

## Treatment and identification of existence unlabeled disposed waste chemicals

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### Abstract

A sum of tens of unidentified non labeled disposed waste chemical materials were collected from different colleges and scientific centers within Basrah University and stored in safe place prepared for this purpose. They all were assigned as waste and separated into solids and liquids, organic or inorganic materials, hazardous as ignitable, corrosive, reactive, oxidizer, flammable, toxic and radioactive hazardous materials or nonhazardous materials. Those classified as inorganic compounds were treated with acid-base reagents for the identification of their basic cations and anions, while those which classified as organic compounds were identified by spectroscopic techniques. Hazardous disposed waste materials were treated separately in order to turn out to be perfectly harmless chemicals that could be disposed of as ordinary waste, or moderately hazardous chemicals that can be easily treated to render them non-hazardous.

**Keywords:** waste chemicals, disposed materials, treatment, unlabeled materials, hazardous waste

### Introduction

A certain chemicals in different containers are store or hide in undergraduate or postgraduate laboratories <sup>[1]</sup> or even in the offices of the staff for ages before safety personnel will notice the unidentified ones <sup>[2]</sup>. Moreover, unlabeled containers left behind when labs are closed or abandoned should require significant time and resources to identify and properly dispose of unknown substances, furthermore, unknown materials should be identify according to hazard class before disposal <sup>[3]</sup>.

Most of these materials represent as unknown materials which should identify properly. These unidentified chemicals are unhallowed to be transported, stored, or disposed as waste unless they identified <sup>[4]</sup> Unknown chemicals present serious legal and safety problems for the university, the process of disposal became very dangerous and chemical should be first identify before disposal. Consequently, some of these items may be unlabeled, or their labels may be deteriorated, or become covered or unreadable, or was improperly labeled, as shown in figure (1). All are considered as unknown.



**Fig 1:** Different unlabeled chemicals. (A) Concealed, (B) deteriorated, and (C) unreadable.

The purpose of this study is to outline the criteria and processes from disposal chemicals used in laboratories for post and under graduate students as well as those stored by the staff in the University of Basrah.

### Experimental

Typical procedure to state with treatment of unknown chemical materials could be set as perioratories <sup>[5]</sup>.

1. Investigate precisely about personals responsible for such materials and ask whether they are still familiar with these materials.
2. The type of research conducted in the lab can be helpful information for making determination for the chemicals left on the shelf or under a sink.
3. Eliminating certain chemicals as a possibility will also help narrow down the problem. This is especially