROCEDURE	76
GENERAL ELECTRICAL SAFETY	76
Purpose	76
Scope	76
Responsibility	76
Definitions	76
Requirements	77
Personal Protective Equipment (PPE)	78

Lockout-Tagout (LOTO) Program	78
FORKLIFT OPERATIONS TRAINING PROGRAM	79
REFRIGERANT WASTE OIL HANDLING PROCEDURES	79
SPILL CONTROL RESPONSE PROCEDURES	80
CHEMICAL HYGIENE PLAN	81
Standard Operating Procedures	81
ASBESTOS AWARENESS POLICY	83

# **ENVIRONMENTAL, HEALTH AND SAFETY POLICY**

# **HUDSON TECHNOLGIES | MISSION STATEMENT**

It is the policy of Hudson Technologies Company to promote safety and environmental responsibility in the processing, handling, storage, transport and use of our products as well as in the performance of our services. We will operate so that safety, health, and environmental protection are a top priority in the planning of our facilities, processes, services, and products. We will support safety improvements, provide the personnel and financial resources necessary to achieve or exceed compliance with all applicable federal, state, and local environmental, safety and health regulations.

Hudson Technologies Company will continually review its programs and develop and implement new programs and procedures to achieve maximum environmental, health and safety compliance. Our programs and procedures will be monitored and updated to meet the changing needs of our customers and ourselves as well as to comply with revised regulatory requirements.

From its inception, Hudson Technologies Company has been committed to using our technology to aid in the protection of the earth's atmosphere by safely and economically reclaiming refrigerants for their reuse, as well as reducing energy consumption by maximizing the efficiency of refrigeration and comfort cooling systems. This commitment by our management and staff is ongoing and will remain of primary importance.

<u>/s/ Brian Coleman</u>
Brian Coleman, CEO, President

# CORPORATE ENVIRONMENTAL, HEALTH AND SAFETY POLICY

We believe that the safety of employees is of utmost importance, along with quality, service, and cost-control. Following safe operating procedures always is of both monetary and human value, with the human value being far greater to the employer, the employee, and the community. The following principles support this philosophy.

- Injuries and accidents are preventable through establishment of, and compliance with safe work practices.
- 2. The prevention of bodily injury and safeguarding of health are the first considerations in all workplace actions and the responsibility of every employee at every level.
- 3. Written safety plans describing the safe work practices and procedures to be followed in all workplace actions are an essential element of the overall workplace safety program. All employees at every level are responsible for knowing and following the safety practices described in the written safety plans.
- 4. Employees should follow safe work practices both on and off the job.

# **Employer Responsibility to Provide a Safe Work Environment**

It is the policy of this Company to provide a place of Employment reasonably free from hazards that may cause illness, injury, or death to associates.

It is also this company's policy to maintain an effective and continuous Safety program incorporating educational and monitoring procedures to teach safety, correct deficiencies, and provide a safe, clean working environment.

All company supervisors, managers, and officers are responsible for the enforcement of safety policies and practices. They must ensure that:

- 1. Their staff members are trained in appropriate safety procedures, including chemical-specific training as required.
- 2. They notify the Vice President of Operations ("Vice President") and complete the necessary forms if an accident or work-related health problem occurs in their department.
- 3. Equipment and property within their area of responsibility is maintained in a safe, hazard-free condition.

The Vice President heads up the company's overall safety program. With the Safety Committee, they are responsible for the written health and safety programs, and the general hazardous materials training of all employees. All necessary documentation and/or reports necessary to meet local, state, and federal reporting and record keeping requirements will be kept by the Vice President or their designee, with oversight from the Board of Directors' Occupational, Safety and Environment Committee.

### Employee Responsibility to Follow Safety Rules and Work Safely at All Times

All employees have a responsibility to themselves and to the company for their safety and the safety of co-workers. All employees are required to:

- 1. Comply with all federal, state, and local rules and regulations relevant to their work.
- 2. Observe all company rules and regulations related to the efficient and safe performance of their work.
- 3. Integrate safety into each job function and live by this philosophy in the performance of job duties.
- 4. Immediately report and/or correct unsafe equipment and practices.
- 5. Report any accidents that occur while on the job.

# Site Manager's Responsibility to Recognize and Penalize Violators of Safety Codes

Site Managers are directly responsible for the enforcement of all company safety policies and practices at their sites. They must ensure that employees under their direct supervision are trained in appropriate safety practices and procedures, and that they always follow safe work practices in their daily work. New employees shall be provided with, and shall acknowledge receipt of, copies all safety policies and receive orientation from the Site Manager prior to commencement of work as to the Company's safety policies. Site Managers must notify the Vice President of all new employees at their sites to ensure prompt and complete training of personnel.

If an employee is found to be violating safe work practices or procedures, the supervisor is responsible for disciplining the employee and reinforcing the correct method of work. Discipline will depend on the severity of the safety rule infraction and

can range anywhere from verbal reprimand to a written warning to suspension or even dismissal. (See Explanation of Penalty System for Noncompliance with Safety Rules, further in this policy. See also Progressive Discipline Policy)

# Intent to Comply with All Government Regulations

The company will comply with appropriate safety and security laws and regulations such as those established by:

- 1. The Occupational Safety and Health Administration (OSHA),
- 2. The Environmental Protection Agency (EPA),
- 3. The Department of Transportation (DOT), and
- 4. All other applicable federal, state, and local safety and health regulatory agencies.

#### **SAFE WORK RULES**

- 1. Proper eye protection shall be worn when handling chemicals, connecting, or disconnecting hoses or pipes, welding, grinding or other operations where eye injuries may result.
- 2. Proper hearing protection shall be worn all times during all in-plant reclamation operations and hydrostatic testing operations or when working in the vicinity of such operations.
- 3. Proper respiratory protection shall be always worn during any painting or other form of spraying operations.
- 4. Leather work shoes or boots shall be worn by all service managers and technicians. Sneakers, dress shoes, sandals or similar footwear is not permitted. Either Steel-toed or Metatarsal boots are mandatory when working around cylinders or other objects that can cause foot injury.
- 5. Use electrical tools that are grounded or double insulated and that do not have broken or frayed wires.
- Extension cords used with portable electric tools shall be in good condition. Only "three-wire type cords" shall be used.
- 7. When welding or cutting, have proper eye protection and a fire extinguisher nearby.
- 8. Compressed gas cylinders shall be secured in an upright position. When stored, cylinders shall be capped and secured in an upright position, and they shall be separated (oxygen from combustible gases) by 20 feet or a 5-foot non-combustible wall.
- 9. The use of intoxicating beverages or illegal drugs during work hours is strictly forbidden.
- 10. Employees must not use tools or equipment that they have not been trained or authorized to use.
- 11. Work areas and means of egress must be kept clean and orderly.
- 12. Immediately report all unsafe conditions and unsafe procedures to the Site Manager and/or to the Vice President. Request safer equipment or personal protective equipment from the Site Manager when needed. Never take chances that could result in injury to you or others.
- 13. Use the safety devices provided for your personal protection and do not tamper with or render ineffective any safety device, safeguard, or personal protective equipment.
- 14. All injuries should be reported immediately to the Site Manager or to the Vice President.
- 15. All company safety rules, and applicable governmental safety rules and regulations must be obeyed. Violation of a safe work rule or practice is grounds for Disciplinary action.

### HAZARD COMMUNICATIONS PROGRAM

### Statement of Purpose and Scope

The procedures and policies established by this policy are intended to comply with the OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200, by compiling a hazardous chemicals list, by using SDS's, by ensuring that containers are labeled, and by providing you with training.

This policy applies to all work operations in our company where you may be exposed to hazardous materials under normal working conditions or during an emergency. This policy applies to all our employees, all contractors and vendors performing work on company property, and all other individuals who are visiting or have business with our company.

This policy establishes and sets forth the contents of the Hazard Communication Standard, the hazardous properties of chemicals with which you work, safe handling procedures, and measures to take to protect yourselves when working with these chemicals.

# Responsibilities

Management is responsible for identifying hazardous materials and substances and for maintaining this policy to communicate and mitigate risks inherent in the handling of such materials and substances. Management will review this policy at least annually and when new hazardous materials or substances are introduced.

The administrator of this policy (the "Program Administrator") is the Vice President of Operations who is responsible for administration and oversight of this policy. Management, facility/site managers, and supervisors are responsible for enforcement of this policy.

Employees shall comply with all procedures outlined in this policy. All employees have a right to see this written policy, labels and Safety Data Sheets filed with the Company's Hazardous Chemical Inventory. Contractors, vendors, and visitors shall comply with all procedures outlined in this policy.

#### **Application**

This policy will be applicable to all chemicals that exhibit or could exhibit health hazards or physical hazards under conditions of normal operations or during emergencies. This policy **does not apply** to:

- 1. consumer products when used in the workplace for the purpose intended by the manufacturer or importer and in a duration and frequency that is not greater than that experienced by a regular consumer.
- 2. "Articles", as defined to mean a manufactured item other than a fluid or particle: (a) which is formed to a specific shape or design during manufacture; (b) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (c) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical and does not pose a physical hazard or health risk to employees:
- 3. Wood or wood products that will not be processed, other than wood treated with hazardous chemicals.
- 4. Food or alcoholic beverages that will be consumed in the workplace.
- 5. tobacco or tobacco products.

# **Procedure**

# **Material Ordering and Hazard Determination**

Any employee wishing to introduce a new chemical into the facility must obtain a Safety Data Sheet (aka SDS) and submit the SDS to the Program Administrator prior to ordering the chemical. The Program Administrator will evaluate all new or replacement chemicals to determine if the chemical presents health and/or physical hazards for our employees or for our facility. If the Program Administrator determines that the new chemical cannot be handled safely, the chemical will not be ordered. Information on new chemicals, or new information on currently used chemicals, will be communicated to affected employees by, or in accordance with the directions of, the Program Administrator. Every effort will be made to select chemicals that are not hazardous or that present the minimum degree of hazard commensurate with necessary chemical capability.

# **Hazardous Chemicals Inventory**

The Program Administrator will maintain a current list of all hazardous chemicals used at each facility and this hazardous chemical inventory will be filed in the Master SDS book. Regular updates to the hazardous chemical inventory list shall be made when new chemicals are received. Each facility/site manager shall notify the Program Administrator when they receive any new material.

Each site shall review the hazardous chemical inventory on yearly basis to note if any corrections need to be made. The Program Administrator shall be notified of any chemical which is no longer on site because of disposal or because it is no longer in use. These chemicals will then be removed from the hazardous chemical inventory.

### Safety Data Sheets (SDS)

SDS's provide specific information on the chemicals you use. Each facility shall maintain a binder with a SDS on every substance on the list of hazardous chemicals. The SDS shall follow OSHA Standard 1910.122 App D. The Program Administrator will ensure that each work site maintains an SDS for hazardous materials in that site. The SDS binder will be made readily available to all employees always.

The Program Administrator is responsible for acquiring and updating SDS's. The Site Manager is responsible for advising the Program Administrator of all new chemical purchases or shipments to their facility, and for ensuring that the SDS binder is updated as new chemicals are added, as per the instructions of the Program Administrator.

#### Labels and Other Forms of Warning

All labels are required to have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier information. Containers that are shipped from a site will be checked by the facility/site manager, a supervisor or other designated person to make sure all containers are properly labeled. All containers that arrive at a site will be inspected by receiving personnel, and any containers that are not properly labeled will be labeled appropriately. Containers with contents not listed on the Hazardous Chemicals List will be refused or will be segregated and the Program Administrator notified immediately.

If there are several stationary containers within a work area that have similar contents and hazards, signs will be posted on them to convey the hazard information. On our stationary process equipment, regular process sheets, batch tickets, blend tickets, and similar written materials may be substituted for container labels when they contain the same information as labels.

If chemicals are transferred from a labeled container to a portable container that is intended for immediate use, no labels are required on the portable container. Pipes or piping to bulk storage tanks that are dedicated to a specific refrigerant shall be labeled to designate the tank #, refrigerant, and whether the pipe carries liquid or vapor. Other pipes or piping systems will not be labeled but their contents will be described in the training sessions.

#### **Non-Routine Tasks**

Whenever a non-routine task involving work with hazardous materials is required (e.g., cleaning tanks, entering confined spaces, etc.), special training will be provided to inform you regarding the hazardous chemicals to which you might be exposed and the proper precautions to take to reduce or avoid exposure.

#### **Training**

Everyone who works with or is potentially exposed to hazardous materials will receive initial training on the Hazard Communication Standard and the safe use of those hazardous materials. Whenever a new hazard is introduced, additional training will be provided. Safety meetings will also be used to review the information presented in the initial training. Supervisors will be extensively trained regarding hazards and appropriate protective measures so they will be available to answer questions from employees and provide daily monitoring of safe work practices.

The training plan will emphasize these items:

- 1. Summary of the HAZCOM standard and this written program.
- 2. Chemical and physical properties of hazardous materials.
- 3. Physical hazards of chemicals (e.g., potential for fire, explosion, etc.).
- 4. Health hazards, including signs and symptoms of exposure, associated with exposure to hazardous materials.
- 5. Procedures to protect against hazards (e.g., personal protective equipment required, proper use, and maintenance: work practices or methods to assure proper use and handling of hazardous materials; and procedures for emergency response).
- 6. Work procedures to follow to assure protection when cleaning hazardous material spills and leaks.

7. How to read and interpret the information on both labels and MSDS'S, and how employees may obtain additional hazard information.

The Vice President will review our employee training program and advise the site manager on training or retraining needs. Retraining is required when the hazard changes or when a new hazard is introduced into the workplace, but it will be company policy to provide training regularly in safety meetings to ensure the effectiveness of the program. As part of the assessment of the training program, the Vice President will obtain input from employees regarding the training they have received, and their suggestions for improving it.

#### **Contractors**

Contractors who will bring hazardous chemicals into our facility shall do the following:

- 1. Provide the program administrator with a list and an SDS for each hazardous chemical that will be used in our facility.
- 2. Maintain a copy of the SDS for each approved chemical on site.
- 3. Will not bring chemicals into our facility unless approved by the program administrator.
- 4. Will comply with all provisions of the Hazard Communication Standard that are applicable to their company.

Our Company reserves the right to refuse the use of chemicals based upon our evaluation. We also reserve the right to terminate the use of chemicals at any time based upon variable conditions within our facility.

Contractors will be provided the following information whenever their work location could bring them into contact with our hazardous chemicals.

- Hazardous chemicals that they may be exposed to while performing the specified work and how to obtain a copy
  of appropriate SDS.
- 2. Necessary job precautions to work safely within the proximity of the chemicals involved.

### **Policy for Determination of Hazardous Materials**

### General

It is Hudson Technologies Company policy to request that all manufacturers from which we purchase materials provide a Safety Data Sheet (SDS) for each product they supply. Every chemical shall be reviewed and evaluated for occupational hazards.

As defined by OSHA, a hazardous chemical is any chemical which can cause a physical or health hazard. Physical hazards include combustibles, compressed gases, explosives, flammables, organic peroxides, oxidizers, pyrophoric and reactive chemicals. Health hazards include carcinogens, toxic substances, reproductive toxins, irritants, corrosives, sensitizers, and agents which damage the liver, kidney, blood, lungs, skin, eyes, or mucous membranes.

A material shall be determined to be hazardous if it meets at least one of following requirements:

- 1. The material is listed on OSHA's Toxic and Hazardous Substances List (29 CFR1910, Subpart 2),
- 2. The material is listed on ACGIH Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment,
- 3. The material is listed on NTP's Annual Report on Carcinogens; or
- 5. The material is listed on IARC's Monographs; or
- 4. The material's SDS is examined and determined to meet OSHA's definition of "hazardous".
- 5. The material is listed on two or more of the following Hazardous Substances lists as found in the Suspect Chemicals Sourcebook:

# **CWA/311 Hazardous Chemicals**

- a) CAA/122 Hazardous Air Pollutants
- b) RCRA hazardous substances

- c) CERCLA hazardous substances
- d) SARA Title 111/302 Extremely Hazardous Substances
- e) SARA Title III/313 Toxic Chemicals
- f) OSHA air contaminants
- g) OSHA specifically regulated substances
- h) SARA/110 Priority list of CERCLA hazardous substances
- i) DOT hazardous materials
- j) OSHA Highly hazardous chemicals; or

#### **OSHA Hazard Definitions**

OSHA has provided guidelines and definitions for types of chemical hazards. These definitions will be incorporated into the hazard training program. (See Appendix A to CFR § 1910.1200)

#### Carcinogen:

A chemical is a carcinogen if:

- it has been evaluated by the International Agency for Research on Cancer and found to be a carcinogen or potential carcinogen; or
- it is listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program; or
- 3. it is regulated by OSHA as a carcinogen.

#### Corrosive:

A chemical that causes visible destruction of, or irreversible alternations in, living tissue by chemical action at the site of contact.

Highly toxic: A chemical falling within any of the following categories:

- 1. chemical that has a LD., OF 50 mg or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams.
- 2. chemical that has a LD.50 of 200 mg or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs) with the bare skin of albino rats weighing between 2 and 3 kilograms.
- a chemical that has a LC, in air of 200 ppm by volume or less of gas or vapor, or 2 mg per liter or less of mist, fume, or dust, when administered by continuous inhalation for one hour to albino rats weighing between 200 and 300 grams.
- 4. Irritant: A chemical, which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.

<u>Sensitizer</u>: A chemical that causes a substantial proportion of exposed people to develop allergic reactions in normal tissue after repeated exposure to the chemical.

#### The National Fire Protection Association (NFPA) System

The NFPA System is intended to communicate basic hazard information to fire-fighters and emergency response personnel. A simple 0-4 rating, combined with a special symbol for unusual situations, gives a general idea of the hazard(s) of a material as it relates to fire prevention, exposure, and control.

Often used on labels, the NFPA 704 System is symbolized by a diamond dividend into equal sections of different colors, each representing a different hazard of the material.

- 1. The left section is Blue and represents the **Health Hazard.**
- 2. The top section is Red and represents the **Fire Hazard**.
- 3. The right section is <u>Yellow</u> and represents the **Reactivity**.
- 4. The bottom section is White and represents a **Specific Hazard**.

#### HUDSON TECHNOLOGIES COMPANY CORPORATE EMERGENCY ACTION PLAN

#### Statement of Purpose and Scope

The purpose of this Emergency Action Plan is to comply with OSHA 29 CFR 1910, Subpart E. It is also intended to provide Hudson Facility/Site Managers with a document for development of individual Site Emergency Action Plans. The procedures and requirements of this Plan apply to all or our company employees, all contractors, and vendors performing work on company property, and all other individuals who are visiting or have business with our company.

#### General

There are several fundamental requirements of 29 CFR 1910. Subpart E. Hudson will only occupy buildings with sufficient exits to provide prompt evacuation based on the number of occupants, the type protection available, and character of the occupancy.

The Site Manager is responsible to ensure all exits are clearly marked with no locking devices installed to preclude escape from the inside of the building. The route to reach the nearest and next nearest exits shall be posted in each office and work area. Any doorway or passageway not leading to an exit but of a character to be mistaken for leading to an exit shall be marked NOT AN EXIT to minimize its possible confusion with an exit. Normal local code requirements for occupancy of buildings during construction or modifications of the buildings will be followed. No flammable or explosive materials will be introduced to a building of normally low or ordinary hazard classification.

The Site Manager is responsible to ensure every exit, way of approach, and way of egress shall be continuously free of obstacles to use of the exit. The Site Manager is also responsible to ensure all protective equipment provided is in proper operating condition.

#### **Emergency Action Plan**

The Site Manager is responsible to ensure the Site Emergency Action Plan includes at a minimum the following elements:

- 1. Emergency escape procedures.
- 2. Immediate shut-down of operating equipment.
- 3. Procedures to account for all employees following evacuation.
- 4. Rescue or medical duties as applicable.
- 5. The preferred means of reporting fires or other emergencies.
- 6. Point of contact for further information regarding the plan.

#### Training

Prior to implementing the Site Emergency Action Plan, the Site Manager is responsible to ensure the site employees are familiar with the plan. This review will occur: When the plan is initially developed; when employee responsibilities under the plan change; when the plan is changed.

# **Specific Emergency Plans**

#### **Fire Prevention**

# Flammable Material Storage

Waste oil and other flammable materials shall be separated in areas that are clearly marked as having flammable materials present. No smoking will be permitted within 50 feet of these areas. Oil-soaked rags will be stored only in approved containers. Other combustible products (paper, etc.) will be kept well away from flammable material storage areas.

### Fire extinguishers

Portable Type ABC Fire Extinguishers have been placed at several clearly marked locations throughout the facility. The Site Manager is responsible to ensure that fire extinguishers are visually inspected monthly and documented on the fire extinguisher tag and must be subjected to an annual maintenance check and inspection. performed by qualified personnel.

Any employee designated to use fire extinguishers will be provided with education on the general principles of fire extinguisher use, and the hazards involved with incipient stage firefighting upon being so designated, and at least annually thereafter. In addition, any employee(s) designated to use fire extinguishers will receive training in the use of the fire extinguishers, which training shall be provided at the time an employee is designated to use the fire extinguishers and at least annually thereafter.

#### **Fire Prevention Housekeeping**

Accumulation of large amounts of paper or other combustible material is to be avoided. Daily cleanup of office areas and post- task cleanup of workspaces generally preclude this from happening. Site Managers are responsible to ensure employees follow generally accepted work area hygiene procedures.

#### **Fire Evacuation**

The Site Manager is responsible to develop a site evacuation plan. This plan is to be posted in each office and workspace.

### Other Emergencies

For other emergencies such as hurricanes, tornadoes, and other severe weather or natural disasters, the over-riding concern is the personal protection of the employee. In that regard, follow any published reports of local service agencies and follow the direction of local emergency personnel. Should time permit, ensure the site is secure, and equipment is safely shut down.

#### **General Emergency Action Plan**

This Emergency Action Plan will only work if it is followed and you remain calm during the emergency. Emergency Action Plans must be developed for all permanent Hudson locations. Although this plan calls for the employee to use his or her best judgment, employees should not place themselves or anyone else in any greater danger.

### **EMERGENCY ESCAPE PLAN**

Please see attached Site Plan. Locate the exit closest to your location and proceed out the building. The front parking lot is typically the assembly point but the assembly point for your location is identified by your site leader. YOU MUST PROCEED TO THE ASSEMBLY POINT TO BE ACCOUNTED FOR. EMERGENCY EXITS MUST BE KEPT CLEAN AND ALLOW FOR ACCESS AT ALL TIMES. THERE WILL BE NO EXCEPTIONS TO THIS RULE.

### SHUT DOWN OF OPERATING EQUIPMENT

This procedure will follow the below guidelines with YOU making the judgment:

- 1. If you can safely and timely reach the main breaker box, disconnect the power.
- 2. If you can only reach the individual disconnect, pull the switch to disconnect.
- 3. If you are only able to disconnect the equipment, pull the equipment's disconnect.
- 4. The employee must decide what her or she can do and not place himself in any danger. It is important to remember that safety is the highest priority.

### **EMPLOYEE HEAD COUNT**

Upon reaching the assembly point each employee shall report to his or her immediate supervisor and be recognized. The Supervisor will then report the personnel count to the Site Manager. It is critical that each employee ensure that they report so valuable time is not wasted, nor other lives endangered in searching for those who have already safely evacuated the

premises. It is the Site Managers responsibility to ensure that all personnel are present or accounted for.

# PERSONAL PROTECTIVE EQUIPMENT (PPE) TRAINING

Pursuant to the mandate of 29 CFR 1910.132, each employee who is required to use PPE must know, as a minimum, the following:

- 1. When PPE is necessary.
- 2. What PPE is necessary.
- 3. How to properly put on, take off, adjust, and wear PPE.
- 4. The limitations of PPE.
- The proper use, care, maintenance useful life and disposal of PPE.

Each affected employee must demonstrate a working knowledge of the above-mentioned items before being allowed to work where the use of PPE is required. The Site Manager shall observe the employees use of PPE in work settings. If it is the conclusion of the Site Manager that additional training is necessary, it will be done before that employee can return to the job requiring PPE. If the scope of the employee's job changes to require the use of additional PPE, additional training will also be required before assuming the new job duties.

Each employee required to use PPE will have a verification from Hudson Technologies that the employee has been trained in the use of the PPE equipment that they may be required to use in their job. The employee will verify that they have been trained and understand the use of PPE.

#### **EYE PROTECTION**

All Hudson employees are exposed to some risk of injury while on the job. Accordingly, the Company mandates that all employees, and all visitors, are required to wear appropriate eye protection when present in the facility (except in the office areas). For most tasks, protective eyeglasses with side shields are sufficient. Other activities, which have an associated risk of being splashed by chemicals, require the use of safety goggles and/or face shields to prevent contact of liquids to the eyes. These activities include sampling and processing of all low-pressure refrigerants and handling of all waste oils.

#### **HEARING CONSERVATION**

All Hudson employees who are exposed to loud noise should be aware of the risk to their hearing and steps that can be taken to reduce risk of hearing loss. Hearing loss can result from exposure to very loud noise such as an explosion or from prolonged exposure to loud noise. The law requires that hearing tests and training be given to employees who are exposed to 85 decibels or more on average over an eight-hour workday. This situation has not been found at any of the Hudson facilities.

There are certain times when working at a customer's facility that hearing protection will be necessary due to site specific conditions. In most cases, the facilities will post the need to have hearing protection. In all such posted areas, Hearing Protection must be always worn. Hearing protection will be available on all service trucks in the event needed due to job site conditions. Any employee can request hearing protection if they feel it is necessary to safely do their job.

Hearing protection includes ear inserts and earmuffs. If any employee notices a change in their hearing, they should immediately inform the site manager.

#### RESPIRATORY PROTECTION

For jobs involving paint or dust, masks with filters are available and should be used, even though the amount of exposure to hazardous substances does not exceed the limits set by OSHA standards. For those employees involved in these tasks and who are provided with masks with filters, the following information is provided:

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes workers may wear respirators to avoid exposure to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If Hudson provides respirators for your use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

- 1. Read and understand all instructions provided by the manufacturer on the proper use, maintenance, cleaning, and care, of the device, including warnings regarding the respirator's limitations.
- Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute
  for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A
  label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the
  respirator is designed for and how much it will protect you.
- 3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
- 4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

There are some jobs at customer sites where respiratory protection may be required. In some cases, escape masks are brought into a work area because there is a risk of oxygen deprivation in an emergency. In some cases, there is a risk of exposure to specific chemicals such as ammonia. These situations will be noted before any employee goes to the site, and the employees will be provided with training in the proper use of these masks and, if applicable, will be trained and fit tested with the appropriate masks.

#### **BLOODBORNE PATHOGENS**

The routine operations of Hudson Technologies do not create the risk of exposure to bloodborne pathogens. No employee of Hudson Technologies is "reasonably anticipated" to face contact with blood or other infectious materials. Nevertheless, all employees should have a general awareness of the risks posed by bloodborne pathogens.

Bloodborne Pathogens are microorganisms present in human blood that can cause disease to humans such as Hepatitis B and C, AIDS, malaria, and other diseases that can lead to death.

The primary way of exposure to bloodborne pathogens is through needlesticks. Exposure can also occur through cuts from contaminated sharp objects such as scalpels or broken glass, and contact of the eye, nose mouth, or cut with contaminated blood.

Exposure risk is more likely when working on a job out of the office. Every employee should be aware of the potential to exposure and take reasonable precaution to avoid exposure. All blood should be treated as if infected. If blood is found the supervisor should be notified and if at a Hudson facility it should be cleaned wearing gloves and using a disinfectant such as a diluted bleach solution or other sterilant. If blood is seen at an outside job, the person in charge of that site should be notified.

If you are exposed to blood you should:

- 1. Wash exposed area with soap and water.
- 2. Splash water onto skin, eyes, nose, or mouth.
- 3. Irrigate eyes with water or saline.
- 4. Report the exposure.
- See a healthcare professional.

All suspected exposures should be reported to the Site Manager immediately. An investigation as to the cause of the exposure will be made and follow-up with the healthcare professional will be made.

### WELDING, CUTTING AND BRAZING (HOT WORK) PROGRAM

#### **GENERAL**

The purpose of this program is to comply with OSHA 29 CFR 1910.252. It is intended to protect Hudson Technologies Company employees from hazards associated with all temporary operations involving open flames or which produce heat and/or sparks, including, without limitation, welding, cutting, brazing, grinding, and welding operations ("Hot Work").

#### SCOPE

This program requires any employee engaged in Hot Work to inspect the work area and all adjacent areas to which sparks, and heat might spread (the "Watch Area") prior to commencement of the Hot Work, and to monitor the Watch Area throughout the performance of the Hot Work and for at least thirty (30) minutes after completion of the Hot Work.

#### **PROCEDURE**

The following procedure will be followed for Hot Work operations: Equipment:

- 1. Verify that all sprinkler systems (if applicable) in vicinity are working.
- Inspect all Hot Work Equipment and verify that it is in good condition (e.g., power cords/sources, welding leads, tanks, cylinder valves, torches, cutting blades, cutting tools, etc.)
- 3. Verify that fire extinguishers are within reasonable distance from Watch Area.
- 4. Inspect Watch Area to ensure no leaking refrigerant containers, or any other compressed gases, within Watch Area
- 5. Precautions for the Watch Area (immediate work area and all areas within at least 35 feet of work area):
  - a. Remove all dust, lint, debris, flammable liquids, oily deposits, rags, or similar materials.
  - b. Any combustible floors (e.g., wood, tile, carpeting) to be protected (e.g., wet down, covered with fire blankets, etc.).
  - c. Where possible, remove all refrigerant containers, or containers of any type of compressed gas, or, if impractical, protect with fire blankets, guards or metal shields or similar guarding.
  - d. Verify no leaking refrigerant containers in Watch Area and remove all sources of leaking refrigerant.
  - e. Where possible, remove all flammable or combustible materials or, if impractical, protect with fire blankets, guards or metal shields or similar guarding.
  - f. Cover all wall and floor openings.
  - g. Inspect work area to determine if any special precautions, not otherwise identified above, need to be taken to protect the Watch Area.
- Approval to proceed. Before proceeding, review precautions taken with Supervisor and obtain authorization to proceed with Hot Work.
- Monitor Watch Area for at least thirty (30) minutes after completion of Hot Work to ensure that no spark or ignition source persists in any part of the Watch Area.

# GENERAL ELECTRICAL SAFETY

# **Purpose**

HUDSON is committed to the prevention of injuries resulting from contact with electrical Sources. Injuries involving exposure of energized electrical systems can be devastating and inflict long term debilitating injuries.

#### Scope

This policy applies to all HUDSON personnel involved with the planning, supervision, maintenance, or repair of energized or potentially energized electrical panels, cables, wires, equipment, or electrical fixtures. Engineering and management shall be consulted, and hazards are identified that are beyond routine exposures or environmental conditions.

# Responsibility

Site/Service Managers, and all affected personnel, are responsible for, and shall implement the accepted safe work practice when working on or near energized or potentially energized equipment.

### **Definitions**

<u>Bonding</u>: the permanent joining of metallic parts to form an electrically conductive path which will assure electrical continuity and the capacity to conduct any current likely to be imposed. Disconnecting means; a device, or group of devices or other means by which the conductors of a circuit can be disconnected from their source of supply.

<u>Equipment</u> a general term including material, fittings, devices, appliances, fixtures, apparatus, and the like, used as a part of, or in connection with, an electrical installation.

<u>Ground Fault Circuit Interrupter (GFCI)</u>; a device for the protection of personnel that functions to de-energize a circuit or portion thereof within an established period when a current to ground exceeds some predetermined value that is less than that required to operate the overcurrent protective device of the supply circuit.

<u>Guarded</u>: covered, shielded, fenced, or otherwise protected by means of a suitable cover. Isolated; not readily accessible to persons unless special means for access are used.

<u>Qualified Person</u>: one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, the work, or the project.

#### Requirements

Assume all equipment, cables, wires, and devices are or could be energized. Take the appropriate precautions to protect yourself and others. Test all indication equipment on a known electrical source prior to use. Work conducted by HUDSON personnel to be done in compliance with OSHA 29 CFR 1910.300-399, National Electric Code (NEC) and NFPA 70E. Electrical conductors and equipment shall be UL approved.

Cables and wires shall be spliced or joined with splicing devices suitable for intended use.

- 1. Splices, joints and free ends of a wire or cable shall be insulated.
- Sufficient space shall be maintained around electrical equipment to permit safe operation and maintenance of equipment.
- 3. Energized equipment shall be guarded.
- 4. Electrical control panels with open wires shall be guarded to make accessible only to Qualified Persons.
- 5. In addition to guarding, warning and high voltage signs shall be posted when unqualified personnel could meet live parts.
- Conductors and equipment shall be protected from over-current in accordance with their ability to safely conduct current.
- 7. Flexible cords (extension cords) shall not be substituted for fixed wiring.
- 8. Flexible cords shall be protected from accidental damage.
- 9. Testing equipment shall be tested before and after its intended use, in compliance with the manufacturer specifications.
- 10. Only Qualified persons shall be permitted to conduct work operations on or near exposed High Voltage.
- 11. Remove all items of conductive jewelry, including watches, prior to working on or near energized equipment, wires, cables, etc.
- 12. Equipment shall be used or installed in accordance with manufacturer instructions.
- 13. It is assumed that service, feeder, and branch circuits will be identified at its disconnecting means or over-current device. Information should be legibly and durably marked to indicate its purpose, unless located and arranged so the purpose is evident. Affected personnel should be aware and take additional precautions when working on or exposed to energized equipment without such signage.
- 14. Where normally enclosed energized parts are exposed for inspection or servicing, the working space, if in a passageway or general open space shall be suitably guarded.
- 15. Energized parts of electrical equipment operating at 50 volts or more shall be guarded against accidental contact by approved cabinets or other forms of approved enclosures, or by any of the following means:
  - a. By location in a room, vault, or similar enclosure that is accessible only to Qualified Persons.

- b. By suitable permanent, substantial partitions or screens so arranged that only Qualified Persons will have access to the space within reach of the energized parts. Any openings in such partitions or screens shall be so sized and located that persons are not likely to come into accidental contact with the energized parts or to bring conducting objects into contact with them.
- c. By location on a suitable balcony, gallery, or platform.
- d. By elevation of 8' feet or more above the floor or other working surface.
- e. It is assumed the entrances to rooms and other guarded locations containing exposed live parts will be marked with conspicuous warning signs forbidding unqualified persons to enter, however affected personnel should be aware and look out for situations where property owners have not completed this.
- 16. Take appropriate corrective actions when conditions such as, flickering lights, warm switches, or receptacles, burning odors, loose connections, frayed or broken wires, etc. do not leave a hazardous condition for someone else to find.
- 17. Ground Fault Circuit Interrupters (GFCI) shall be used by affected EMS personnel.

# **Personal Protective Equipment (PPE)**

HUDSON personnel involved with the planning, supervision, maintenance, or repair of energized or potentially energized electrical panels, cables, wires, equipment, or electrical fixtures shall be required to utilize at least the following PPE: Safety Glasses, leather gloves.

#### Lockout-Tagout (LOTO) Program

#### **GENERAL**

The purpose of this Lockout/Tagout Program is to comply with OSHA 29 CFR 1910.147. It is intended to protect Hudson Technologies Company employees from hazards associated with the unexpected release or energizing of equipment while the employee is performing maintenance or servicing a machine.

### **SCOPE**

The program requires the employee to block unexpected energization of equipment while performing maintenance or service on the machine. The requirement applies only to work that would subject the employee to harm if the equipment were started or energized, not adjustments or activities that are part of normal operation of the machine.

#### **APPLICATION**

This program will be followed when any of the following maintenance or service repairs are being performed. This applies only if the machine is to remain connected to a power source.

- A. Connecting/disconnecting equipment to/from a power source. In this instance, the breaker and disconnect will be locked out.
- B. Anytime the shaft coupling guard is to be removed.
- C. When the equipment is to set idle for a significant period. One day or one shift is to be considered a significant period. All disconnects will be locked out when this situation occurs.
- D. Anytime repairs are performed which render the machine unusable (e.g., piping repair, fuse replacement, component replacement).
- E. Anytime the Site Manager or another employee deems it necessary.

#### **PROCEDURE**

The following procedure will be followed for situations where a lockout is required:

- 1. Obtain a tag from the Site Manager. Fill in the necessary information.
- 2. Attach the tag with employee-specific lock onto hasp and attach it to the power source or disconnect in a manner that effectively prevents power from becoming active.

- 3. The Site Manager or supervisor will then attach his specific lock to the hasp. The supervisor will then lock both his and the employee's keys in the key control box. This will prevent the protection from being inadvertently removed.
- 4. Employee will visually ensure the power is disconnected and will test the main power breaker on the machine to confirm the power is off. After power loss is verified, work may begin.
- 5. After work is completed, the employee and supervisor will remove their locks. Removal of locks will occur only after the employee and supervisor have verified that the area is safe to restore power.
- 6. The supervisor will record all lockouts in a logbook. The log entry will show the following information:
  - Date
  - Employee and supervisor names
  - Reason for lockout
  - Duration of lockout
  - Verification of safety inspection prior to removal of lockout
  - Date lockout is removed.
- 7. Note: No lockout should be removed by a supervisor or employee other than the persons who initiated the lockout unless:
  - The persons who initiated the lockout have left for the day or shift.
  - This fact is verified by a supervisor; and
  - The person(s) who initiated the lockout are informed of its removal prior to beginning work on the next day or shift they will be informed by the previous supervisor.

# **LOTO TRAINING**

The amount and kind of training that each employee receives is based on the relationship of that employee's job to the equipment being locked or tagged out. There are three types of employees who need to be trained: authorized, affected, and other employees. Authorized employees have the responsibility for implementing the energy control procedures and for performing the servicing or maintenance. Affected employees are the employees that typically operate or use the equipment. The Site Manager is responsible to determine which employees are authorized employees, and which are affected or other employees and shall ensure that each site employee receives the training required for their position.

# INSPECTION

A periodic inspection of this procedure must be performed at least annually, which will include verification that procedure is properly implemented and that employees are familiar with their responsibilities and these procedures.

# FORKLIFT OPERATIONS TRAINING PROGRAM

Hudson Technologies Company's Forklift Operations Training Program consists of the requirements of OSHA Standard 1910.178. All sites with forklifts have training materials specifically provided for Forklift Training. These training materials will be updated as needed. **No one** may operate a forklift without prior training.

#### REFRIGERANT WASTE OIL HANDLING PROCEDURES

Under EPA regulations, oil mixed with CFC's removed from refrigeration units or air-conditioning equipment is not considered to be hazardous waste so long as certain conditions are met. There are three basic conditions:

- 1. Certified technicians remove the CFC's from the equipment.
- 2. The CFC's are reclaimed to ARI-700 standards, and
- The used oil remaining after reclamation process must not be mixed with other oils.
   This last condition is critical to maintaining a non-hazardous classification for HTC waste oil.

Therefore, the following procedures must be followed:

- 1. Once the reclamation process is complete, and refrigerant is removed from the oil, the oil must be stored in proper containers until disposal can be arranged.
- 2. Oil shall be drained from the bottom of the processing equipment into a container designated for that purpose and then transferred to drums or to oil storage totes used for storage (and eventual disposal of waste oil.)
  - Note: Extreme care should be taken to prevent spillage of any oil during draining and/or transfer. If any accidental spills occur, follow the HTC oil spill procedures.
- 3. When a drum or tote, or any other type of container (including, without limitation, buckets, pails, or cans) is initially designated as a container for waste oil from the reclamation, it shall be marked with the words "WASTE OIL" or "REFRIGERANT WASTE OIL"
- 4. The date filling of a particular drum begins shall also be marked on the drum. Drums or totes should be closed after each transfer is complete.

Once a drum or tote is filled, the completion date shall be marked on the drum or tote, the drum or tote shall be sealed and set aside for eventual pick-up.

NOTE: As stated above, used oils recovered from the reclamation process are not hazardous waste PROVIDED that the oils are not mixed with oils or other materials from any other source. Under no circumstances may oil from any other source (including but not limited to oil drained from equipment, etc.) be mixed with oils recovered from the reclamation process. All such material or oils must be separately stored, and containers separately labeled to identify the source.

#### SPILL CONTROL RESPONSE PROCEDURES

# Refrigerant Leak/Spill Response

NOTE: Avoid refrigerant contact with skin. Liquid refrigerant will cause frostbite. Avoid prolonged or repeated breathing of vapor. Vapor reduces oxygen available for breathing and can cause suffocation. Refer to manufacturer's MSDS for safety information and appropriate personal protective equipment. Cease all activity within the leak/spill area. If possible, to do so safely, isolate the source of the leak/spill and attempt to prevent continued release of material. Begin ventilation of the leak/spill area.

# Begin clean-up as follows:

#### High-pressure leaks/spills:

Allow refrigerant to vaporize. Monitor constant ventilation of the leak/spill area until free of refrigerant vapors. Evaluate leak/spill area and begin secondary spill clean-up of residual oils as needed. (Refer to Oil Spill Response procedures.)

# Small low-pressure leaks/spills:

Use oil soak pads and pillows to stop spread of refrigerant. Continue to use pads and pillows to absorb the spill after it has been contained. Segregate the absorbent materials used to waste drums.

### Large low-pressure leaks/spills:

Ventilate the leak/spill area. Working from the ventilation source direction, contain the release by any means available. Vacate the area after containment. Continue to monitor the spill until it can 'be safely treated as a small spill, or, if necessary, call in outside environmental consultants to perform appropriate clean up and disposal.

**NOTE:** The regulations are based upon the DOT regs and the hazardous material table (49 CFR 172.101). If 5,000 pounds or more of R-11 or R-12 are involved in a leak/spill, reporting requirements to various regulatory agencies may be triggered. Please advise the Vice President immediately.

# **Safety Notes**

The handling of liquid refrigerant can be hazardous. Recovered refrigerants may contain small amounts of acids or other irritants. Avoid contact with the skin. Liquid refrigerant will cause frostbite. Avoid repeated or prolonged breathing of vapors. Vapors reduce the oxygen available for breathing and can cause suffocation.

#### **OIL SPILL RESPONSE**

- 1. Cease all activity in the spill area. If possible, isolate the source of the spill to prevent continuing leakage.
- 2. Begin clean-up operations as follows:

Small spills: Use "kitty litter" to absorb the spill. Collect the "kitty litter" after use and dispose of it into a waste oil drum

<u>Large spills</u>: Use oil soak pads or spill pillows to contain the spread of oil. Continue to use pads and pillows to soak up excess oil after containment. Dispose of pads and pillows in a waste oil drum.

<u>Major spills</u>: Attempt to ensure that the spill remains on a hard surface using any means available including squeegees, shovels, and mops. Once the spill is contained, begin clean- up as in section B above. If necessary, call in outside environmental consultants to arrange proper clean up and disposal.

NOTE: All equipment used to contain the spill should be put into available containers for proper disposal.

### **Safety Notes:**

Used oil from reclaimed refrigerants is not considered to be hazardous waste. However, small amounts of acid or other irritants may be present. Therefore, care should be taken to avoid contact with the oil during containment and clean-up.

#### **CHEMICAL HYGIENE PLAN**

#### **Purpose**

The purpose of this chemical hygiene plan is to provide employees with information and guidelines necessary to establish practices necessary to improve workplace safety and health and to prevent chemical related injuries and illnesses in the laboratory.

#### **Standard Operating Procedures**

General Rules for All Laboratory Work with Chemicals:

#### **Accident and spills**

- 1. **Eye Contact**-Promptly flush eyes with water for a prolonged period (15 minutes) and seek medical attention.
- 2. **Ingestion-**Encourage the victim to drink large amounts of water.
- 3. **Skin Contact**-Promptly flush the affected area with water and remove any contaminated clothing. If symptoms persist after washing, seek medical attention.
- 4. Clean-up-Promptly clean up spills, using appropriate protective apparel and equipment and proper disposal.

# Avoidance of routine exposure:

- 1. Avoid unnecessary exposure to chemicals by any route.
- 2. Do not smell or taste chemicals. Vent apparatus which may discharge toxic chemicals (Mitsubishi Moisture Meter, Goetz tube oil &terminations, etc.) in a fume hood.

### Eating, smoking, etc.:

- 3. Eating, drinking, smoking, chewing gum or application of cosmetics in areas where Laboratory chemicals are present is prohibited.
- 4. Wash hands after handling laboratory chemicals prior to any of the above activities.
- 5. Avoid storage, handling or consumption of food or beverages in storage areas, refrigerators, glassware, or utensils that are also used for laboratory operations.

# **Equipment and Glassware:**

 Handle laboratory glassware with care to avoid damage. Do not use damaged glassware. Use equipment only for its intended purpose.

#### **Mouth Suction**

7. Do not use mouth suction for pipetting or starting a siphon.

#### **Personal Apparel**

8. Confine long hair and loose clothing. Always wear shoes in the laboratory. Sandals and perforated shoes are prohibited. Keep work areas clean and uncluttered with chemicals and equipment properly labeled.

# **Personal Protective Equipment:**

- 9. Eye protection must be always worn by all persons, including visitors, where chemicals are stored or handled. The use of contact lenses is prohibited.
- 10. Impervious Butyl Gloves, Safety Goggles, Face Shields, and Splash Aprons must be worn when handling or sampling low pressure refrigerants and when handling hazardous chemicals. This includes Karl Fischer reagents, concentrated acids, and solvents such as methanol and reagents used in acidity analysis containing toluene, isopropanol, and methanol, and reagents used in chloride determinations containing silver nitrate.
- 11. Steel toed shoes must be worn while working in areas where cylinders are stored.

#### Planning:

12. Operators must be aware of the hazards associated with chemicals used in all analytical procedures by consulting the relevant SDS (Safety Data Sheet). SDS's for all laboratory chemicals are on file in the laboratory.

### **Fume Hood:**

13. All operations involving chemicals must be performed in a fume hood whenever possible. Hazardous chemicals should only be opened while in a fume hood. Confirm hood function prior to use. Keep materials stored in hoods to a minimum and do not allow them to block vents or airflow. Leave the hood on if hazardous chemicals are to be stored in it.

# **Waste Disposal**

14. DO NOT DISPOSE OF ANY MATERIAL GENERATED IN THE LABORATORY DOWN THE DRAIN OF THE LAB SINK.

Set forth below is a summary of the requirements for the handling, storage and disposal of laboratory waste that apply to Hudson as a Small Quantity Generator:

- 1. Label each container with the words "HAZARDOUS WASTE". The type of waste (e.g., "solvent waste", see below) and, to the extent applicable the words "FLAMMABLE", should also be marked on each container.
- 2. Each container must also be marked with the date you start accumulating the waste.
- 3. Hazardous waste should be stored in a designated accumulation area. A separate Flammable cabinet should be utilized for storage of hazardous lab waste.
- 4. Use a container made of or lined with a material that will not because hazardous waste stored in it to react, ignite, or explode.
- 5. Do not mix incompatible hazardous waste or materials.
- 6. Karl Fischer Reagent, which contains chloroform methanol, sulfur dioxide, imidazole, water and mixed refrigerants, and Acidity Test Water, which contains toluene, isopropanol, methanol water, bromothymol blue,

- sulfuric acid, potassium hydroxide and mixed refrigerants, should be accumulated in a waste container labeled "Hazardous Waste Solvent Waste".
- 7. Chloride Test Water, which contains silver nitrate, methanol, nitric acid, and mixed refrigerants, should be accumulated in a separate container labeled "Hazardous Waste Silver Nitrate Waste".
- 8. A single container per each type of waste should be utilized. Small amounts may be stored in small containers for up to 90 days and then consolidated into the final shipping container, typically a 55-gallon drum.
- 9. Keep all containers of hazardous waste closed except when adding or removing waste.
- 10. Hazardous waste may not be stored on the premises for more than 180 days and must be disposed of after 180 days, EXCEPT that the waste may be stored for up to 270 days if it will be transported greater than 200 miles from our facility.
- 11. Hazardous waste manifests must be maintained at the facility for at least 3 years.
- 12. Excess refrigerant not consumed by the testing process must be retained for reclaim.

**DO NOT MIX REFRIGERANT WASTE STREAMS**. Excess medium and high-pressure refrigerants must be reclaimed into an appropriate reclaim cylinder. Disposal of all waste shall be coordinated through an HTC approved waste disposal company.

#### **ASBESTOS AWARENESS POLICY**

#### What is Asbestos:

Asbestos was once a widely used mineral-based material that is resistant to heat and corrosive chemical. Typically, asbestos appears as a whitish, fibrous material which may release fibers that range in texture from coarse to silky. Asbestos was commonly used in buildings for thermal system insulation, fireproofing, and in various building materials, such as, but not limited to, flooring tile, ceiling tile, cement pipe, and corrugated cement siding or sheeting. Set forth below is a sample list of the types of materials that may contain asbestos. This list is not intended to be an exhaustive list of every product/material that may contain asbestos, but is intended as an illustrative guide:

Cement pipes; Cement Wallboard; Cement Siding; Asphalt Floor Tile; Vinyl Sheet Flooring; Flooring Backing; Construction Mastic; Acoustical Plaster; Decorative Plaster; Textured Paints/Coatings; Ceiling Tiles and Lay-in Panels; Spray-applied Insulation; Blown-in insulation; Fireproofing Materials; Taping Compounds (thermal); Packing materials (for wall/floor penetrations); High Temperature Gaskets; Elevator Equipment Panels; HVAC Duct insulation; Boiler Insulation; Cooling Towers; Pipe Insulation; Heating and Electrical Ducts; Electrical Panel Partitions; Electric Wire Insulation; Roofing shingles and Felt; Wallboard; Adhesives; Joint Compounds.

Exposure to asbestos can cause asbestosis (a fibrous scarring of the lungs); mesothelioma (a cancer of the lining of the chest or abdominal cavity); lung cancer; and cancers of the esophagus, stomach, colon, and rectum. Such diseases do not develop immediately after inhalation of asbestos fibers, by typically take many years before symptoms may appear.

# **Hudson's Policy:**

It is Hudson's policy and intent that Hudson personnel do not come into contact with asbestos or asbestos containing materials on the job site, nor to engage in any fashion or to any degree in the remediation or abatement of asbestos or asbestos materials. Hudson personnel shall not work on any jobsite where there is a risk of exposure to asbestos or to asbestos material through the performance of their work duties. Prior to the performance of any work at any job site, the service manager shall obtain one or more of the following:

- 1. A copy of a written inspection report, prepared by an accredited inspector, of a good faith inspection performed for the property owner or the owner's agent to determine whether materials to be worked on or to be removed contain asbestos; or
- 2. A written statement from the owner, owner's agent or the contractor requesting our services either that there is a

reasonable certainty that asbestos will not be disturbed by the project. Completion of item 12 on Hudson's On-Site Project Survey (March 12, 2007 version) complies with this policy.

In the event that we receive a report that indicates the presence of asbestos on the job-site, and/or the customer cannot state that asbestos will not be disturbed, then no work may be performed by Hudson personnel until a written certification has been provided by the owner of the premises that the asbestos has been removed or until the owner or contractor can provide a written statement that appropriate precautions have been put in place and that there is a reasonable certainty that asbestos will not be disturbed by the project.

# **Accidental Exposure**

If any Hudson personnel observes or becomes aware of any material in the work area that he suspects to be asbestos or asbestos containing material, then the senior technician on the job site is required to shut down the job, or at a minimum the portion of the project where the material has been observed, shall evacuate all Hudson personnel and equipment from the area and notify the customer's representative on site of what was observed. Hudson personnel may only return to the area if it demonstrated that the suspected material is not asbestos, or if the customer certifies that the acceptable asbestos levels have been obtained in the area and continued work in the customer is reasonably certain that asbestos will not be disturbed by continuation of the project.