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| **Hazard Communication and Chemical Hygiene** |
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| **1.** | **Purpose** |
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|  | To ensure that the hazards of all chemicals are evaluated, and that information concerning these chemical hazards are communicated to employees. The transmittal of information is to be accomplished by means of a comprehensive hazard communication program, which is to include container labeling, safety data(SDS) sheet knowledge, function specific training when applicable, and general awareness training. |
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|  | Furthermore, the purpose of the Chemical Hygiene Plan which is incorporated into this plan is to set guidelines for chemical safety in the in2vate’s Lab environments. |
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| **2.** | **Scope** |
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| 2.1. | The Hazard Communication portion of this program is designed to give information to all employees about the hazardous chemicals to which they are exposed or may be exposed to in the work environment. This includes sharing this information with outside contractors and site visitors. |
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| 2.2. | Chemical Hygiene |
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| 2.2.1. | The Chemical Hygiene portion of this applies to the Institution as it is engaged in the laboratory use of hazardous chemicals as defined below. |
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| 2.2.2. | Where this section applies, it shall supersede, for laboratories, the requirements of all other OSHA health standards in 29 CFR part 1910, Subpart Z, except as follows (After the written chemical Hygiene plan has been implemented): |
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| 2.2.2.1. | For any OSHA health standard, only the requirement to limit employee exposure to the specific permissible exposure limit shall apply for laboratories, unless that particular standard states otherwise or unless the conditions of paragraph 2.2.2.3. of this section apply. |
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| 2.2.2.2. | Prohibition of eye and skin contact where specified by any OSHA health standard shall be observed. |
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| 2.2.2.3. | Where the action level (or in the absence of an action level, the permissible exposure limit) is routinely exceeded for an OSHA regulated substance with exposure monitoring and medical surveillance requirements, paragraphs 5.1.5. and 5.1.8.1.2 of this section shall apply. |
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| 2.2.3. | This Chemical Hygiene section shall not apply to: |
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| 2.2.3.1. | Uses of hazardous chemicals which do not meet the definition of laboratory use, and in such cases, the Institution shall comply with the relevant standard in 29 CFR part 1910, Subpart Z, even if such use occurs in a laboratory. |
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| 2.2.3.2. | Laboratory uses of hazardous chemicals which provide no potential for employee exposure. Examples of such conditions might include: |
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| 2.2.3.2.1. | Procedures using chemically-impregnated test media such as Dip-and-Read tests where a reagent strip is dipped into the specimen to be tested and the results are interpreted by comparing the color reaction to a color chart supplied by the manufacturer of the test strip; and |
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| 2.2.3.2.2. | Commercially prepared kits such as those used in performing pregnancy tests in which all of the reagents needed to conduct the test are contained in the kit. |
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| **3.** | **Reference** |
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|  | 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response |
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|  | 29 CFR 1910.1200 Hazard Communication |
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|  | 40 CFR 279 Standards for the Management of Used Oils |
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|  | 40 CFR 261-265 Hazardous Waste Standards |
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|  | 40 CFR 273 Standards for Universal Waste Management |
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|  | 49 CFR 171.3 Hazardous Waste |
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|  | 49 CFR 172.704 Hazardous Material Training Requirements |
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|  | 29 CFR 1910.1450 Occupational exposure to hazardous chemicals in laboratories |
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| **4.** | **Definitions** |
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|  | **Action level** means a concentration designated in 29 CFR part 1910 for a specific substance, calculated as an eight (8)-hour time-weighted average, which initiates certain required activities such as exposure monitoring and medical surveillance. |
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|  | **Assistant Secretary** means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee. |
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|  | **Carcinogen** (see select carcinogen). |
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|  | **Chemical Hygiene Officer** means an employee who is designated by the Institution, and who is qualified by training or experience, to provide technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan. This definition is not intended to place limitations on the position description or job classification that the designated individual shall hold within the Institution’s organizational structure. |
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|  | **Chemical Hygiene Plan** means a written program developed and implemented by the Institution which sets forth procedures, equipment, personal protective equipment and work practices that (i) are capable of protecting employees from the health hazards presented by hazardous chemicals used in that particular workplace and (ii) meets the requirements of paragraph 5.1.6. of this section. |
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|  | **Combustible liquid** means any liquid having a flashpoint at or above 100°F (37.8°C), but below 200°F (93.3°C) except any mixture having components with flashpoints of 200°F (93.3°C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture. |
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|  | **Compressed Gas** means: |
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| i) | A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70°F (21.1°C); or |
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| ii) | A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C); or |
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| iii) | A liquid having a vapor pressure exceeding 40 psi at 100°F (37.8°C) as determined by ASTM D-323-72. |
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|  | **Exposure or exposed** means that an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g. accidental or possible) exposure. "Subjected" in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact or absorption). |
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|  | **Flammable** means a chemical that falls into one of the following categories: |
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| i) | *Aerosol, flammable* means an aerosol that, when tested by the method described in 16 CFR 1500.45, yields a flame protection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening: |
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| ii) | Gas, flammable means: |
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| a) | A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13 percent by volume or less; or |
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| b) | A gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than 12 percent by volume, regardless of the lower limit. |
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| iii) | Liquid flammable means any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up 99 percent or more of the total volume of the mixture. |
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| iv) | Solid, flammable means a solid, other than a blasting agent or explosive as defined in §1910.109(a), that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis. |
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|  | **Flashpoint** means the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested. Note:Organic peroxides, which undergo autoaccelerating thermal decomposition, are excluded from any of the flashpoint determination methods specified above. |
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|  | **Hazmat Employee** means a person who in the course of employment directly affects hazardous materials transportation safety. |
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|  | **Label** means any written, printed, or graphic material, displayed on or affixed to containers of hazardous chemicals. |
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|  | **Laboratory scale** means work with substances in which the containers used for reactions, transfers, and other handling of substances are designed to be easily and safely manipulated by one person. "Laboratory scale" excludes those workplaces whose function is to produce commercial quantities of materials. |
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|  | **Safety data sheet (SDS)** means written or printed material concerning a hazardous chemical that is prepared in accordance with federal requirements. |
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|  | **Marking** means a descriptive name, identification number, instructions, cautions, weight, specification, or UN marks, or combinations thereof, on the outer packaging of hazardous materials. |
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|  | **Medical consultation** means a consultation which takes place between an employee and a licensed physician for the purpose of determining what medical examinations or procedures, if any, are appropriate in cases where a significant exposure to a hazardous chemical may have taken place. |
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|  | **Organic peroxide** means an organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical. |
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|  | **Oxidizer** means a chemical other than a blasting agent or explosive as defined in §1910.109(a), that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases. |
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|  | **Physical hazard** means a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive. |
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|  | **Select carcinogen** means any substance which meets one of the following criteria: |
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| (i) | It is regulated by OSHA as a carcinogen; or |
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| (ii) | It is listed under the category, "known to be carcinogens," in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition); or |
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| (iii) | It is listed under Group 1 ("carcinogenic to humans") by the International Agency for Research on Cancer Monographs (IARC) (latest editions); or |
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| (iv) | It is listed in either Group 2A or 2B by IARC or under the category, "reasonably anticipated to be carcinogens" by NTP, and causes statistically significant tumor incidence in experimental animals in accordance with any of the following criteria: |
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| a) | After inhalation exposure of 6-7 hours per day, 5 days per week, for a significant portion of a lifetime to dosages of less than 10 mg/m3; |
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| b) | (iv)(B) After repeated skin application of less than 300 (mg/kg of body weight) per week; or= |
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| c) | After oral dosages of less than 50 mg/kg of body weight per day. |
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|  | **Unstable** *(reactive)*means a chemical which is the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature. |
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| **5.** | **Responsibilities** |
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| 5.1. | Safety Coordinator/ Safety and Enviromental Department |
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| 5.1.1. | Maintains in the office and online, a written hazard communication program which describes how the criteria for GHS labels, safety data sheets, and employee information and training are met, and which includes the following: |
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| 5.1.1.1. | A list of the hazardous chemicals known to be present using an identity that is referenced on the appropriate safety data sheet. |
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| 5.1.1.2. | The methods used to inform employees of the hazards of non-routine tasks, and the hazards associated with chemicals contained in unlabeled pipes in their work areas (See Appendix B). |
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| 5.1.2. | Ensures that the hazard communication program includes the following: |
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| 5.1.2.1. | The methods used to provide contractor(s), who may be working on-site, access to safety data sheets for each hazardous chemical the contractor (’s) employees may be exposed to while working (See Contractor Policy). |
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| 5.1.2.2. | The methods used to inform the contractor(s), who may be working on-site, of any precautionary measures that need to be taken to protect employees during the workplace's normal operating conditions and in foreseeable emergencies (See Contractor Policy). |
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| 5.1.2.3. | The methods used to inform the contractor(s), who may be working on-site, of the labeling system used in the workplace (See Contractor Policy). |
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| 5.1.3. | Ensures that employees are provided with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new physical or health hazard is introduced into their work area. |
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| 5.1.3.1. | Employees are informed of: |
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| 5.1.3.1.1. | Any operations in their work area where hazardous chemicals are present. |
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| 5.1.3.1.2. | The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and safety data sheets. |
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| 5.1.4. | Shall, for laboratory uses of OSHA regulated substances, assure that laboratory employees' exposures to such substances do not exceed the permissible exposure limits (PEL) specified in 29 CFR part 1910, Subpart Z. |
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| 5.1.5. | Employee Exposure determination-Chemical Hygiene |
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| 5.1.5.1. | Shall measure the employee's exposure to any substance regulated by a standard which requires monitoring if there is reason to believe that exposure levels for that substance routinely exceed the action level (or in the absence of an action level, the PEL). |
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| 5.1.5.2. | If the initial monitoring prescribed by paragraph 5.1.5.1. of this section discloses employee exposure over the action level (or in the absence of an action level, the PEL), the Institution shall immediately comply with the exposure monitoring provisions of the relevant standard. |
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| 5.1.5.3. | May terminate monitoring in accordance with the relevant standard. |
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| 5.1.5.4. | Shall, within 15 working days after the receipt of any monitoring results, notify the employee of these results in writing either individually or by posting results in an appropriate location that is accessible to employees. |
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| 5.1.6. | Shall implement a Chemical hygiene plan-General. (Appendix E of this section is non-mandatory but provides guidance to assist the Institution in the development of the Chemical Hygiene Plan.)  |
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| 5.1.6.1. | Where hazardous chemicals as defined by this standard are used in the workplace, the in2vate shall develop and carry out the provisions of a written Chemical Hygiene Plan which is: |
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| 5.1.6.1.1. | Capable of protecting employees from health hazards associated with hazardous chemicals in that laboratory and |
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| 5.1.6.1.2. | Capable of keeping exposures below the limits specified in paragraph 5.1.4. of this section. |
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| 5.1.6.2. | The Chemical Hygiene Plan shall be readily available to employees, employee representatives and, upon request, to the Assistant Secretary of OSHA. |
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| 5.1.6.3. | The Chemical Hygiene Plan shall include each of the following elements and shall indicate specific measures that the in2vate will take to ensure laboratory employee protection: |
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| 5.1.6.3.1. | Standard operating procedures relevant to safety and health considerations to be followed when laboratory work involves the use of hazardous chemicals; |
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| 5.1.6.3.2. | Criteria that the in2vate will use to determine and implement control measures to reduce employee exposure to hazardous chemicals including engineering controls, the use of personal protective equipment and hygiene practices; particular attention shall be given to the selection of control measures for chemicals that are known to be extremely hazardous; |
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| 5.1.6.3.3. | A requirement that fume hoods and other protective equipment are functioning properly and specific measures that shall be taken to ensure proper and adequate performance of such equipment; |
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| 5.1.6.3.4. | Provisions for employee information and training as prescribed in paragraph 7.6. of this section; |
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| 5.1.6.3.5. | The circumstances under which a particular laboratory operation, procedure or activity shall require prior approval from the in2vate or the in2vate’s designee before implementation; |
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| 5.1.6.3.6. | Provisions for medical consultation and medical examinations in accordance with paragraph 5.1.8. of this section; |
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| 5.1.6.3.7. | Designation of personnel responsible for implementation of the Chemical Hygiene Plan including the assignment of a Safety and Enviromental Department and, if appropriate, establishment of a Chemical Hygiene Committee; and |
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| 5.1.6.3.8. | Provisions for additional employee protection for work with particularly hazardous substances. These include "select carcinogens," reproductive toxins and substances which have a high degree of acute toxicity. Specific considerations shall be given to the following provisions which shall be included where appropriate: |
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| a. | Establishment of a designated area; |
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| b. | Use of containment devices such as fume hoods or glove boxes; |
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| c. | Procedures for safe removal of contaminated waste; and |
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| d. | Decontamination procedures. |
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| 5.1.7. | Shall review and evaluate the effectiveness of the Chemical Hygiene Plan at least annually and update it as necessary. |
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| 5.1.8. | *Medical consultation and medical examinations.*  |
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| 5.1.8.1. | Shall provide all employees who work with hazardous chemicals an opportunity to receive medical attention, including any follow-up examinations which the examining physician determines to be necessary, under the following circumstances: |
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| 5.1.8.1.1. | Whenever an employee develops signs or symptoms associated with a hazardous chemical to which the employee may have been exposed in the laboratory, the employee shall be provided an opportunity to receive an appropriate medical examination. |
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| 5.1.8.1.2. | Where exposure monitoring reveals an exposure level routinely above the action level (or in the absence of an action level, the PEL) for an OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements, medical surveillance shall be established for the affected employee as prescribed by the particular standard. |
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| 5.1.8.1.3. | Whenever an event takes place in the work area such as a spill, leak, explosion or other occurrence resulting in the likelihood of a hazardous exposure, the affected employee shall be provided an opportunity for a medical consultation. Such consultation shall be for the purpose of determining the need for a medical examination. |
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| 5.1.8.2. | All medical examinations and consultations shall be performed by or under the direct supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place. |
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| 5.1.8.3. | The in2vate shall provide the following information to the physician: |
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| 5.1.8.3.1. | The identity of the hazardous chemical(s) to which the employee may have been exposed; |
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| 5.1.8.3.2. | A description of the conditions under which the exposure occurred including quantitative exposure data, if available; and |
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| 5.1.8.3.3. | A description of the signs and symptoms of exposure that the employee is experiencing, if any. |
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| 5.1.8.4. | *Physician's written opinion- Chemical Hygiene.*  |
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| 5.1.8.4.1. | For examination or consultation required under this standard, the in2vate shall obtain a written opinion from the examining physician which shall include the following: |
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| a. | Any recommendation for further medical follow-up; |
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| b. | The results of the medical examination and any associated tests; |
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| c. | Any medical condition which may be revealed in the course of the examination which may place the employee at increased risk as a result of exposure to a hazardous chemical found in the workplace; and |
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| d. | A statement that the employee has been informed by the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment. |
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| 5.1.8.4.2. | The written opinion shall not reveal specific findings of diagnoses unrelated to occupational exposure. |
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| 5.2. | The Safety Coordinator: |
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| 5.2.1. | Obtains a SDS from the chemical manufacturer or importer before any chemical is put into use. |
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| 5.2.2. | Maintains in the office copies of the safety data sheets for each hazardous chemical, and ensures that they are readily accessible during each work shift to employees in their work area(s). Master copies located in Environmental Safety office. However each section of the Institution is required to maintain their own. There are also electronic versions, where those employees have “computer” access available to them (i.e. Maintenance Services) |
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| 5.2.3. | Keeps a copy of each manifest signed in accordance with 40 CFR 262.23(a) for three years or until he receives a signed copy from the designated institution which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter. |
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| 5.2.4. | Keeps a copy of each waste report for a period of at least three years from the due date of the report. |
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| 5.2.5. | Keep records of any test results, waste analyses, or other determinations made in accordance with 40CFR 262.11 for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal. |
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| 5.2.6. | Ensures that transporter, treatment, storage, and disposal institution and state receive copies of signed manifest. |
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| 5.2.6.1. | When shipping hazardous waste, includes a Land Disposal Restriction form with the Manifest. |
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| 5.2.6.2. | If final copy is not received , conducts and investigation and submit and exception report. |
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| 5.2.6.3. | Ensures that an accurate report depicting the waste content is available. |
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| 5.2.6.4. | Ensures that a contingency plan for waste releases exists at the in2vate. |
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| 5.2.7. | Ensures that each container of hazardous chemicals in the workplace is labeled, tagged or marked with the following information: |
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| 5.2.7.1. | Identity of the hazardous chemical(s) and, |
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| 5.2.7.2. | A GHS warning label or label with equivalent information (See Appendix A). |
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| 5.2.8. | Ensures that labels or other forms of warning are legible, in English, and prominently displayed on the container, or readily available in the work area throughout each work shift. |
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| 5.2.9. | Inspects weekly all hazardous waste containers in storage and maintains those inspection records: |
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| 5.2.9.1. | Containers must be marked “Hazardous Waste”. |
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| 5.2.9.2. | Closed to prevent spills and fugitive emissions. |
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| 5.2.9.3. | Maintained in a “ready for transport” condition  |
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| 5.2.9.4. | Accumulation time must be noted (date must be placed on contained immediately upon placement in storage). |
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| 5.2.10. | Ensures that satellite accumulation of up to one 55 gallon drum of hazardous waste or one quart of acutely hazardous waste is not exceeded at the point of generation. |
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| 5.2.10.1. | Ensures that the container is labeled “Hazardous Waste”. |
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| 5.2.10.2. | Ensures that the container is closed when not being filled. |
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| 5.2.10.3. | Ensures that the waste material is inspected weekly. |
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| 5.3. | Safety and Enviromental Department |
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| 5.3.1. | *Hazard identification.* |
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| 5.3.1.1. | With respect to labels, pictograms and safety data sheets: |
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| 5.3.1.1.1. | Shall ensure that labels and pictograms on incoming containers of hazardous chemicals are not removed or defaced. |
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| 5.3.1.1.2. | Shall maintain any al safety data sheets that are received with incoming shipments of hazardous chemicals, and ensure that they are readily accessible to laboratory employees. |
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| 5.3.1.2. | The following provisions shall apply to chemical substances developed in the laboratory: |
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| 5.3.1.2.1. | If the composition of the chemical substance which is produced exclusively for the laboratory's use is known, the Safety and Enviromental Department shall determine if it is a hazardous chemical as defined in paragraph 4. of this section. If the chemical is determined to be hazardous, the Safety and Enviromental Department shall provide appropriate training as required under paragraph 7.6. of this section. |
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| 5.3.1.2.2. | If the chemical produced is a byproduct whose composition is not known, the Safety and Enviromental Department shall assume that the substance is hazardous and shall implement paragraph 5.1.6. of this section. |
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| 5.3.1.2.3. | If the chemical substance is produced for another user outside of the laboratory, the Safety and Enviromental Department shall comply with the Hazard Communication Standard (29 CFR §1910.1200) including the requirements for preparation of material safety data sheets and labeling. |
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| 5.3.2. | Where the use of respirators is necessary to maintain exposure below permissible exposure limits, the Institution shall provide, at no cost to the employee, the proper respiratory equipment. Respirators shall be selected and used in accordance with the requirements of 29 CFR §1910.134. |
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| **6.** | **Pictograms, Labels and Other Forms of Warning** |
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| 6.1. | As indicated in Appendix A, a NFPA based label system is used but pictograms, signs, placards, operating procedures, or other such written materials may be used in place of affixing labels to individual stationary process containers, as long as the alternative method identifies the containers to which it is applicable and conveys the information required on a label. If this information is kept in a written format, it is readily accessible to the employees in their work area throughout each work shift (For safety color designation see Appendix D). |
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| **7.** | **Training for Hazard Communication** |
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| 7.1. | Employee training includes: |
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| 7.1.1. | Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area. |
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| 7.1.2. | The physical and health hazards of the chemicals in the work area. |
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| 7.1.3. | The measures employees can take to protect themselves from these hazards, including appropriate work practices, emergency procedures, and personal protective equipment to be used. |
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| 7.1.4. | The details of the hazard communication program, including an explanation of the labeling system and the safety data sheet, and how employees can obtain and use the appropriate hazard information. |
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| 7.2. | Where an employee’s job tasks include ordering, packaging, loading, unloading, handling, or preparing for the transportation any hazardous materials, that employee will be given further instruction when applicable to job task on the Hazardous Materials Table and Special Provisions, Shipping Papers, Marking, Labeling, Placarding, and Emergency Response Information (further training requirements section 8.). |
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| 7.2.1. | This training will be given initially upon receiving such a job task and recurring training shall be given every three years or when an employee changes job functions. |
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| 7.2.2. | Records of hazmat training are maintained with the following information: employee name, most recent completion date of training, description of training, copy or location of training materials, name and address of person performing training, and certification the employee has been trained according to regulation. |
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| 7.3. | Where an employee’s job tasks bring him/her into contact with Universal Wastes, they must be trained, have knowledge and abide by sections 10. through 15. |
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| 7.4. | Where an employee’s job tasks bring him/her into contact with used oil, he/she should be aware and abide the requirements set out in sections 16. through 18. |
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| 7.5. | Where an employee’s job tasks bring him/her into contact with hazardous waste, he/she should be aware and abide the requirements set out in section 9. |
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| 7.6. | *Employee information and training- Chemical Hygiene.* |
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| 7.6.1. | The in2vate shall provide employees with information and training to ensure that they are apprised of the hazardous of chemicals present in their work area. |
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| 7.6.2. | Such information shall be provided at the time of an employee's initial assignment to a work area where hazardous chemicals are present and prior to assignments involving new exposure situations. The frequency of refresher information and training shall be determined by the in2vate. |
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| 7.6.3. | Employees shall be informed of: |
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| 7.6.3.1. | The contents of this standard and its appendices which shall be made available to employees; |
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| 7.6.3.2. | The location and availability of the in2vate’s Chemical Hygiene Plan; |
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| 7.6.3.3. | The permissible exposure limits for OSHA regulated substances or recommended exposure limits for other hazardous chemicals where there is no applicable OSHA standard; |
|  |  |
| 7.6.3.4. | Signs and symptoms associated with exposures to hazardous chemicals used in the laboratory; and |
|  |  |
| 7.6.3.5. | The location and availability of known reference material on the hazards, safe handling, storage and disposal of hazardous chemicals found in the laboratory including, but not limited to, Safety Data Sheets received from the chemical supplier. |
|  |  |
| 7.6.4. | *Specific Chemical Hygiene Training.* |
|  |  |
| 7.6.4.1. | Employee training shall include: |
|  |  |
| 7.6.4.1.1. | Methods and observations that may be used to detect the presence or release of a hazardous chemical (such as monitoring conducted by the in2vate, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.); |
|  |  |
| 7.6.4.1.2. | The physical and health hazards of chemicals in the work area; and |
|  |  |
| 7.6.4.1.3. | The measures employees can take to protect themselves from these hazards, including specific procedures the in2vate has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used. |
|  |  |
| 7.6.4.2. | The employee shall be trained on the applicable details of the in2vate’s written Chemical Hygiene Plan. |
|  |  |
| **8.** | **Additional Training Requirements for DOT HazMat Employees** |
|  |  |
| 8.1. | Training requirements |
|  |  |
| 8.1.1. | Each hazmat employee is provided with general awareness/familiarization training designed to provide familiarity with DOT’s hazardous materials requirements, and to enable the employee to recognize and identify hazardous materials consistent with the hazard communication policy. |
|  |  |
| 8.1.2. | Function-specific training |
|  |  |
| 8.1.2.1. | Each hazmat employee is provided with function-specific training concerning requirements of the hazardous materials regulation which are specifically applicable to the functions the employee performs. |
|  |  |
| 8.1.3. | Each hazmat employee receives safety training concerning |
|  |  |
| 8.1.3.1. | Emergency response information. |
|  |  |
| 8.1.3.2. | Measures to protect the employee from the hazards associated with hazardous materials to which they may be exposed in the work place, including specific measures the in2vate has implemented to protect employees from exposure. |
|  |  |
| 8.1.3.3. | Methods and procedures for avoiding accidents, such as the proper procedures for handling packages containing hazardous materials. |
|  |  |
| 8.1.4. | Each hazmat employee must receive training that provides an awareness of security risks associated with hazardous materials transportation and methods designed to enhance transportation security. This training must also include a component covering how to recognize and respond to possible security threats. New hazmat employees must receive the security awareness training required by this paragraph within 90 days after employment. |
|  |  |
| 8.1.5. | Security training must include in2vate security objectives, specific security procedures, employee responsibilities, actions to take in the event of a security breach, and the organizational security structure. The in2vate is not required to have a Hazmat Security Plan (The in2vate does not ship placardable quantities of hazardous material). |
|  |  |
| 8.2. | Initial and recurrent training |
|  |  |
| 8.2.1. | A new hazmat employee, or a hazmat employee who changes job functions may perform those functions prior to the completion of training provided. |
|  |  |
| 8.2.1.1. | The employee performs those functions under the direct supervision of a properly trained and knowledgeable hazmat employee. |
|  |  |
| 8.2.1.2. | The training is completed within 90 days after employment or a change in job function. |
|  |  |
| **9.** | **Additional Training Requirements for those with contact with Hazardous Waste** |
|  |  |
| 9.1. | Training |
|  |  |
| 9.1.1. | in2vate personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the in2vate's compliance with the requirements of this part. The owner or operator must ensure that this program includes all the elements described in the document required under the hazardous waste regulations. |
|  |  |
| 9.1.2. | This training program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches in2vate personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed. |
|  |  |
| 9.1.3. | At a minimum, the training program must be designed to ensure that in2vate personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable: |
|  |  |
| 9.1.3.1. | Procedures for using, inspecting, repairing, and replacing in2vate emergency and monitoring equipment(See Appendix C for inspection form and the emergency action program). |
|  |  |
| 9.1.3.2. | Communications or alarm systems |
|  |  |
| 9.1.3.3. | Response to fires or explosions |
|  |  |
| 9.1.3.4. | Response to ground-water contamination incidents and |
|  |  |
| 9.1.3.5. | Shutdown of operations. |
|  |  |
| 9.2. | in2vate personnel must successfully complete the program required in section 9.1. within six months after the date of their employment or assignment to the in2vate, or to a new position at the in2vate, whichever is later. Employees must not work in unsupervised positions until they have completed the training requirements of 9.1 (For Small Quantity Generators and Large Quantity Generators). |
|  |  |
| 9.3. | in2vate personnel must take part in an annual review of the initial training required section 9.1. |
|  |  |
| **10.** | **Recordkeeping** |
|  |  |
| 10.1. | For a Hazmat employee, a record of current training, inclusive of the preceding three years, is created and retained by the in2vate for as long as that employee is employed by the in2vate as a hazmat employee and for 90 days thereafter. The record includes: |
|  |  |
| 10.1.1. | The hazmat employee's name. |
|  |  |
| 10.1.2. | The most recent training completion date of the hazmat employee's training. |
|  |  |
| 10.1.3. | A description, copy, or the location of the training materials used to conduct the training. (Training material kept in the Safety Department office). |
|  |  |
| 10.1.4. | The name and address of the person providing the training. |
|  |  |
| 10.1.5. | Certification that the hazmat employee has been trained and tested. |
|  |  |
| 10.2. | Training records of current personnel must be kept until closure of the in2vate; training records on former employees must be kept for at least three years from the date the employee last worked at the in2vate. Personnel training records will accompany personnel transferred within the same in2vate. |
|  |  |
| 10.3. | The in2vate shall establish and maintain for each employee an accurate record of any measurements taken to monitor employee exposures and any medical consultation and examinations including tests or written opinions required by this standard. |
|  |  |
| 10.4. | The in2vate shall assure that such records are kept, transferred, and made available in accordance with 29 CFR §1910.1020. |
|  |  |
| 10.5. | *Appendices.* The information contained in the appendices is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligation. |
|  |  |
| **11.** | **Universal Waste** |
|  |  |
| 11.1. | The in2vate is a small quantity handler of universal waste (will not accumulate 5,000 kilograms or more total of regulated batteries or lamps at any time) and manages universal waste batteries in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows: |
|  |  |
| 11.1.1. | The in2vate contains any universal waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container is closed, structurally sound, compatible with the contents of the battery. |
|  |  |
| 11.1.2. | The in2vate may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal): |
|  |  |
| 11.1.2.1. | Sorting batteries by type; |
|  |  |
| 11.1.2.2. | Mixing battery types in one container; |
|  |  |
| 11.1.2.3. | Discharging batteries so as to remove the electric charge; |
|  |  |
| 11.1.2.4. | Regenerating used batteries; |
|  |  |
| 11.1.2.5. | Disassembling batteries or battery packs into individual batteries or cells; |
|  |  |
| 11.1.2.6. | Removing batteries from consumer products |
|  |  |
| 11.2. | As a small quantity handler of universal waste, the in2vate manages lamps in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows: |
|  |  |
| 11.2.1. | The in2vate employees contain regulated lamps in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. Such containers and packages remain closed and will lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions. |
|  |  |
| 11.2.2. | The in2vate’s trained personnel immediately clean up and place in a container any regulated lamp that is broken and places in a container any lamp that shows evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous constituents to the environment. Containers will be closed, structurally sound, compatible with the contents of the lamps and will lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions. |
|  |  |
| **12.** | **Universal Waste Labeling/Marking** |
|  |  |
| 12.1. | A universal waste battery container in which the batteries are contained, is labeled or marked clearly with any one of the following phrases: "Universal Waste-Battery(ies), or "Waste Battery(ies)," or "Used Battery(ies); |
|  |  |
| 12.2. | Universal waste thermostats (i.e., each thermostat), or a container in which the thermostats are contained, are labeled or marked clearly with any one of the following phrases: "Universal Waste-Mercury Thermostat(s)," or "Waste Mercury Thermostat(s)," or "Used Mercury Thermostat(s)". |
|  |  |
| 12.3. | Each lamp or a container or package in which such lamps are contained are labeled or marked clearly with one of the following phrases: "Universal Waste-Lamp(s)," or "Waste Lamp(s)," or "Used Lamp(s)." |
|  |  |
| **13.** | **Accumulation Time Limits** |
|  |  |
| 13.1. | As a small quantity handler of universal waste, the in2vate accumulates universal waste for no longer than one year from the date the universal waste is generated, or received from another handler, unless for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. However, the in2vate’s Safety Coordinator bears the burden of proving that such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. |
|  |  |
| 13.2. | The in2vate’s Safety Coordinator demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The Safety Coordinator makes this demonstration by: |
|  |  |
| 13.2.1. | Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received; |
|  |  |
| 13.2.2 | Marking or labeling each individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received; |
|  |  |
| 13.2.3. | Maintaining an inventory system on-site that identifies the date each universal waste became a waste or was received; |
|  |  |
| 13.2.4. | Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received; |
|  |  |
| 13.2.5. | Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received; or |
|  |  |
| 13.2.6. | Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. |
|  |  |
| **14.** | **Employee Training for Universal Waste** |
|  |  |
| 14.1. | All employees who handle or have responsibility for managing universal waste are informed of the proper handling and emergency procedures appropriate to the type(s) of universal waste handled at the in2vate. |
|  |  |
| **15.** | **Response to Releases** |
|  |  |
| 15.1. | The in2vate’s trained employees would immediately contain all releases of universal wastes and other residues from universal wastes. |
|  |  |
| 15.2. | The in2vate’s Safety Coordinator determines whether any material resulting from the release is hazardous waste, and if so, would manage the hazardous waste in compliance with all applicable requirements. At that time, the in2vate would be considered the generator of the material resulting from the release, and must manage it in compliance with Federal Regulations. |
|  |  |
| **16.** | **Off-Site Shipments** |
|  |  |
| 16.1. | As a small quantity handler of universal waste, the in2vate is prohibited from sending or taking universal waste to a place other than another universal waste handler, a destination in2vate, or a foreign destination. |
|  |  |
| 16.2. | If a universal waste being offered for off-site transportation meets the definition of hazardous materials, the in2vate’s shipping and receiving employees would package, label, mark and placard the shipment, and prepare the proper shipping papers in accordance with the applicable Department of Transportation regulations; |
|  |  |
| 16.3. | Prior to sending a shipment of universal waste to another universal waste handler, The Director of Purchasing would ensure that the receiving handler agrees to receive the shipment. |
|  |  |
| 16.4. | If the in2vate sends a shipment of universal waste to another handler or to a destination in2vate and the shipment is rejected by the receiving handler or destination in2vate, The Director of Purchasing will either: |
|  |  |
| 16.4.1. | Receive the waste back when notified that the shipment has been rejected, or |
|  |  |
| 16.4.2. | Agree with the receiving handler on a destination in2vate to which the shipment will be sent. |
|  |  |
| **17.** | **Hazardous Waste Mixing in Reference to Used Oil** |
|  |  |
| 17.1. | Mixtures of used oil and hazardous waste would be managed in accordance with characteristic hazardous waste requirements. |
|  |  |
| 17.2. | The rebuttable presumption for used oil applies to used oil managed by generators. Under the rebuttable presumption for used oil, used oil containing greater than 1,000 ppm total halogens is presumed to be a hazardous waste and thus must be managed as hazardous waste and not as used oil unless the presumption is rebutted. However, the rebuttable presumption does not apply to certain metalworking oils/fluids and certain used oils removed from refrigeration units. |
|  |  |
| **18.** | **Used Oil Storage** |
|  |  |
| 18.1. | Used oil generators are subject to all applicable Spill Prevention, Control and Countermeasures in addition to the requirements of this part. |
|  |  |
| 18.1.1. | The in2vate does not store used oil in units other than containers or units subject to regulation under parts 40 CFR 264 or 265. |
|  |  |
| 18.1.2. | Containers and aboveground tanks used to store used oil at the in2vate facilities are: |
|  |  |
| 18.1.2.1. | In good condition (no severe rusting, apparent structural defects or deterioration); and |
|  |  |
| 18.1.2.2. | Not leaking (no visible leaks). |
|  |  |
| 18.1.3. | Labels |
|  |  |
| 18.1.3.1. | Containers used to store used oil at generator facilities are be labeled or marked clearly with the words "Used Oil." |
|  |  |
| 18.1.3.2. | Fill pipes used to transfer used oil into underground storage tanks at generator facilities would be labeled or marked clearly with the words "Used Oil." |
|  |  |
| 18.1.4. | Upon detection of a release of used oil to the environment that is not subject to technical standards and corrective action requirements for owner and operators of underground storage tanks, the in2vate’s Maintenance Services personnel would perform the following cleanup steps: |
|  |  |
| 18.1.4.1. | Stop the release. |
|  |  |
| 18.1.4.2. | Contain the released used oil. |
|  |  |
| 18.1.4.3. | Clean up and manage properly the released used oil and other materials; and |
|  |  |
| 18.1.4.4. | If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service. |
|  |  |
| **19.** | **Off-Site Shipments** |
|  |  |
| 19.1. | The Safety Coordinator ensures that their used oil is transported only by transporters who have obtained EPA identification numbers. |
|  |  |
| 19.2. | The Safety Coordinator ensures that used oil is sent to permitted facilities according to 40 CFR 279. |
|  |  |