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| Name of Appendix: | **Removing chemical waste from laboratories** |
| Goal | 1. The purpose of this directive is to provide instructions for removing chemical waste from the laboratories using an external company. |
| Introduction and background to separating types of chemical waste | 1. It is customary to refer to 9 primary risk groups. This directive refers to 7 main groups of materials, as follows:   (The numbers at the beginning of each line refer to the classes of groups as defined by the UN:)  (2) Gases  (3) Flammable liquids  (4) Flammable solids  (5) Oxidants  (6) Toxic substances  (8) Corrosives  (9) Other hazardous materials |
|  | 1. The groups defined above are further sub-divided as follows:   **Group (2)**  (2.1) Flammable gases  (2.2) Gases that are not flammable and not toxic  (2.3) Toxic gases  **Group (4)**  This also includes materials that are liable to self-combust and those that are liable to releases flammable gases when they come in contact with water. The marking:  (4.1) Flammable solids  (4.2 ) Materials that are liable to combust spontaneously  (4.3) Materials that are liable to combust spontaneously or release flammable gases in dangerous quantities when they come in contact with water.  **Group (5)**  (5.1) Materials that are liable, through the release of oxygen, to cause or contribute to problems in another material  (5.2) Organic oxidants  **Group (8)**  The group of corrosives is divided in the University’s directive into three groups, in order to prevent their being stored and transported together:  (8.1) Acids  (8.2) Alkalis  (8.3) Other corrosives  **Group (9)**  At the University, this general groups (according to UN directives) also includes undefined chemical waste. |
|  | 1. Since this concerns mixed chemical waste, defining the group is not always easy. The definition will be given according to the risk level of the most hazardous substance in the mixture, if possible. When this cannot be done, it is best to define the waste as Group (9) for the purpose of removal. The risk level of a substance (compound) will be as defined in the National Fire Protection Association (NFPA) code, which is commonly used in other literature and which defines 4 levels (such that level 0 has no risk). |
| Preparing chemical waste for removal | 1. Chemical waste collected from the laboratories shall be divided according to groups as described in the introduction; it is emphasized that if the group cannot be clearly defined, Group (9) should be used. |
|  | 1. Those dealing with the materials will choose collection containers that are chemically resistant to all of the components from the group being placed inside. The containers should be made of glass or suitable plastic material. |
|  | 1. Waste containers must have signs indicating the name and number of the group (see Sections 2 and 3 above) and a sheet should be attached listing the hazardous substances collected therein. |
|  | 1. **Use containers that are not large, so that:**    1. Transportation is easier    2. Packing is easier    3. To reduce as much as possible the different substances in the mixture. Size limitation: Glass – up to 4 liters; polypropylene – up to 20 liters |
|  | 1. Collection containers must be well sealed using plugs that are chemically resistant against the substances contained therein. |
|  | 1. Gases (Group 2) – gas canisters   Generally speaking, these should not be removed. Users should have the canisters replaced by the suppliers or through the chemicals warehouse.  In unusual cases where there is no option but to remove the gas canister to a waste site, specific arrangements must be coordinated with an external company, in conjunction with the Safety Unit. |
| Transferring waste to the removal vehicle | 1. The contractor company must ensure that waste being transported is separated by group. |
|  | 1. Fragile or soft collection containers (from glass or soft plastic material) will be transported in external protective containers (from metal or hard plastic). |
|  | 1. The contractor company handling transportation will use handcarts with a rigid barrier at a height that will keep the containers from falling. |
|  | 1. Collection of the chemical waste by the contractor company shall be done in the presence of one of the custodians in the building from which the waste is being removed, unless decided otherwise. |
|  | 1. Those using the substances/who created the waste will instruct the contractor company’s driver regarding specific safety instructions for the substances they are sending. |
|  | 1. **The contractor company that is transporting the waste will ensure that the following conditions are fulfilled:**    1. The people handling transportation must wear a full set of work clothes and be equipped with protective goggles    2. The hand cart should have a bag with emergency equipment that includes: A 1.5 kg. powder fire extinguisher, protective mask + 2 ABEK filters (multiple components), neoprene gloves, absorption material in case of a spill, and an emergency instructions sheet. |
|  | 1. Smoking when transferring chemical waste is prohibited. Do not make any additional stops when transporting the waste. |
|  | 1. The contractor company is responsible for removing the waste and coordinating its transfer to the main dump sites at Neot Hovav. |
|  | 1. The sector head of each faculty, or the department heads/administrators and administrators of the school removing the waste materials are responsible for performance of these directives. |
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