

Electrostatic discharge protected area



Problem Statement

Over the years, toxic impact caused by material use has increased. Such an increase is due to little user awareness of the negative impacts of chemicals on the environment and the general. Nevertheless, electronics can be used to curb the problem through practical research on the constituents of chemicals and their effects. The research, then, will offer guidelines on sustainable use of chemicals (U. S EPA).

Objectives Establish electronic methods to eliminate or minimize hazardous properties of chemicals. Introduce and establish electronic databases that contain comprehensive knowledge on the nature of these chemicals. Develop an electronic method to convey safety guidelines to chemical users.

Strategy and Methodology

The centre will be staffed with experts from various fields such as environmental conservation, chemical engineers, electronic engineers and general researchers. In addition to high expertise in their professional field, they must have adequate computer literacy and skills (ESD PA). We will have at least five experts from each field to offer a wider scope of material research, and ensure accuracy in their recommendations.

General research on negative effects of toxic chemicals will be carried out. The research data will be recorded electronically. Field sample collection questionnaire recordings will be electronic; consequently, every researcher will need a laptop to record and work with the data and findings. The

necessary equipment needs to be modern and highly effective in order to provide the intended accuracy.

Material life cycle, chemical components, toxicity and material safety use all require application of electronic devices. Therefore, there is a need for establishing fully equipped electronic laboratory.

The findings will be analyzed and discussed electronically. Chemical design, property manipulation, activity, and toxicity are some of material properties that will be researched and analyzed in more detail. All these processes require the use of electronics. For example, there will be a need of a computer for research over the internet and data storage and projectors for constant debriefing on the progress of the research. Laboratory analysis of the materials will require electronic equipments as well.

Expert recommendations on the material properties and ways of their impact minimization will be integrated in the electronic database, to which any interested party will be granted free access.

Given the center is established and operates according to the stated purpose, guidelines on sustainable molecular design of materials that are less toxic and more environmentally friendly will be provided.