



University : University of Babylon
Country : Iraq
Web Address : <http://www.uobabylon.edu.iq/>

Organic Waste Treatment

The University of Babylon adapts many strategies and set up polices for treating organic waste. At the University of Babylon, the only structures that produce organic waste are cafeterias. The organic waste are managed and controlled using several protocols including separating wastes into different categories, holding the organic waste in special containers and deliver them to the local waste treatment plant of the Babylon city. Also, portion of the organic waste is recycled into biodiesel energy at the Department of Energy at the college of Engineering- AMussayaib/ University of Babylon.



Al_Jazair Campus, University of Babylon



Main Campus, the University of Babylon



Main Campus, the University of Babylon



Al-Musayyaib Campus, University of Babylon



Main Campus, the University of Babylon



Campus of Medical Colleges, the University of Babylon

Organic Waste Treatment (University of Babylon, Iraq)

Furthermore, the university sponsoring several annual events including:

1. Organizing and sponsoring annual national conference held by pioneers professors in chemistry, biology and other relevant specializations. C.B.R.S.S.D was launched in 2015 and onwards.

2. Organizing international regular conference held by the center of environmental researches and studies, where its articles publish in different certified journals under Scopus.
3. Calling scholars to submit their ideas as programs of waste treatment.
4. Annual issuing and updating guides for safety and security.
5. Holding workshops for educating campus population to protect the environment.

General instruction for getting rid of Chemical Waste (organic and inorganic) in the labs at UNIVERSITY OF BABYLON

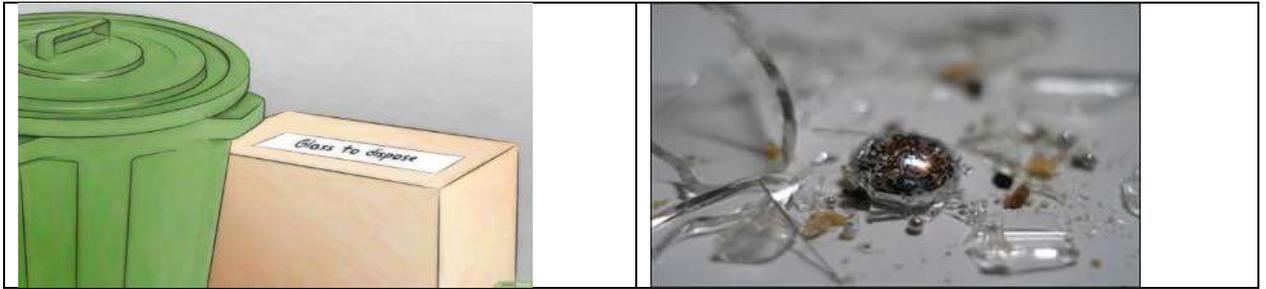
The main steps that researchers or scholars must follow:

First: Classify the chemical materials into kinds; solid, papers, glass and liquid, and place them in the designated container. Caution must be taken in this step by reading what is written on the waste container to make sure that the waste is placed in the place designated for it.



Second: Make sure to cover the container immediately with its cover after placing the waste, please follow:

- Do not pour chemicals directly into the basin or into the sewage net except that the instructions and laws allow it (check this issue with your professor/ supervisor (for example, water and aqueous solutions of sodium chloride, sugar and soap can be disposed directly in the basin or through the healthy sewage net.
- Place other materials contaminated with chemicals such as napkins and towels used to wipe off residual chemical spills in a waste container designated for chemical waste, which are specially designated containers for this use. Check with your professor whether cleaning materials need to be handled as hazardous waste or put it in available daily rubbish containers.



- Put the broken glass in designated container, but if the broken glass is contaminated with chemicals, you should ask your professor where to dispose of that glass.
- If an accident occurred while you are using a mercury thermometer that causes the scale to break, inform your professor immediately. The cleaning process of dispersed mercury requires special procedures due to the toxicity of mercury, and broken thermometers may contain mercury in their fragments, and therefore the broken and contaminated glass must be disposed of with mercury in a specific container.



What is meant by Toxic Waste

- Important procedures for scholars to follow when working with chemical waste
- The effects of chemical waste on the environment
- Flammability of chemical waste
- What is meant by chemical waste?

Chemical Toxic Waste: It is waste made from harmful chemicals (mostly produced by large factories, chemical interactions, and as a result of bio intervention). Chemical waste may fall under regulations such as (COSHH) or the Clean Water Act and the Resource Conservation and Recovery Law in some countries of the world. The Environmental Protection Agency and the Occupational Safety and Health Administration regulate In addition to governmental and local regulations also the use and disposal of chemicals. Chemical waste may or may not be classified as a hazardous waste, and a hazardous chemical waste is a solid, liquid or gaseous substance that exhibits either a "hazardous characteristic" or "specifically listed" by name as Dangerous Waste.

Simply chemical material is a pure substance and it can be a gas, a liquid or a solid and it may consist of either an element or of a molecule or a compound unified in nature, the chemicals can occur naturally or we can synthesize them artificially in laboratory settings

There are a set of characteristics of chemical waste that may be considered hazardous, these are (flammability, flammability, corrosion, potency, and toxicity). This type of hazardous waste must be classified according to its identity, components and hazards, so that it can be safely handled and managed. Chemical waste is a broad term that includes many types of materials.

Important procedures for workers to follow when working with chemical waste:

Scholars or researchers who use chemicals as part of their projects have to follow the standard protocols; to prevent exposure and reduce the possibility of spills and accidents, personal protective equipment such as gloves and eye protection can protect workers from stains and contact hazards and smoke hoods can eliminate the risk of inhaling harmful chemicals and storage tanks can reduce the risk of fires and spills.

Another aspect of chemical safety that must be managed is the protection of the environment from chemical contamination. Inappropriate or neglectful disposal practices have major impacts on the environment including polluted water sources, poisoning wildlife and the creation of toxic sites unsuitable for habitat for animals or

humans, for employees who They work with chemicals and thus produce chemical waste, the most important "green" activity is the careful and careful management of chemical waste. In order to protect the environment, federal and state governments have put in place very strict regulations governing chemical waste management and the only way to ensure these regulations are followed is to accompany them with severe penalties for non-compliance.

Effects of chemical waste on the environment:

Many chemicals are used to improve our quality of life and most of them are harmless to the environment or human health, however some chemicals have the potential to cause harm in certain quantities and should only be used when potential risks are managed appropriately. If you live in a developed country it is likely that companies are disposing of tons of hazardous waste products literally every day, unfortunately a lot of this waste is not handled properly and can come back as it leaves a huge and devastating imprint on our ecosystems. Here are some of the environmental impacts of chemical waste:

Short-term impacts on the environment: The main short-term risk is water pollution, as the chemicals pouring into our waterways make streams, rivers, lakes and groundwater reservoirs unsafe to use for drinking or agricultural purposes. Animals and plants suckle and die when they drink from this water. Downstream human health is affected yet the long-term consequences are truly terrifying.

Long-term impacts on the environment: long-term impacts include signs of animal mutation, cancer and other diseases in humans, litter in our waterways and green spaces, and the destruction of many natural resources, as insects such as bees die and are necessary to maintain the fertility of plant life faster than it can be restored Settle it due to human pollution.

Impact of chemical waste on waterways: Waste from homes or industries that have been illegally disposed of causes a great deal of pollution. This often happens near the water source, as people may think that the pollution and evidence will be removed leading to harmful consequences On the water source.

Improperly managed chemical wastes may pollute waterways: There are many causes for this type of industrial water pollution that have serious and negative impacts on aquatic and human life.

Through scientific procedures and experiments of tens or hundreds of scholars, toxic chemicals produced. Such waste have to be treated with collaboration with employees of the Safety and Security Division in the headquarters at the University.

Flammability of chemical waste: a hazardous waste due to its flammability can be classified as follows:

1. Liquid chemicals: The flash point of a liquid chemical is less than or equal to 140 degrees Fahrenheit, equivalent to 60 degrees Celsius, examples of which are: Alcohols (Note: for ethanol, mixtures greater than or equal to 20% are considered hazardous waste, as for other alcohols the cut-off ratio is 10%.
2. Organic solvents and mixtures containing organic solvents such as: xylene, hexane, toluene and acetone.
3. Stains and mixtures containing stains (because they depend on solvents.
4. Paints and oil coatings.
5. Solid chemicals: the chemical is capable of under standard temperature and pressure to cause fire through friction and moisture absorption or spontaneous chemical changes and burns vigorously upon ignition. Examples include: Paraformaldehyde, paraffin wax with xylene, rags saturated with a flammable liquid.
6. Compressed gas: The flammable compressed gases should also be managed as a hazardous waste. Generally this includes partially full or residual gas cylinders, examples of which are: hydrogen, acetylene, propane, butane.
7. Oxidants: the chemical is able to enhance the combustion of other substances in general by producing oxygen, examples of which are: chlorate, chlorite, nitrates, perchlorate, permanganates, peroxides.

Responsibilities of Chemical, Biological, Eadiological, and Nucler Safty & Security Department (C.B.R.N.S.S.D):

- Regulation of the treatment, storage, and disposal of hazardous waste.
- Disposing of waste that cannot be recycled.
- Recycling material that can be recycled.
- Offering several workshop and training courses per year for the purpose of motivate employees and students to understand recycle and treatment terms.

The path of chemicals from the moment they enter the campus of the University of Babylon until they reach the research and educational laboratories in the laboratories of the University of Babylon:

1. Chemical materials are purchased by a specialized committee based on the actual need for research and educational laboratories at the University of Babylon.
2. The Deanship of the College of Science and the University Security Division will be informed in the arrival time of the chemicals to the university's campus with a copy of the Safety and Security data sheet for these materials in Arabic and English.
3. The chemicals are transported to the chemical store and stored in metal scraps that are resistant to chemical corrosion. The chemical filters have a safe ventilation unit connected to carbon filters to prevent the transfer of gases and vapors into the environment.
4. All available data on chemicals are entered into a specialized electronic program. The information includes the substance's name, chemical symbol, scientific name, common names, the name of the manufacturer, the appropriate place to store it, and the potential risks of its use.
5. The minimum quantity of chemical suitable for laboratory or educational research shall be transferred after submitting a request by the laboratory official to a specialized committee headed by the head of the chemistry department.

6. Chemicals are transferred from the chemical store to the designated laboratory and stored in appropriate places.
7. After completing the chemical experiments, Chemical wastes, according to their type, are stored in glass bottles and stored in safe places in the laboratory.
8. Chemical wastes are delivered to the Environment Department in Babil Governorate for safe recycling or disposal.

Biological waste management program

Biohazard: Any bacteria, recombinant DNA, synthetic DNA, recombinant (genetically modified) organisms, fungi, viruses, rickettsia, chlamydiae, parasites, allergens, viroids, virions, and prions that can be harmful to humans, animals, plants, or the environment.

Biosafety Level: The level of containment, on a scale of BSL-1 to BSL-4, under which the biohazard can be safely handled. As the biosafety level raises, the standards for laboratory practices, equipment, and facilities increase. The containment levels for animals housed in biosafety laboratories are called animal biosafety levels (ABSL).

Biohazardous Waste: Cultures, stocks, sharps, PPE, or any other item contaminated with a biohazard or pathological waste, including blood, body fluids, and animal or human tissues, excludes teeth and fixed tissues.

Sharps – needles, scalpels, pipette tips, biopsy punches, disposable surgical instruments, razor blades, capillary tubes, or any other item that could cause wounding to personnel, or punctures of soft sided disposal, storage, or container(s).

This program applies to Biosafety level 2 and lower laboratories that produce biohazardous waste, including biohazardous sharps waste.

This program ensures compliance with institutional and national mandates for the handling of biohazardous waste and biohazardous sharps.

Procedures - Decontamination

All biohazardous waste must be properly decontaminated prior to disposal

A. Biohazardous liquid waste

Method 1:

- a) Add appropriate disinfectant for contact time, as specified in your laboratory specific biosafety manual
- b) Once contact time is completed, dispose of by pouring down the drain to sanitary sewer, or in accordance with disinfectant requirements

Method 2:

- a) Autoclave on liquid cycle, using the laboratory specific biosafety manual to determine appropriate temperature and time of cycle

b) Prior to autoclaving, container of biohazardous liquid must be labeled a biohazard, autoclave tape must be applied to container, and it must be placed in a secondary, autoclavable, high-walled, leak proof container to avoid overflow of biohazardous materials into autoclave.

c) After autoclaving, allow to cool, and use heat resistant gloves to remove the containers from autoclave

d) After decontamination is complete, dispose of by pouring down the drain to sanitary sewer

B. Biohazardous solid waste

1. Place in leak-proof autoclavable biohazard bag that is clearly labeled with the universal biohazard symbol

2. Autoclave or incinerate, as indicated for the agent and specified in the lab specific biosafety manual

a) Prior to autoclaving, place an “x” in autoclave indicator tape over the universal biohazard symbol

b) After autoclaving, place biohazard bag into a black trash bag, and seal prior to disposal

c) Laboratory staff immediately disposes of properly bagged waste in the standard waste stream (e.g. dumpster).

C. Biohazardous sharps waste

1. Place in hard-walled, puncture resistant, leak-proof, sealable container that is clearly labeled with the biohazard symbol.

Note: Sharps containers are single use containers and should not be emptied and reused.

2. Autoclave or incinerate, as indicated for the agent and specified in the lab specific biosafety manual

a) Prior to autoclaving, place an “x” in autoclave indicator tape over the universal biohazard symbol, or over the sharps label

b) After autoclaving, place biohazard container into a cardboard box, seal well with tape, and label box as “decontaminated sharps”

c) Laboratory staff immediately disposes of properly labeled and well-sealed box in the standard waste stream (e.g. dumpster)

For additional information:

<http://cbrssd.uobabylon.edu.iq/>



Intensive efforts and regular meetings with the Ministry of Environment for environment protection, A cooperation project launched by the University of Babylon



A specialized workshop by College of Science to intensify academic efforts in collaboration with CSP for Biological, Chemical, Nuclear and Radiological Safety and Security launched in 2015 and regularly seasonal held



The Sixth International Conference for Environmental Sciences 2015 organized by University of Babylon, the Research Center of Environmental Studies, an annual regular event



The Sixth International Conference for Environmental Sciences 2015 held by University of Babylon, the Research Center of Environmental Sciences, one of the halls



The Second National Coordination Conference for Biological, Chemical, Nuclear and Radiological Safety and Security (CBRNSS) April 2017, It is a annual regular event



The Third International Biological, Chemical, Nuclear and Radiological Safety and Security CBRNSS Coordination Conference April 2018, It is a regular annual event



Main hall of CBRNSS, 2018



Attendance Minister of Higher Education and Scientific Research to open International Conference of CBRN 2018



University of Babylon Word



The Third National Biological, Chemical, Nuclear and Radiological Safety and Security Coordination Conference (CBRNSS) April 2018, It is an annual regular event; the front page event folder 2018



Regular annual conference for CBRN Safety and Security; the back page event folder 2018



University of Babylon opening word of CBRNSS, 2018



One of the Conference halls, 2018



Prof. Dr. Falah AlKhafaji , the general secretary of the conference, one of the University of Babylon Scientists



The Fourth National Biological, Chemical, Nuclear and Radiological Safety and Security Coordination Conference (CBRNSS) April 2019,
It is an annual regular event orgnized by University of babylon



C.B.R.N.S.S.D

Chemical ,Biological ,Radiological, and
Nuclear Safety & Security Department

University of Babylon

Language:

Home

Conference objectives

Preparation committee

Scientific committee

Registration

- > ABOUT THE CONFERENCE
- > CONDITIONS OF PUBLICATION
- > FORM OF PARTICIPATION
- > CHEMICAL IRAQI JOURNAL
- > RESERVING A RESIDENT
- > UNIVERSITY OF BABYLON
- > ARABIC VERSION
- > CONFERENCE POSTER
- > BROSHURE(ARABIC)
- > ABSTRACT BOOK
- > BROSHURE WORKSHOP FOR THE THIRD DAY OF THE CONFERENCE

Contact us:
cbr.conference@uobabylon.edu.iq

Registration

dear participants,you can register or participate in the conference though visiting the registration page where you can add data about you and your research ... click the the picture below



www.uobabylon.edu.iq
cbrssd@uobabylon.edu.iq

Number of visits: 14337

The Third National CB Security Coordination Conference

The Third National Conference on Chemical, Biological, Radiological and Nuclear Safety and Security will provide a forum for those who are dealing with chemical, biological, radiological and nuclear safety and security issues to communicate with the academic, industrial and governmental security sectors to discuss the national efforts for reducing the risks of the hazardous materials and to find the best ways to coordinate between the institutions.



The conference will focus on the efforts of Iraqi universities, other ministries of the state and the security authorities to confront chemical, biological, radiological and nuclear threats, as well as identifying these threats and carrying on the security practices required to maintain safety and chemical, biological, radiological and nuclear safety.

notice : the preparation committee can't provide a resident for the participants, but it can help reserving one with suitable prices in first class hotels in Baghdad. please call us on the following numbers :

07709639606 - 07702850116 - 07718320983