UNIVERSITY OF MISSOURI-KANSAS CITY

CHEMICAL MANAGEMENT PLAN

Revised
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UMKC CHEMICAL MANAGEMENT PLAN

This document constitutes the Chemical Management Plan (CMP) for the University of Missouri-Kansas City (UMKC). It was developed by the Environmental Health and Safety Department (EHS), to ensure the safe and proper use of hazardous and non-hazardous chemicals and to comply with applicable governmental regulations addressing the disposal of these chemicals. In addition, it was developed to foster waste minimization, and to provide the faculty and the staff with a management program to reduce the potential for accidents involving hazardous chemicals and/or wastes. Elements of the CMP include:

a. a procedure for identifying potential or actual hazardous chemicals or wastes

b. a procedure for periodic reexamination of those hazardous chemicals or wastes identified by the procedure in (a.) above as well as a systematic method for identification and evaluation of any new potential or actual hazardous chemicals or wastes

c. procedures for labeling, and inventorying hazardous chemicals or wastes

d. a procedure for identification and training of personnel directly responsible for ensuring that (a.), (b.), and (c.) are implemented

e. a procedure for monitoring, recording, and reporting compliance with the CMP

f. a procedure by which information generated by the CMP is provided to the persons performing waste analyses

Each element is addressed as part of the complete CMP in the following paragraphs.

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1 Definitions

Authorized Users List – a list to be posted in every lab that will provide the names of all **Hazardous Material Managers**, **Hazardous Material Supervisors**, and **Hazardous Material Workers** that are authorized to work in each specific area, and the date it was authorized.

Bar Code System (On-Site System/Environmental Health & Safety Assistant) - The computer program which maintains UMKC's hazardous chemical inventory and which generates bar code labels and routine inventory reports. Every **Hazardous Chemical** must be registered in the inventory. An inventory label with a unique bar code number must be affixed to each inventoried container.

Central Storage Area - area where chemicals can be safely stored when not in continued use in a laboratory. Each **Hazardous Materials Manager** overseeing a **Central Storage Area** will maintain an inventory of chemicals contained therein. Each **Hazardous Materials Supervisor** will maintain an inventory of all chemicals in their designated laboratory.

Chemical Management and Treatment Protocols - protocols for management/treatment/disposal of specific chemicals, formulations, or residues from the same, based on generally accepted chemical hygiene practices, in compliance with **RCRA** requirements and submitted to, and approved by, **Environmental Health and Safety**. Approved protocols will become components of this CMP. Only those hazardous chemicals specifically addressed in these protocols may be treated by personnel other than **Environmental Health and Safety**. Treatment and subsequent disposal must follow the protocol exactly and the disposal method must be noted in the **Bar Code System**. (Example: neutralization of an acid with a base resulting in the formation of a non-hazardous solution and subsequent disposal via the sanitary sewer system.)

Chemical Storage Building (CSB) - the facility maintained by **Environmental Health and Safety** for the receipt and storage of designated hazardous (and some non-hazardous) wastes generated from the Volker Campus until disposal. Only hazardous waste from contiguous properties will be stored in this location.

Container - that vessel in which the chemical was originally contained or into which the chemical may have been placed for storage in the case of damage to the original container and should be UN/USDOT approved. Chemicals may not be stored in milk jugs, trash bags**,** cardboard boxes or any other containers that are not UN/USDOT approved. All containers must have secured lids, not rubber stoppers, corks, aluminum foil, shrink tape, Saran wrap, etc. An apparatus with secured chemicals, such as a monometer, would not be considered a container by this CMP. See also the definitions of **Original Container, Empty Container, Use Container, Secondary Container,** and **Hazardous Waste Container.**

Empty Container - empty containers of **Hazardous Chemicals** as defined in 40 CFR 261.7 may be managed in two ways depending on the nature of the contents.

1) Containers used for chemicals listed in the RCRA P List (Acute Hazardous) or

Mercury containing chemicals must be disposed of through **Environmental Health and Safety** and should not be rinsed. These containers will be listed on the **Hazardous Waste Request Form** via the Onsite system (see Appendix B) with other chemicals.

2) 2) Containers used for all other labeled chemicals may be triple rinsed, the rinseate placed in a proper waste container, obliterate the labels, and place the empty container in the trash or reuse it.

Environmental Health and Safety (EHS) – Department responsible for implementation and enforcement of Federal, State and Local regulatory compliance, environmental and occupational safety management at UMKC.

Exempted Product Categories/List - categories of chemicals commonly in use in the laboratories and determined to be non-hazardous based on the regulatory definition of a hazardous chemical. These chemicals will not be entered into the **Bar Code System**. Product will not be added to the Exempted Product Categories List without approval of **EHS**. An Exempted Product Categories List of chemicals specifically excluded from the Inventory/Labeling System will be maintained by **EHS** and is found in Appendix A.

Generator – see **Hazardous Materials Manager**

Hazardous Chemical - any chemical which is a physical or health hazard (29 CFR 1910.1200). For purposes of this Chemical Management Plan, chemicals to be inventoried and labeled include all listed under **RCRA** 40 CFR 261.31, 261.32, 261.33 (e) and (f) including chemicals that could generate a characteristic waste, chemicals on the RCRA- P and U Lists, and the California List. The combined California, RCRA- P and U Lists are found in Appendix A.

If the chemical is on the RCRA- P List (see Appendix A) or contains mercury, it must also be noted on the container with a red “P” to indicate, when empty, the container will be properly disposed through **EHS**.

Some categories of chemicals have been excluded from the Inventory/Labeling System and placed in the **Exempted Product Categories/List**. Chemicals not covered in the **RCRA** Regulations and Lists or the **Exempted Product Categories/List** will be inventoried and labeled, unless specifically exempted by the Director of **EHS**.

The purchaser of the chemical is responsible for determining whether the chemical must be included in the **Bar Code System**. To make the determination, the purchaser may seek assistance from **EHS** or he (or she) may consult the chemical's **Safety Data Sheet (SDS)**. An SDS shall be retained in the file for all **Hazardous Chemicals**.

Chemicals formulated in conjunction with ongoing research are exempted from the definition of a **Hazardous Chemical** but require a waste determination and may have to be disposed of as hazardous chemicals.

Hazardous Waste Request Form - web based form via the Onsite system which information is provided to **EHS** by the **Hazardous Materials Manager** or **Hazardous Materials Supervisor** and must accompany chemicals and empty containers that had contained chemicals from the **RCRA** P-List or contains Mercury.

Hazardous Materials Manager - person who is designated in the Chemical Management Plan as having the responsibility of maintaining an inventory of chemicals in the Central Storage Areas and in the Distribution Areas for laboratories not served by Central Storage Areas. That person is also responsible for the safe storage and proper handling of the chemicals in the Central Storage Area. As chemicals will not be stored in the Distribution Areas, the Hazardous Materials Managers of those areas will be responsible for maintaining the inventory of all incoming chemicals, the associated **Safety Data Sheets**, and distribution information. The Hazardous Material Manager is also responsible for oversite of **Hazardous Waste** determination and disposal requiring annual training by **EHS**.

Hazardous Materials Supervisor (Principal Investigator) - person designated as responsible for the safe storage of, and the maintenance of, an inventory of chemicals, and **Empty Container** management within specific laboratories. This person is trained and competent in complying with the requirements of this Chemical Management Plan. This supervisor may designate and train persons under his or her supervision to be responsible for a particular laboratory. Such persons would be authorized users (see **Authorized Users List**) as defined in this Chemical Management Plan.

Hazardous Materials Worker - persons designated by a Hazardous Materials Manager or Supervisor (Principal Investigator) as responsible for a specific laboratory or facility (hereinafter, laboratory) and who are authorized, along with **Hazardous Materials Supervisor**, to accept **Hazardous Chemicals**, products or byproducts (hereinafter, chemicals) from a Central Storage Area or Distribution Area for use. An **Authorized User List** must be posted in each laboratory.

Hazardous Waste - chemicals that meet the **RCRA** definition for hazardous waste (40 CFR 261.30 (b), Ignitable, Corrosive, Reactive, Toxicity Characteristic, Acute Hazardous and Toxic), **Hazardous Chemicals** past their shelf life, or damaged **Hazardous Chemicals**. Any residue from a compound formulated in the laboratory from non-hazardous constituents but which is subsequently hazardous by **RCRA** definition will be managed as hazardous waste. Spill debris, cleanup chemicals, and broken apparatus involving any **RCRA** defined **Hazardous Chemicals** will also be considered hazardous wastes per a waste determination.

These chemicals will be placed in satellite accumulation containers which will be properly labeled with all required information (see **Satellite Accumulation Label**). **Hazardous Materials Supervisors** are responsible for identifying the chemicals in these containers. These satellite accumulation containers must remain closed unless adding chemicals to them. UMKC is under the Federal Option in Missouri. EHS recommends that containers be maintained in the **Satellite Accumulation Area** for no longer than one year, or until full. When the containers are full, EHS recommends the container(s) be removed to the hazardous waste storage area. A Hazardous Waste Request Form via the Onsite system must be completed for disposition of wastes by **EHS**. The wastes identified in the **Hazardous Waste Request Form** will be removed by **EHS**.

All spent aerosol containers will be collected by **EHS**.

Certain categories of chemicals may be neutralized in the laboratories to render the residue non-hazardous. Such items are specifically addressed in the **Chemical Management and Treatment Protocols** included in Appendix C. Only these categories of chemicals may be neutralized and/or managed outside **EHS'** normal procedures for chemical disposal. None of the untreated chemicals may be disposed via the sanitary sewer system or the normal trash handling system.

Hazardous Waste Container – Container that contains **Hazardous Waste**

Hazardous Waste Tag – A tag containing the required information for classifying the chemicals for proper recycling, storage or disposal is to be attached by the **Hazardous Materials Manager** or designate, to each container of waste hazardous chemicals to be collected by **EHS**. This tag/label must accompany each container of chemical to the **CSB**. Waste chemicals without the tag/label, will not be retrieved by **EHS**. An example of this label is found in Appendix B.

Inventory - electronic documentation of the Bar Code Number, the Hazardous Chemical Name, the volume (L) or quantity (kg), and the CAS Number of all hazardous chemicals maintained on each Campus. **Hazardous Materials Managers** will have access to the inventory. Purchasers of chemicals are required to enter all new **Hazardous Chemicals** into the inventory system and remove all those consumed or removed for disposal. All items meeting the criteria for a hazardous chemical must be inventoried. Hazardous chemicals may not be retained in a laboratory unless placed in the inventory system. It is the responsibility of the **Hazardous Materials Manager** or their designate to ensure that chemicals: no longer used in the laboratory; that have exceeded their shelf- life; or those in damaged containers, are removed from the inventory.

Inventory Life – It is the responsibility of the **Hazardous Materials Supervisor** to ensure that chemicals are not allowed to remain in the laboratories or storage areas beyond their useful shelf life period.

Safety Data Sheet (SDS) - document displaying the chemical identity, CAS number if applicable, toxicity, incompatibility, disposal data, and the other physical and chemical properties associated with a chemical as well as the appropriate safety procedures to be implemented in case of release and/or human exposure. The document is prepared by the manufacturer, distributor, or importer of the chemical to be kept on file by the **Hazardous Materials Supervisor** and available to all lab personnel.

Mixed Waste – a mixture of special nuclear or byproduct material regulated under the Atomic Energy Act and wastes regulated under **RCRA**. Under an agreement between the Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA), these wastes may be stored, treated, transported and disposed of as radiological wastes. Such wastes are exempted from hazardous waste handling requirements of **RCRA**. The generator of mixed waste is required to notify the state environmental agency that the mixed wastes are generated and that they will be managed under NRC rules.

Original Container – A container that still has the original vendor label, and the original contents to the container. Original containers are UN/USDOT approved. For **Hazardous Chemicals**, a **SDS** is required to be kept on file and available. This container is required to be entered into the **Bar Code System** by the purchaser of the **Hazardous Chemical** and to have a bar code label affixed. The original label must be removed and the contents triple rinsed (if hazardous) in order for the container to be disposed.

Note: P-Listed chemicals and Mercury containing chemicals must be disposed of by **EHS** and should never be considered empty or triple rinsed.

PPE – Personnel Protective Equipment

Principle Investigator or PI – see **Hazardous Materials Supervisor**

RCRA - Resource Conservation and Recovery Act of 1976 (40 CFR 262-268)

Satellite Accumulation Area - area in a laboratory where waste hazardous chemicals may be accumulated prior to collection and disposition by EHS. Such storage is to be kept to a minimum, should be at or near the point of generation and under the control of the generator. The Satellite Accumulation Area will be separate from the area in which chemicals in use are kept. The chemicals stored in the Satellite Accumulation Area must be stored in a safe manner in UN/USDOT approved containers. It is the **Hazardous Materials Supervisor's** responsibility to have weekly inspections performed on each Satellite Accumulation Area in their labs. EHS recommends that full waste containers be removed to the hazardous waste storage area by **EHS**.

Satellite Accumulation Label - label to be attached to each container of waste hazardous chemicals. The label must contain the following information: A list of all the constituents; volume (or percentage) of each constituent; and the Start Date (the date when the first drop of waste was placed in the container). It may contain the words "Hazardous Waste" (40CFR262.34(c)(1)(ii)). This information is required by **EHS** for classifying the chemicals for proper transport, recycling, storage or disposal. These labeled containers will be collected by **EHS** for disposal or recycling. This label must accompany each container to the **CSB**. The label is produced through the Onsite system Satellite Accumulation function. Unlabeled chemicals will not be retrieved by **EHS**. An example of this label is found in Appendix B.

Scanner – a hand-held device that scans hazardous chemical bar codes on inventoried containers to update the **Bar Code System**.

Secondary Container – a container in which the initial container is placed when it is too small to affix the bar code to it or when the **Original Container** is to be moved between labs.

Use Container - a container, e.g., flask or plastic squeeze bottle, in which chemicals, hazardous or non-hazardous, are contained and left unattended in the laboratory. These containers must have the name of the chemical affixed to them. They do not require Bar Codes. An example would be a plastic squeeze bottle containing distilled water left unattended on a bench top. The bottle must be labeled “Distilled Water.”
If a Use Container contains a Hazardous Chemical, it must have a screw-on lid.

Waste Container – see **Hazardous Waste Container**

2 IDENTIFICATION OF HAZARDOUS CHEMICALS

2.1 Identification and Inventory/Labeling

Identification of hazardous chemicals will be made at the time of purchase. Items meeting the criteria will be entered into the Bar Code System. For purposes of this CMP, chemicals to be inventoried and labeled include:

- all chemicals listed under RCRA 40 CFR 261.31, 261.32, 261.33 (e) and (f) including compounds that could generate a characteristic waste
- RCRA- P and U Listed and California Listed chemicals and DHS Chemicals of interest (see Appendix A)
- Containers of chemicals on the RCRA- P List and chemicals containing mercury will be specially marked with a red "P" and disposed of as hazardous chemicals through EHS

Some categories of chemicals have been excluded from the Bar Code System forming an Exempted Product Categories List. Chemicals NOT covered in the RCRA Lists or the Exempted Product Categories List will be inventoried unless specifically exempted by the Director of EHS.

Requests to exempt chemicals from the Bar Code System should be submitted to the Director of EHS. If approved by the Director of EHS, the chemical can be removed from the Bar Code System.

The purchaser of the hazardous chemical is responsible for making the determination as to whether the chemical is to be entered in the system. EHS can provide assistance, or the purchaser may consult the SDS for the chemical. Once a chemical is determined to be hazardous, the purchaser must enter the following information into the Bar Code System:

1) chemical identity
2) quantity of chemical
3) lab location

Once the information has been entered into the inventory, the bar code label may be obtained from the Hazardous Materials Manager for the area. A bar

code label must be affixed to each container. When inventoried chemicals are no longer needed in a specific laboratory, the Hazardous Materials Supervisor may transfer or arrange with EHS for the transfer of the chemical(s) to another laboratory. The Hazardous Materials Supervisor may move chemicals within a building, but must notify the Hazardous Materials Manager of their department. Environmental Health and Safety is required to be used when chemicals are moved between buildings. In either case, secondary containment is required when the chemicals are moved.

3 HAZARDOUS CHEMICALS MANAGEMENT

3.1 Chemical Purchase

Hazardous Materials Supervisors may purchase chemicals or chemicals may be ordered through the University purchasing system. No chemicals may be received without an accompanying SDS sheet.

3.2 Laboratory or Facility – Management Responsibilities

As previously stated, the Hazardous Materials Supervisor is responsible for:

- entering hazardous chemicals in his or her laboratory into the inventory system (Bar Code System)
- placing the appropriate bar code label on each of the inventoried chemical containers
- updating the system as required due to chemical transfer or disposal
- removing spent chemicals, chemicals in damaged containers, and chemicals that have exceeded their shelf life from the inventory

A bar code label is issued by the Hazardous Materials Manager when the hazardous chemical is entered into the Bar Code System by the purchaser of the chemical. The bar code must be affixed to the container. If the container is refrigerated, the bar code may be place on the outside of the refrigerator. All bar codes must be displayed vertically such that they can be easily read by the scanner used by EHS staff during inspections. The bar code will display the following information:

- a unique number generated by the Bar Code System
- the name of the chemical
- the start use date of the chemical
- the hazardous material supervisor's name
- a red "P" if the material is a RCRA-P listed waste or a chemical containing mercury

3.3 Hazardous Waste Chemicals

The hazardous waste chemical containers will be labeled with the name of the chemical(s) and the date (month/day/year) when the chemical was first added to the container. If the chemical is a mixture, the percentage content of at least two major components must be indicated on the label. This information is necessary in order to allow EHS to classify the chemical for recycling or disposal. Waste hazardous chemicals, properly containerized and identified, will be retrieved by EHS. A Hazardous Waste Request Form must be generated from the Onsite system from the EHS website and clicking on the Onsite Chemical tracking icon: http://www.umkc.edu/finadmin/ehs/

An example is included in Appendix B. The following information is required for the form:

- the date the form is submitted
- the department of school from which the waste is to be picked up
- the generator's name
- the name of the person authorizing charges for the pickup
- account name and number to be charged
- location of wastes to be picked up
- notation of immediate attention required
- the names and volumes of chemical wastes to be picked up
- information such as container type, and waste characteristic

All waste containers must have a secure lid on them at all times unless adding chemicals to the container. All containers with hazardous chemicals must have a screw-on lid.

3.4 Damaged Containers

Containers of chemicals whose integrity has been compromised must be replaced. If the chemical is still usable and needed, the contents may be transferred to another compatible, UN/USDOT approved container. A proper label must then be applied and a new bar code must be issued (or the required information must be transferred to the new label). The modification

would be noted in both the Central Storage Area and laboratory inventories. If the chemical is not in use nor anticipated to be used within one year, the contents will be transferred to another container and returned to Central Storage Area. Central Storage Area personnel may return the item to storage or, if there is no anticipated use for the item, designate it for retrieval by EHS. The disposition would be noted in both the Central Storage Area and laboratory inventories. In laboratories not served by a Central Storage Area, a chemical not in continuous use will be retrieved by EHS for disposition.

3.5 Empty Containers

Empty containers of hazardous chemicals as defined in 40 CFR 261.7 may be managed in two ways depending on the nature of the contents. Empty containers used for chemicals listed in the RCRA P List (Acute Hazardous) or chemicals containing mercury must be disposed of through EHS. These containers will be listed on the Hazardous Waste Request Form via the Onsite system with other chemicals. Containers used for other labeled chemicals may be triple rinsed, the rinseate placed in a proper waste container and the empty container reused or disposed of as refuse. Remove or obliterate labels on all empty containers prior to disposal. Remove chemical from the inventory system.

3.6 Disposition - Hazardous Chemicals

EHS will be responsible for retrieval and disposal of chemicals from laboratory Satellite Accumulation Areas (exclusive of items treated and disposed of according to Chemical Management and Treatment Protocols and clean, empty containers of non-hazardous chemicals). Hazardous Material Supervisors will be responsible for identifying chemicals for retrieval by EHS. A Hazardous Waste Request Form (see Appendix B) must be completed from the Onsite system which can be accessed through the EHS website, per the instructions, for transfer to the CSB. It is the generator's responsibility to remove the chemical from the inventory system.

3.7 Audits of Laboratories or Other Areas Generating Hazardous Waste

On an annual basis, EHS staff will audit each laboratory within the jurisdiction of the CMP. Audits will be performed on a schedule to accommodate teaching schedules. A physical audit of all chemical use and storage areas and satellite accumulation areas will be performed for proper labeling, container compatibility, and container integrity. The bar codes on the hazardous chemicals will be scanned and compared with the inventory. The condition of containers will be noted and compared to inventory information. Laboratory training records and the authorized user list will be reviewed to ensure that personnel in the laboratory are properly trained and that the authorized user list is up-to-date. The Hazardous Materials Supervisor (or designated lab supervisor) will be interviewed regarding waste treatment protocols and procedures.

Laboratories with discrepancies will be notified and re-inspected within thirty days of the initial audit. A copy of the audit report will be provided to the Hazardous Materials Manager and Supervisor. The audit reports will be maintained for at least two years.

4 Implementation of the Plan

4.1 Administration

"The Chancellor of the University of Missouri – Kansas City (UMKC), has the ultimate responsibility to ensure that all campus activities comply with regulatory agency requirements concerning environmental health and safety conditions existing at the University. The Chancellor may at his or her discretion delegate that responsibility and commensurate authority to an appropriate administrative officer of the University. At this time, I am officially delegating this responsibility to the Vice Chancellor for Administration and Finance and through him the delegation extends to the Director of Environmental Health and Safety (EHS). Through this delegation, the Director of EHS has the operational responsibility and authority necessary to achieve compliance with environmental health and safety regulations at UMKC. This includes authorization to immediately stop activities or conditions that would constitute an urgent or serious health risk to members of the campus community or to the environment." Environmental Management System Regulatory Compliance, Reporting and Authorization May 25, 2006

The CMP is administered within the established Central Storage or Distribution Areas and each academic department (laboratory) or service unit (facility) that use hazardous chemicals and/or generates hazardous waste. The proper management of chemicals within each facility is the responsibility of the Faculty, Staff, Students, and visitors to the UMKC campus associated with each facility. Designation of Hazardous Materials Managers and Supervisors and the delegation of responsibility for implementing the CMP procedures in the Central Storage Areas, Distribution Areas and laboratories are made at the discretion of the Dean, Chairperson or director of the affected area with approval of the Department of EHS. Assignments are dependent upon area-specific factors such as: a physical layout; size and complexity of the operation; an individual's proximity to and familiarity with the hazardous chemicals; and the variety and quantity of used chemicals generated. In research and teaching laboratories the Hazardous Materials Supervisor is generally the principal investigator or

instructing professor. For service and support units, line supervisors and/or assistant directors generally serve as the Hazardous Materials Supervisors. Each area and service unit affected has documented 1) personnel assigned, 2) area of responsibility, and 3) duration of responsibility. EHS should be notified of changes in area or service unit personnel status.

A list of all personnel authorized by the Hazardous Materials Supervisors to accept/receive chemicals into the facility from a Central Storage Area, a Distribution Area, or a vendor should be kept on record by the respective Hazardous Materials Manager, and EHS with a list posted in the facility. A list of Central Storage Areas, facilities, and laboratories with associated responsible persons shall be maintained by EHS.

"In order to continually certify that UMKC is in compliance with appropriate safety regulations and our environmental management system, it is necessary for the Director of EHS to periodically perform compliance assessments of university safety programs. From these assessments an Annual Environmental Compliance Report will be provided to the Chancellor detailing the status of compliance, recommended program modifications, and significant regulatory changes." Environmental Management System Regulatory Compliance, Reporting and Authorization May 25, 2006

4.2 Personnel Training

Training will be provided by EHS staff to newly assigned individuals within 30 days of anticipated use of hazardous chemicals. It is the responsibility of the Hazardous Materials Managers to notify EHS of newly assigned individuals with anticipated use of hazardous chemicals. Approximately two hours of training will be provided including:

1) an overview of the regulatory background
2) the definitions of hazardous chemical to be labeled in the Inventory/Labeling System (including empty containers)
3) an overview of used hazardous chemical management

4) emergency response

5) instruction in the use of the documentation forms

6) a review of university policy (CMP) on hazardous chemicals management

7) empty containers

8) regulatory changes

Training will be modified to address compliance issues or changes in requirements. Annual retraining will be provided for Hazardous Materials Managers. Training records will be documented and maintained by EHS. It is the responsibility of the Hazardous Materials Managers to distribute pertinent information to their Hazardous Materials Supervisors and Hazardous Material Workers. Refresher training by EHS personnel will be provided to the Hazardous Material Supervisors and Hazardous Material Workers as necessary to update substantial changes in the regulations and/or UMKC policies with respect to the safe use and handling of hazardous chemicals.

5 Monitoring and Compliance Reporting

5.1 EHS Audits of Central Storage Areas and Laboratories

EHS is responsible for auditing each laboratory annually using the EHS Audit Checklist to document findings and is responsible for monitoring the CMP under established protocols. An audit consists of a review of the hazardous chemicals, storage practices employed, the status of the containers, container labeling, and the shelf life information if available are observed and inspected. The bar code is scanned and compared with the laboratory's inventory. The Authorized Users List is examined, and the Hazardous Materials Supervisor (or designated lab supervisor) is interviewed regarding chemical and waste management practice. The EHS Audit Checklist is found in Appendix B.

Facilities with deficiencies, not deemed an Urgent or Serious Health Risk (see Section 4.1), will be subject to re-inspection within thirty days of the initial audit. Reports of the audit findings are forwarded to the Hazardous Materials Manager and Supervisor, and the Director of EHS. The reports include deficiencies noted and corrective action recommended.

A laboratory with deficiencies will be allowed thirty days from the date of notification to come into compliance. At the discretion of the Director of EHS, if there is a potential threat to health or environment, immediate action will be taken. If it is not possible to achieve compliance within the period, the Hazardous Materials Supervisor must notify the Director of EHS and request assistance. However, if within that time no request for assistance is made and no action is taken to remedy the deficiency, EHS will issue a warning letter to the Hazardous Materials Supervisor and a copy to the Hazardous Materials Manager.

The letter will state, that unless the deficiency is corrected within thirty days, enforcement action will be taken. At the discretion of the Director of EHS and with approval of the Vice-Chancellor of Administrative Services and the Provost, enforcement actions can include correction or cleanup of the deficiency by EHS

personnel with the costs assessed to the department; closure of the laboratory, and/or loss of laboratory privileges; or other appropriate measures specific to the deficiency.

6 RCRA Generator Responsibilities

6.1 Chemical Storage, Transportation, and Disposal

EHS is responsible for transporting all hazardous chemicals and hazardous waste. Hazardous Waste on the Volker Campus will be removed from the satellite accumulation areas to the Chemical Storage Building upon the formal request of the Hazardous Material Supervisor or Manager. The Chemical Storage Building is a 90-day hazardous waste storage area, managed in accordance with 40 CFR Part 262. Hazardous Waste on the Hospital Hill Campus will be removed from the satellite accumulation areas to the SQG Storage area. This area is a 180-day hazardous waste storage area, managed in accordance with 40 CFR Part 262.

6.2 Generator Status

The University Volker campus is registered as a Large Quantity Generator (LQG). LQG is defined as an entity that generates 2200 pounds or more of hazardous waste, or 2.2 pounds of acute hazardous waste, per calendar month. Under Missouri regulations, anyone who stores 2200 pounds or more of hazardous waste at any period is classified as a LQG.

The University Hospital Hill Campus is considered as a Small Quantity Generator (SQG). A SQG may generate or store more than 220, but less than 2200 pounds of hazardous waste, or 2.2 pounds of acute hazardous waste, per month with 180 day storage.

6.3 Generator Requirements

6.3.1 Waste Characterization

Anyone who generates a solid waste is required to determine if that waste is hazardous. The determination may be made by analytical means or by knowledge of the constituents. Chemicals or materials containing compounds listed in the RCRA regulations, or wastes that are hazardous by characteristic, as described in this plan, must be managed

as hazardous waste.

UMKC uses the inventory system to identify chemicals, at purchase, that could require management as hazardous waste upon disposal.

As required for a generator of hazardous waste, the University has determined the quantity of hazardous waste generated on both the Volker campus and the Medical and Hospital Hill campus. Appropriate EPA identification numbers have been obtained for each:

- Volker campus – MOD073133647
- Hospital Hill campus- MOR000509216

6.3.2 Hazardous Waste located in Satellite Accumulation Areas Requirements

A hazardous waste generator may store hazardous waste in an appropriate container at or near the point of generation in what is called a Satellite Accumulation Area. Once the container(s) of hazardous waste is full, EHS recommends the container(s) be removed to the hazardous waste storage area. The hazardous waste request form via the Onsite system is used by generators at UMKC to request pickup of the hazardous wastes in their satellite accumulation areas.

The containers in the satellite accumulation areas at all generator locations must identify the contents of the container. It may be labeled "Hazardous Waste" as well. An example label is included in Appendix D.

Some specified hazardous wastes may be rendered non-hazardous. Special protocols have been prepared for the hazardous waste treatments that are allowed. The list of Approved Treatment Protocols is included in Appendix C.

6.3.3 Hazardous Waste Storage Requirements

As previously described, the EHS has the responsibility to transport hazardous wastes from the satellite accumulation areas to either the SQG hazardous waste storage area at the Hospital Hill campus or the LQG hazardous waste storage area on the Volker campus. Hazardous wastes generated at the Hospital Hill campus may **NOT** be transported to the Volker campus, nor can hazardous waste generated at the Volker campus be transferred to the Hospital Hill campus.

6.3.4 SQG Storage Area

The SQG Hazardous Waste Storage Area is located in the Health Science Building in the loading dock area. The storage area is locked, and the list of emergency contacts is posted near the nearest telephone. The EHS staff and the Hazardous Materials Managers in the area have keys to the room.

The waste must be stored in appropriate and compatible containers and the containers must be in good condition. The containers must be labeled "Hazardous Waste" and the date the wastes are initially placed in the container must be affixed to the label. An example label is provided in Appendix D. The storage area is inspected weekly to ensure that the wastes are appropriately contained, storage time has not been exceeded, and there have been no accidents.

Hazardous wastes transported from satellite accumulation areas to the SQG storage area may be retained on site for no more than 180 days. Special arrangements may be made to store the wastes up to 270 days if the wastes must be transported more than 200 miles from the generation site for disposal.

6.3.5 LQG Hazardous Waste Storage Area

This storage area only serves the Volker campus. Both hazardous wastes and radiation wastes are stored in the building. EHS is responsible for transportation of **ALL** hazardous wastes accumulated in

the satellite accumulation areas to this storage area. The storage area is secure and is kept locked during periods when personnel are not present.

As with the SQG hazardous waste storage area, the LQG hazardous wastes collected by EHS from the satellite accumulation areas must be placed in appropriate and compatible containers, labeled "Hazardous Waste", and the date of initial waste placement must be noted on the label.

Hazardous wastes may **NOT** be stored in the LQG Hazardous Waste Storage Area for more than 90 days. The storage area is inspected weekly to ensure that the wastes are appropriately contained, storage time has not been exceeded, and there have been no incidents.

6.3.6 Hazardous Waste Transporting/Disposal Requirements

Hazardous waste may be transported only by transporters with proper EPA ID numbers, to properly permitted hazardous waste facilities. In order to transport hazardous wastes from the hazardous waste storage areas, the wastes must be properly packaged and labeled in accordance with Department of Transportation (DOT) requirements. Further information may be obtained from the DOT Hazardous Materials Information Line at 202-366-4488.

No hazardous waste may be transported without a "Hazardous Waste Manifest". The manifest is a multiple copy form that is completed at the time the waste is shipped. The generator and the transporter sign the completed form and the top copy is retained by the generator. The transporter carries the remaining copies to the disposal site where the receiver signs the document. A copy of the document signed by the disposer is then returned to the generator. *Only EHS personnel are authorized to sign a hazardous waste manifest.*

6.3.7 Recordkeeping and Reporting Requirements

All information relative to waste characterization must be retained for as

long as the waste stream continues to be generated.

All hazardous waste manifests (copy signed and returned by the disposer of the waste) must be retained on site (in EHS Department files) for 3 years or more from the issue date. If the copy of the manifest signed by the treatment/disposal facility has not been returned within 35 days, then EHS will attempt to locate the hazardous waste by contacting the facility. If the signed manifest has not been returned within 45 days, then EHS will submit an exception report to the EPA – Region VII providing a copy of the first sheet of the manifest and describing the efforts to obtain the signed manifest.

EHS is responsible for submitting a biennial report to the Region VII EPA office. The reports include the generator ID number, information relative to the transporter(s), a description of the quantity of wastes shipped, and a discussion of the measures taken to reduce the volume and toxicity of the hazardous wastes generation and disposal. As with the other records, copies of the biennial reports must be retained for a minimum of 3 years.

6.3.8 Contingency Plan

LQGs are required to prepare a contingency plan outlining how workers will respond to spills or releases of the hazardous wastes in their care. The UMKC Contingency Plan is reviewed and revised by the Director of EHS on an annual basis.

6.3.9 Employee Training

Personnel that have access to the Chemical Storage Building and those that transport the hazardous chemicals from the Satellite Accumulation Areas are required to be trained regarding the relative hazards of the chemicals they will be managing, and the practices and measures in the Facility's contingency plan. Individuals working only in the Satellite Accumulation Areas are required to receive the similar training. The University provides training suitable to both groups as required. Initial training for the Director of EHS, the Sr. Environmental Chemist, and

Hazardous Materials Coordinator will consist of 40 Hour HazWoper training and annual attendance thereafter at a RCRA regulatory review session (40 CFR265.16). See Appendix D for a list of the available training.

APPENDIX A

-UMKC combined list from RCRA P List; RCRA U List; California List; DHS Chemicals of Interest; and Peroxide forming Chemicals
-Characteristics of Hazardous Chemicals: Ignitability, Corrosivity, Reactivity, and Toxicity Characteristic
-Exempted Product Categories List

UMKC Combined Lists from the RCRA P-List; RCRA U-List, California List; DHS Chemicals of Interest and Peroxide Forming Chemicals

Items in Bold need to be marked with a red P. They must be disposed of through EHS when empty. See section 3.5
Abbreviations are as follows: T=Toxic; I=Ignitable; C=Corrosive; R=Reactive

- A2213

- Ac 5,727 (3-Isopropylphenyl N-methylcarbamate) (T)
P-Listed (Mark w/ red P)

- Acetal
Peroxide Forming Chemical Class II

- Acetaldehyde (I)
DHS Chemical of Interest

- Acetaldehyde, chloro-
P-Listed (Mark w/ red P)

- Acetaldehyde, trichloro-

- Acetamide, N-(4-ethoxyphenyl)-

- Acetamide, N-9H-fluoren-2-yl-

- Acetamide, N-(aminothioxomethyl)-
P-Listed (Mark w/ red P)

- Acetamide, 2-fluoro-
P-Listed (Mark w/ red P)

- Acetic acid (T,C,I)

- Acetic acid, (2,4-dichlorophenoxy)-, salts & esters

- Acetic acid ethyl ester (I)

- Acetic acid, fluoro-, sodium salt
P-Listed (Mark w/ red P)

- Acetic acid, lead(2+) salt

- Acetic acid, thallium(1+) salt

- Acetic acid, (2,4,5-trichlorophenoxy)-

- Acetone (I)

- Acetone cyanohydrin (T)

- Acetone cyanohydrin, stabilized
DHS Chemical of Interest

- Acetonitrile (I,T)

- Acetophenone

- 1-Acetoxypentane (and isomers) (T,I)

- Acetyl benzoyl peroxide (T,I,R)

- Acetyl bromide
DHS Chemical of Interest

- Acetyl chloride (C,R,T)
DHS Chemical of Interest

- Acetyl iodide
DHS Chemical of Interest

- Acetyl peroxide (T,I,R)

- 2-Acetylaminofluorene

- Acetylene
DHS Chemical of Interest

- 1-Acetyl-2-thiourea
P-Listed (Mark w/ red P)

- Acridine (T)

- Acrolein
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Acrylamide

- Acrylic acid (I)
Peroxide Forming Chemical Class I

- Acrylonitrile
Peroxide Forming Chemical Class I
DHS Chemical of Interest

- Acrylyl chloride
DHS Chemical of Interest

- ACTIDIONE (T)

- Adiponitrile (T)

- 4-ADP (4-Aminodiphenyl) (T)

- AFL 1082 (Fluoroacetanilide) (T)

- AGALLOL (T)

- Aldicarb
P-Listed (Mark w/ red P)

- Aldicarb sulfone
P-Listed (Mark w/ red P)

- Aldrin
P-Listed (Mark w/ red P)

- Alkyl aluminum chloride (C,I,R)

- Alkyl aluminum compounds (C,I,R)

- Allyl alcohol
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Allyl bromide (T,I)

- Allyl chloride (T,I)

- Allyl chlorocarbonate (T,I)

- Allyl chloroformate (T,I)

- Allyl trichlorosilane (T,C,I,R)
DHS Chemical of Interest

- Allylamine
DHS Chemical of Interest

- Allyltrichlorosilane, stabalized
DHS Chemical of Interest

- Aluminum bromide, anhydrous
DHS Chemical of Interest

- Aluminum chloride (T,C)

- Aluminum chloride (anhydrous) (T,C,R)
DHS Chemical of Interest

- Aluminum fluoride (T,C)

- Aluminum nitrate (T,I)

- Aluminum phosphide (R,T)
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Aluminum (powder) (I)
DHS Chemical of Interest

- Aluminum diethyl monochloride (I,R)

- 4-Amidino-1-(nitrosamino-amidino)-1-tetra-zene (I,R)

- Aminobenzene (T)

- 1-Aminobutane (and isomers) (T)

- 2-Amino-4-chlorotoluene (T)

- 4-Aminodiphenyl (T)

- Aminoethane (T,I)

- 1-Aminohexane (and isomers) (T,I)

- Aminomethane (T,I)

- 5-(Aminomethyl)-3-isoxazolol
P-Listed (Mark w/ red P)

- 1-Aminopentane (and isomers) (T,I)

- para-(5-Amino-3-phenyl-1H-1,2,4-triazol-1-yl)-N,N,N',N'-tetramethyl phosphonic diamide (T)

- 2-Aminopropane (T,I)

- 2-Aminopyridine (T)

- 4-Aminopyridine
P-Listed (Mark w/ red P)

- Aminotoluene (ortho,meta,para) (T)

- Amitrole

- Ammonia (anhydrous)
DHS Chemical of Interest

- Ammonia (conc. 20% or greater)
DHS Chemical of Interest

- Ammonium arsenate (T)

- Ammonium bichromate (T,C,I)

- Ammonium bifluoride (T,C)

- Ammonium chromate (T,I)

- Ammonium dichromate (T,C,I)

- Ammonium fluoride (T,C)

- Ammonium hydroxide (T,C)

- Ammonium molybdate (T)

- Ammonium nitrate (I,R)

- Ammonium nitrate (nitrogen concentration of 23% or greater)
DHS Chemical of Interest

- Ammonium perchlorate (I,R)
DHS Chemical of Interest

- Ammonium permanganate (T,I,R)

- Ammonium persulfate (I,R)

- Ammonium picrate (R)
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Ammonium sulfide (T,C,I,R)

- Ammonium vanadate
P-Listed (Mark w/ red P)

- n-Amyl acetate (T,I)

- n-Amyl chloride (T,I)

- n-Amyl mercaptan (T,I)

- n-Amyl nitrite (T,I)

- Amyl trichlorosilane (and isomers) (T,C,R)

- n-Amylamine (T,I)

- Amyltrichlorosilane
DHS Chemical of Interest

- n-Amylene (T,I)

- Aniline (I,T)

- ANIMERT V-101 (T)

- Anisoyl chloride (T,C)

- Anthracene (T)

- Antimony (T)

- Antimony chloride (T,C)

- Antimony compounds (T)

- Antimony fluoride (T,C)

- Antimony oxide (T)

- Antimony pentachloride (T,C,R)

- Antimony pentafluoride (T,C,R)
DHS Chemical of Interest

- Antimony pentasulfide (T,I)

- Antimony potassium tartrate (T)

- Antimony sulfate (T,I)

- Antimony sulfide (T,I,R)

- Antimony trichloride (T,C)

- Antimony trifluoride (T,C)

- Antimony trioxide (T)

- Antimony trisulfate (T,I)

- Antimony trisulfide (T,I,R)

- Aqua regia (T,C,I)

- ARETAN (T)

- Argentate(1-), bis(cyano-C)-, potassium
P-Listed (Mark w/ red P)

- Aroclor (Polychlorinated byphenyls)

- Arsenic (T)

- Arsenic acid and salts
P-Listed (Mark w/ red P)

- Arsenic compounds (T)

- Arsenic oxide
P-Listed (Mark w/ red P)

- Arsenic oxide
P-Listed (Mark w/ red P)

- Arsenic pentaselenide (T)

- Arsenic Pentoxide
P-Listed (Mark w/ red P)

- Arsenic sulfide, Arsenic disulfide (T)

- Arsenic tribromide, Arsenic bromide (T)

- Arsenic trichloride
DHS Chemical of Interest

- Arsenic trichloride, Arsenic chloride (T)

- Arsenic triiodide, Arsenic iodide (T)

- Arsenic trioxide
P-Listed (Mark w/ red P)

- Arsenious acid and salts (T)

- Arsenious oxide
P-Listed (Mark w/ red P)

- Arsenous trichloride
DHS Chemical of Interest

- Arsine
DHS Chemical of Interest

- Arsine, diethyl-
P-Listed (Mark w/ red P)

- Arsines (T)

- Arsinic acid, dimethyl-

- Arsonous dichloride, phenyl-
P-Listed (Mark w/ red P)

- Asbestos (including chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite) (T)

- Askarel (Polychlorinated byphenyls)

- Aqualin (T,I)
P-Listed (Mark w/ red P)

- Auramine

- Azaserine

- Aziridine
P-Listed (Mark w/ red P)

- **Aziridine, 2-methyl-**
P-Listed (Mark w/ red P)

- Azirino-[2',3':3,4]pyrrolo[1,2-a]indole- 4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-

- AZODRIN (T)

- BANOL (T)

- Barban

- Barium (T,I)

- Barium azide (I,R)
DHS Chemical of Interest

- Barium bromide (T)

- Barium carbonate (T)

- Barium chlorate (T,C,I,R)

- Barium chloride (T)

- Barium chromate (T)

- Barium citrate (T)

- Barium compounds (soluble) (T)

- **Barium cyanide**
P-Listed (Mark w/ red P)

- Barium fluoride (T)

- Barium fluosilicate (T)

- Barium hydroxide (T)

- Barium iodide (T)

- Barium manganate (T)

- Barium nitrate (T,I)

- Barium oxide, Barium monoxide (T)

- Barium perchlorate (T,I,R)

- Barium permanganate (T,I,R)

- Barium peroxide (T,I,R)

- Barium phosphate (T)

- Barium stearate (T)

- Barium sulfide (T)

- Barium sulfite (T)

- Battery acid (T,C)

- BAYER 25141 (T)

- BAYER 25634 (T)

- **BCME (bis-(Choromethyl) ether) (T)**
P-Listed (Mark w/ red P)

- Bendiocarb

- Bendiocarb phenol

- Benomyl

- Benz[j]aceanthrylene, 1,2-dihydro-3- methyl-

- Benz[c]acridine

- Benzal chloride

- Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-

- Benz[a]anthracene

- Benz[a]anthracene, 7,12-dimethyl-

- Benzenamine (I,T)

- Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-

- **Benzenamine, 4-chloro-**
P-Listed (Mark w/ red P)

- Benzenamine, 4-chloro-2-methyl-, hydrochloride

- **Benzenamine, 4-nitro-**
P-Listed (Mark w/ red P)

- Benzenamine, N,N-dimethyl-4-(phenylazo)-

- Benzenamine, 2-methyl-

- Benzenamine, 4-methyl-

- Benzenamine, 4,4'-methylenebis[2-chloro-

- Benzenamine, 2-methyl-, hydrochloride

- Benzenamine, 2-methyl-5-nitro-

- Benzene (I,T)

- **Benzene, (chloromethyl)-**
P-Listed (Mark w/ red P)

- Benzene, 1-bromo-4-phenoxy-

- Benzene, chloro-

- Benzene, 1,2-dichloro-

- Benzene, 1,3-dichloro-

- Benzene, 1,4-dichloro-

- Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-

- Benzene, (dichloromethyl)-

- Benzene, 1,3-diisocyanatomethyl- (R,T)

- Benzene, dimethyl- (I,T)

- Benzene hexachloride (Lindane) (T)

- Benzene, hexachloro-

- Benzene, hexahydro- (I)

- Benzene, methyl-

- Benzene, 1-methyl-2,4-dinitro-

- Benzene, 2-methyl-1,3-dinitro-

- Benzene, (1-methylethyl)- (I)

- Benzene, nitro-

- Benzene, pentachloro-

- Benzene, pentachloronitro-

- Benzene, 1,2,4,5-tetrachloro-

- Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-

- Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-

- Benzene, (trichloromethyl)-

- Benzene, 1,3,5-trinitro-

- Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethylester

- Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-

- Benzenediamine, ar-methyl-

- 2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester

- 1,2-Benzenedicarboxylic acid, dibutyl ester

- 1,2-Benzenedicarboxylic acid, diethyl ester

- 1,2-Benzenedicarboxylic acid, dimethyl ester

- 1,2-Benzenedicarboxylic acid, dioctyl ester

- 1,3-Benzenediol

- 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P-Listed (Mark w/ red P)

- Benzeneethanamine, alpha,alpha- dimethyl-
P-Listed (Mark w/ red P)

- Benzenephosphorous dichloride (I,R)

- Benzenesulfonic acid (T)

- Benzenesulfonic acid chloride (C,R)

- Benzenesulfonyl chloride (C,R)

- Benzenethiol
P-Listed (Mark w/ red P)

- Benzidine and salts

- Benzilic acid

- 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts

- 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate

- 1,3-Benzodioxol-4-ol, 2,2-dimethyl-,

- 1,3-Benzodioxole, 5-(2-propenyl)-

- 1,3-Benzodioxole, 5-(1-propenyl)-

- 1,3-Benzodioxole, 5-propyl-
- 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-

- 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate
P-Listed (Mark w/ red P)

- Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1)
P-Listed (Mark w/ red P)

- Benzo[rst]pentaphene

- 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less

- 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at

concentrations greater than 0.3%
P-Listed (Mark w/ red P)

- Benzo[a]pyrene

- 1,4-Benzoquinone (T)

- p-Benzoquinone

- Benzotrichloride (C,R,T)

- Benzotrifluoride (T,I)

- **Benzyl chloride**
P-Listed (Mark w/ red P)

- Benzoyl peroxide (T,I,R)

- Benzyl bromide (T,C)

- Benzyl chloride (T)

- Benzyl chlorocarbonate (T,C,R)

- Benzyl chloroformate (T,C,R)

- **Beryllium powder**
P-Listed (Mark w/ red P)

- Beryllium chloride (T)

- Beryllium compounds (T)

- Beryllium copper (T)

- Beryllium fluoride (T)

- Beryllium hydride (T,C,I,R)

- Beryllium hydroxide (T)

- Beryllium oxide (T)

- BHC (Lindane) (T)

- BIDRIN (T)

- 2,2'-Bioxirane

- Biphenyl (T)

- [1,1'-Biphenyl]-4,4'-diamine

- [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-

- [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-

- [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-

- Bismuth (T,I)

- Bismuth chromate (T)

- **BLACAFUM (T)**
P-Listed (Mark w/ red P)

- Blue vitriol (Copper Sulfate (T)

- BOMYL (T)

- Boranes (T,I,R)

- Bordeaux arsenites (T)

- Boron tribromide
DHS Chemical of Interest

- Boron trichloride (T,C,R)
DHS Chemical of Interest

- Boron trifluoride (T,C,R)
DHS Chemical of Interest

- Boron triflouride compound with methyl ether (1:1)
DHS Chemical of Interest

- BPL (beta-Propiolactone) (T)

- Bromic acid (T)

- Bromine (T,C,I)
DHS Chemical of Interest

- Bromine chloride
DHS Chemical of Interest

- Bromine cyanide

- Bromine pentafluoride (T,C,I,R)
DHS Chemical of Interest

- Bromine trifluoride (T,C,I,R)
DHS Chemical of Interest

- **Bromoacetone**
P-Listed (Mark w/ red P)

- Bromoform

- Bromomethane (T)

- 4-Bromophenyl phenyl ether

- 3-Bromopropene (T,I)

- 3-Bromo-1-propyne (T,I)

- alpha-Bromotoluene (T,C)

- Bromotrifluorethylene
DHS Chemical of Interest

- **Brucine**
P-Listed (Mark w/ red P)

- Butadiene
Peroxide Forming Chemical Class I

- Butadiene, 1,3-
DHS Chemical of Interest

- 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

- n-Butanal (and isomers) (T,I)

- 1-Butanamine, N-butyl-N-nitroso-

- Butane
DHS Chemical of Interest

- Butene
DHS Chemical of Interest

- 1-Butanethiol (and isomers) (T,I)

- 1,2,4-Butanetriol trinitrate (R)

- 1-Butanol and isomers (I)

- 2-Butanone (I,T)

- 2-Butanone, 3,3-dimethyl-1-(methylthio)-, O [methylamino)carbonyl] oxime
P-Listed (Mark w/ red P)

- 2-Butanone, peroxide (R,T)

- 2-Butenal

- 1-Butene
DHS Chemical of Interest

- 2-Butene
DHS Chemical of Interest

- 2-Butene-cis
DHS Chemical of Interest

-2-Butene-trans
DHS Chemical of Interest

- 2-Butene, 1,4-dichloro- (I,T)

- 3-Butene-2-one (T,I)

- 2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-alpha(Z),7(2S*,3R*),7aalpha]]-

- n-Butyl acetate, 1-Acetoxybutane (and isomers) (T)

- n-Butyl alcohol (I)

- n-Butyl amine (T)
- Butyl ether (and isomers) (T,I)

- n-Butyl formate (and isomers) (T)

- tert-Butyl hydroperoxide (and isomers) (T,I)

- n-Butyllithium (and isomers) (T,C,I,R)

- n-Butyl mercaptan (T,I)

- tert-Butyl peracetate (I,R)

- tert-Butyl perbenzoate (I,R)

- tert-Butyl peroxyacetate (I,R)

- tert-Butyl peroxybenzoate (I,R)

- tert-Butyl peroxypivalate (I,R)

- Butlytrichlorosilane
DHS Chemical of Interest

- n-Butyltrichlorosilane (C,I,R)

- para-tert-Butyl toluene (T)

- n-Butyraldehyde (T,I)

- 2-tert-Butyl-5-methyl-4,6-dinitro-phenyl acetate (T)

- Cacodylic acid

- Cadmium (powder) (T,I)

- Cadmium chloride (T)

- Cadmium compounds (T)

- Cadmium cyanide (T)

- Cadmium fluoride (T)

- Cadmium nitrate (T,I,R)
- Cadmium oxide (T)

- Cadmium phosphate (T)

- Cadmium sulfate (T)

- Calcium (I,R)

- Calcium arsenate (T)

- Calcium arsenite (T)

- Calcium carbide (C,I,R)

- Calcium chlorate (I,R)

- Calcium chlorite (I)

- Calcium chromate

- Calcium cyanide
P-Listed (Mark w/ red P)

- Calcium dioxide (C,I)

- Calcium dithionite
DHS Chemical of Interest

- Calcium fluoride (T)

- Calcium hydride (C,I,R)

- Calcium hydrosulfite
DHS Chemical of Interest

- Calcium hydroxide (C)

- Calcium hypochlorite (T,C,I,R)

- Calcium molybdate (T)

- Calcium nitrate (I,R)

- Calcium oxide, Lime (C)

- Calcium oxychloride (dry) (T,C,I,R)

- Calcium permanganate (T,I)

- Calcium peroxide (C,I)

- Calcium phosphide (T,I,R)
DHS Chemical of Interest

- Calcium resinate (I)

- 1-Caprylene (T,I)

- Caprylyl peroxide (I)

- Carbamic acid, 1H-benzimidazol-2-yl, methyl ester

- Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester

- Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester

- Carbamic acid, [(dibutylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester
P-Listed (Mark w/ red P)

- Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H- pyrazol- 3-yl ester
P-Listed (Mark w/ red P)

- Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H- pyrazol-5-yl ester
P-Listed (Mark w/ red P)

- Carbamic acid, ethyl ester

- Carbamic acid, methyl-, 3-methylphenyl ester
P-Listed (Mark w/ red P)

- Carbamic acid, methylnitroso-, ethyl ester

- Carbamic acid, phenyl-, 1-methylethyl ester

- Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester

- Carbamic chloride, dimethyl-

- Carbamothioic acid, bis(1-methylethyl)- , S-(2,3,3-trichloro-2-propenyl) ester

- Carbamothioic acid, dipropyl-, S- (phenylmethyl) ester

- Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters

- Carbamothioic acid, bis(1-methylethyl)- , S-(2,3-dichloro-2-propenyl) ester

- Carbanolate (T)

- Carbaryl

- Carbendazim

- Carbofuran
P-Listed (Mark w/ red P)

- Carbofuran phenol

- Carbolic acid (T,C)

- 2-Carbomethoxy-1-methylvinyl dimethyl phosphate (T)

- Carbon bisulfide
P-Listed (Mark w/ red P)

- Carbon disulfide
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Carbon monoxide
DHS Chemical of Interest

- Carbon oxyfluoride (R,T)

- Carbon oxysulfide
DHS Chemical of Interest

- Carbon tetrachloride

- Carbonic acid, dithallium(1+) salt

- Carbonic dichloride
P-Listed (Mark w/ red P)

- Carbonic difluoride

- Carbonochloridic acid, methyl ester (I,T)

- Carbonyl chloride (I,R)
P-Listed (Mark w/ red P)

- Carbonyl fluoride
DHS Chemical of Interest

- Carbonyl sulfide
DHS Chemical of Interest

- Carbophenothion (T)

- Carbosulfan
P-Listed (Mark w/ red P)

- CASTRIX (T)

- Caustic potash (T,C)

- Caustic soda (T,C)

- Cellulose nitrate (I,R)

- Ceresan liquid (T)
Contains Mercury (Mark w/ Red P)

- CEREWET (T)
Contains Mercury (Mark w/ Red P)

- CHEMFLORM (T)

- Chloral

- Chloral hydrate (T)

- Chlorambucil

- Chlordane, alpha & gamma isomers

- Chlorecone (T)

- Chlorextol (Polychlorinated byphenyls) (T)

- Chlorfenvinphos (T)

- Chlorine (T,C,I,R)
DHS Chemical of Interest

- Chlorine dioxide (T,C,I,R)
DHS Chemical of Interest

-Chlorine monoxide
DHS Chemical of Interest

- Chlorine pentafluoride (T,C,I,R)
DHS Chemical of Interest

- Chlorine trifluoride (T,C,I,R)
DHS Chemical of Interest

- Chlornaphazin

- Chloroacetaldehyde
P-Listed (Mark w/ red P)

- Chloracetic acid (T,C)

- Chloroacetone (T)

- alpha-Chloroacetophenone, Phenyl chloromethyl ketone (T)

- Chloroacetyl chloride (T,C,R)
DHS Chemical of Interest

- p-Chloroaniline
P-Listed (Mark w/ red P)

- Chlorobenzene

- Chlorobenzilate

- para-Chlorobenzoyl peroxide (I,R)

- ortho-Chlorobenzylidene malonitrile (T)

- Chlorobutadiene
Peroxide Forming Chemical Class I

- Chlorochromic anhydride (T,C,I,R)

- p-Chloro-m-cresol

- 2-Chloro-1-(2,4-dichloro-phenyl) vinyl diethyl phosphate (T)

- 2-Chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphate (T)

- 2-Chloro-4-dimethylamino-6-methyl-pyrimidine (T)

- 2-Chloro-4,5-dimethylphenyl methylcarbamate (T)

- 1-Chloro-2,4-dinitrobenzene (I,R)

- exo-3-Chloro-endo-6-cyano-2-norbornanone-0-(methylcarbamoyl) oxime (T)

- Chloroethane (T,I)

- 2-Chloroethyl vinyl ether

- tris(2-chloroethyl)amine
DHS Chemical of Interest

- 2-Chloroethylchloromethyl-sulfide
DHS Chemical of Interest

- (2-Chloroethyl)ethylamine, bis-
DHS Chemical of Interest

- (2-chloroethyl)methylamine, bis-
DHS Chemical of Interest

- (2-Chloroethyl)sulfide, bis-
DHS Chemical of Interest

- (2-choroethylthio)-n-butane, 1,4-bis-
DHS Chemical of Interest

- (2-chloroethylthio)ethane, 1,2-bis-
DHS Chemical of Interest

- (2-chloroethylthioethyl)ether, Bis-
DHS Chemical of Interest

- (2-chloroethylthio)methane, bis-
DHS Chemical of Interest

- (2-chloroethylthiomethyl)ether, bis-
DHS Chemical of Interest

- (2-chloroethylthio-n-pentane, 1,5-bis-
DHS Chemical of Interest

- (2-choroethylthio)-n-propane
DHS Chemical of Interest

- Chloroform
DHS Chemical of Interest

- Chloromethane

- Chloromethyl ether
DHS Chemical of Interest

- Chloromethyl methyl ether
DHS Chemical of Interest

- bis (Chloromethyl) ether (T)
P-Listed (Mark w/ red P)

- Chloromethyl methyl ether

- beta-Chloronaphthalene

- Chloronitrobenzene (ortho,meta,para) (T)

- 1-Chloropentane (and isomers) (T,I)

- o-Chlorophenol

- S[[(4-Chlorophenyl) thio]methyl] O,O-diethyl phosphorodithioate (T)
- 1-(o-Chlorophenyl)thio-urea
P-Listed (Mark w/ red P)

- S-para-Chlorophenyl-2,4,5-trichlorophenyl sulfide (T)

- Chloropicrin (T)

- Chlorpicrin (T)
DHS Chemical of Interest

- Chloroprene
Peroxide Forming Chemical Class I

- 2-Chloropropane (I)

- 3-Chloropropene (T,I)

- 1-Chloro-2-propanone (T)

- 3-Chloropropionitrile
P-Listed (Mark w/ red P)

- 1-Chloropropylene
DHS Chemical of Interest

- 2-Chloropropylene
DHS Chemical of Interest

- Chloropropylene oxide (T,I)

- Chlorosarin
DHS Chemical of Interest

- Chlorosoman
DHS Chemical of Interest

- Chlorosulfonic acid (T,C,I,R)
DHS Chemical of Interest

- alpha-Chlorotoluene (T)

- Chloro-ortho-toluidine (T)

- 4-Chloro-o-toluidine, hydrochloride

- Chlorotrifluoroethylene
Peroxide Forming Chemical Class I

- 2-Chloro-1,3,5-trinitrobenzene (I,R)

- tris(2-chlorovinyl)arsine
DHS Chemical of Interest

- (2-chlorovinyl)chloroarsine, bis-
DHS Chemical of Interest

- 2-Chlorovinyldichloroarsine
DHS Chemical of Interest

- beta-Chlorovinyldichloroarsine (T)

- Chromic acid (T,C,I)

- Chromic acid, calcium salt

- Chromic anhydride (T,C,I)

- Chromic chloride (T)

- Chromic fluoride (T)

- Chromic hydroxide (T)

- Chromic oxide (T)

- Chromic sulfate (T)

- Chromium compounds (T,C,I)

- Chromium hydroxide (T)

- Chromium oxide (T)

- Chromium oxychloride
DHS Chemical of Interest

- Chromium sulfate (T)

- Chromium trichloride (T)

- Chromium trifluoride (T)

- Chromium trioxide (T,C,I)

- Chromyl chloride (T,C,I,R)

- Chrysene

- CMME (Methyl chloromethyl ether) (T,I)

- Cobalt (powder) (T,I)

- Cobalt bromide (T)

- Cobalt compounds (T)

- Cobaltous bromide (T)

- Cobalt chloride (T)

- Cobalt nitrate (T,I)

- Cobalt resinate (T,I)

- Cobalt sulfate (T)

- Cobaltous chloride (T)

- Cobaltous nitrate (T,I)

- Cobaltous resinate (T,I)

- Cobaltous sulfate (T)

- Cocculus (T)

- Collodion (I,R)

- Compound 1080 (T)

- Compound 1836 (Diethyl chlorovinyl phosphate) (T)

- Compound 4072 (2-Chloro-1-(2,4-dichloro-phenyl) vinyl diethyl phosphate) (T)

- Copper acetoarsenite (T)

- Copper acetylide (I,R)

- Copper arsenate (T)

- Copper arsenite (T)

- Copper chloride (T)

- Copper chlorotetrazole (I,R)

- Copper compounds (T)

- **Copper cyanide**
P-Listed (Mark w/ red P)

- Copper nitrate (T,I,R)

- Copper sulfate (T)

- Coroxon (T)

- Coumafuryl (T)

- Coumatetralyl (T)

- 4-Hydroxy-3-(1,2,3,4-tetrahydro-1-naphthalenyl)-2H-1-benzopyran-2-one (T)

- Creosote

- Cresol (Cresylic acid)

- o-Cresol

- m-Cresol

- p-Cresol

- Crimidine (T)

- Crotonaldehyde
DHS Chemical of Interest

- Crotonaldehyde, (E)-
DHS Chemical of Interest

- Cumene (I)
Peroxide Forming Chemical Class II

- Cumene hydroperoxide (T)

- **m-Cumenyl methylcarbamate**
P-Listed (Mark w/ red P)

- Cupric arsenate (T)

- Cupric arsenite (T)

- Cupric chloride (T)

- **Cupric Cyanide**
P-Listed (Mark w/ red P)

- Cupric nitrate (T,I,R)

- Cupric sulfate (T)

- Cupriethylene diamine (T)

- **Cyanides (soluble cyanide salts), not otherwise specified**
P-Listed (Mark w/ red P)

- Cyanoacetic acid (T)

- **Cyanogen**
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Cyanogen bromide

- **Cyanogen chloride**
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Cyanophenphos (T)

- O-para-Cyanophenyl-O-ethylphenyl phosphonothioate (T)

- Cyanuric triazide (I,R)

- Cycloheptane (T,I)

- 2,5-Cyclohexadiene-1,4-dione

- Cyclohexane (I)
Peroxide Forming Chemical Class II

- Cyclohexane, 1,2,3,4,5,6-hexachloro-

,(1alpha,2alpha,3beta,4alpha,5alpha,6
beta)-

- Cyclohexanone (I)

- Cyclohexanone peroxide (I)

- Cyclohexenyltrichlorosilane (T,C,R)

- Cycloheximide (T)

- Cyclohexylamine
DHS Chemical of Interest

- 2-Cyclohexyl-4,6-dinitrophenol
P-Listed (Mark w/ red P)

- Cyclohexyltrichlorosilane (T,C,R)
DHS Chemical of Interest

- Cyclooctane
Peroxide Forming Chemical Class II

- 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-

- Cyclopentane (T,I)

- Cyclopentanol (I)

- Cyclopentene (T,I)
Peroxide Forming Chemical Class II

- Cyclophosphamide

- Cyclopropane
DHS Chemical of Interest

- Cyclotetramethylene-tetranitramine
DHS Chemical of Interest

- CYOLAN (T)

- 2,4-D, salts & esters

- DASANIT (T)

- Daunomycin

- DBCP (1,2- Dibromo-3-chloropropane)

- DCB (3,3-Dichlorbenzidene and salts)

- DDD (1,1-dichloro-2,2-bis(p-chlorophenyl)ethane) (T)

- DDNP (Diazodinitrophenol) (I,R)

- DDT (1,1,1-Trichloro-2,2-bis(chlorophenyl) ethane (T)

- DDVP (Dimethyl dichlorovinyl phosphate) (T)

- DEAC (Diethylaluminum chloride) (I,R)

-DF
DHS Chemical of Interest

- Diamine (T,I)

- Diazodinitrophenol
DHS Chemical of Interest

- Dichlorvos (T)

- Dimethyl dichlorovinyl phosphate (T)

- Decaborane (T,I,R)

- DECALIN (T)

- 1,1a,3,3a,4,5,5,5a,5b,6-Decachlorooctahydro-1,2, 4-metheno-2H-cyclobuta (cd) pentalen-2-one (T)

- Decahydronaphthalene (T)

- Dechlorane (T)

- DELNAV (T)

- Demeton (T)

- Demeton-S-methyl sulfone (T)

- Diacetylene
Peroxide Forming Chemical Class II

- Diallate

- Diaminobenzene (ortho,meta,para) (T)

- 1,6-Diaminohexane (T)

- 2-Diazo-4,6-dinitrobenzene-1-oxide (I,R)

- Diazodinitrophenol (I,R)
DHS Chemical of Interest

- Dibenz[a,h]anthracene

- Dibenzo[a,i]pyrene

- Diborane (I,R)
DHS Chemical of Interest

- Diboron hexahydride (I,R)

- 1,2-Dibromo-3-chloropropane

- 1,2-Dibromoethane (T)

- n-Dibutyl ether (T,I)

- Dibutyl phthalate

- 1,4-Dichlorobenzene

- o-Dichlorobenzene

- m-Dichlorobenzene

- p-Dichlorobenzene

- 3,3'-Dichlorobenzidine and salts

- Dibenzoyl peroxide (T,I,R)

- 1,4-Dichloro-2-butene (I,T)

- Dichlorodifluoromethane

- Dichlorodimethylsilane (T,C,I,R)

- 1,2-Dichloroethane

- 1,2-Dichloroethene

- Dichloroether

- Dichloroethylarsine (I,R)

- 1,1-Dichloroethylene

- 1,2-Dichloroethylene

- Dichloroethyl ether

- Dichloroisocyanuric acid (T,I)

- Dichloroisopropyl ether

- Dichloromethane

- Dichloromethoxy ethane

- Dichloromethyl ether
P-Listed (Mark w/ red P)

- Dichloromethylether (T)
P-Listed (Mark w/ red P)

- 2,4-Dichlorophenol

- 2,6-Dichlorophenol

- 2,4-Dichlorophenoxyacetic acid (2,4-D) (T)

- Dichlorophenylarsine
P-Listed (Mark w/ red P)

- 1,2-Dichloropropane (T,I)

- 1,3-Dichloropropene (T,I)

- 1,3-Dichloropropylene (T,I)

- Dichlorosilane
DHS Chemical of Interest

- Dicrotophos (T)

- Dichloro-S-triazine-2,4,6-tri-one (T,I)

- Dicumyl peroxide (I,T)

- Dicyclopentadiene
Peroxide Forming Chemical Class II

- Di-n-dodecyl peroxide (T,C,I,R)

- Dieldrin
P-Listed (Mark w/ red P)

- 1,2:3,4-Diepoxybutane (I,T)

- 2-(Diethoxy-phosphinylimino)-1,3-dithio-lane (T)

- Diethyl chlorovinyl phosphate

-Diethyl N,N-dimethylphosphoramidate
DHS Chemical of Interest

- Diethyl Ether
Peroxide Forming Chemical Class II

- Diethyl methylphosphonite
DHS Chemical of Interest

- Diethyl phosphate
DHS Chemical of Interest

- N,N-Diethyl phosphoramidic dichloride
DHS Chemical of Interest

- Diethyl phthalate

- Diethylaluminum chloride (I,R)

- Diethylamine (T,I)

- N,N- (2-diethylamino)ethanethiol
DHS Chemical of Interest

- Diethylarsine
P-Listed (Mark w/ red P)

- O,O-Diethyl-S-carboethoxyethyl phosphorodithioate (T)

- Diethyldichlorosilane (T,C,I,R)
DHS Chemical of Interest

- o,o-diethyl S-[2-(dithylamino)ethyl] phosphorothiolate
DHS Chemical of Interest

- 1,4-Diethylene dioxide (T,I,R)

- Diethylene glycol, dicarbamate

- Diethylene glycol dimethyl ether
Peroxide Forming Chemical Class II

- Diethylene glycol dinitrate (I,R)
DHS Chemical of Interest

- Diethylene triamine (T)

- Diethyleneglycol dinitrate
DHS Chemical of Interest

- 1,4-Diethyleneoxide

- O,O-Diethyl S-(N-ethoxycarbonyl-N-methylcarba-moyl-methyl) phosphorodithioate (T)

- O,O-Diethyl S-[2-(ethylthio) ethyl] phosphorodithioate (X)
P-Listed (Mark w/ red P)

- O,O-Diethyl-S-[(Ethylthio)methyl] phosphorodithioate (T)
P-Listed (Mark w/ red P)

- Diethylhexyl phthalate

- N,N'-Diethylhydrazine

- O,O-Diethyl-S-(isopropylthiomethyl) phosphorodithioate (T)

- O,O-Diethyl S-methyl dithiophosphate

- O,O-Diethyl-O-[4-(methyl-sulfinyl)phenyl] phosphorothioate (T)

- O,O-Diethyl-o(4 methylumbelliferone) phosphoro-thioate (T)

- Diethyl-p-nitrophenyl phosphate
P-Listed (Mark w/ red P)

- ortho,ortho-Diethyl-ortho-(3-chloro-4-methylcou-marin-7-yl) phosphate (T)

- O,O-Diethyl-0-para-nitrophenyl phosphate (T)

- O,O-Diethyl-0-para-nitrophenyl phosphorothioate (T)
P-Listed (Mark w/ red P)

- O,O-Diethyl O-pyrazinyl phosphorothioate
P-Listed (Mark w/ red P)

- Diethylstilbesterol

- Diethylzinc (C,I,R)

- Difluoroethane
DHS Chemical of Interest

- Difluorophosphoric acid (T,C,R)

- Diglycidyl ether (T)

- Diglyme
Peroxide Forming Chemical Class II

- Dihydrosafrole

- 2,3-Dihydro-2,2-dimethyl-7-benzofuranyl-methylcarbamate (T)
P-Listed (Mark w/ red P)

- N,N-diisopropyl-2-aminoethyl chloride hydrochloride
DHS Chemical of Interest

- N,N-diisopropyl-B-aminoethanol
DHS Chemical of Interest

- N,N-diisopropyl-B-aminoethyl chloride
DHS Chemical of Interest

- Diisopropylbenzene hydroperoxide (T,I)

- Diisopropyl ether (I,R)
Peroxide Forming Chemical Class III

- Diisopropyl peroxydicarbonate (T,C,I,R)

- Diisopropylfluoro-phosphate (DFP)
P-Listed (Mark w/ red P)

- N,N-Diisopropyl phosphoramidic dichloride
DHS Chemical of Interest

- DIMECRON (T)

- Dimefox (Tetramethylphosphor-odiamidic fluoride) (T)

- 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8 abeta)-1 1 1
P-Listed (Mark w/ red P)

- 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8ab eta)-
P-Listed (Mark w/ red P)

- 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6a alpha,7beta, 7aalpha)-
P-Listed (Mark w/ red P)

- 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites
P-Listed (Mark w/ red P)

- Dimethoate
P-Listed (Mark w/ red P)

- 3,3'-Dimethoxybenzidine

- Dimethoxystrychnine (T)
P-Listed (Mark w/ red P)

- Dimethyl ethylphosphonate
DHS Chemical of Interest

- Dimethyl methylphosphonate
DHS Chemical of Interest

- Dimethyl nitrosoamine (T)
P-Listed (Mark w/ red P)

- Dimethyl phosphate
DHS Chemical of Interest

- N,N-dimethyl phosphoramidic dichloride
DHS Chemical of Interest

- Dimethyl sulfate

- Dimethylamine (I)
DHS Chemical of Interest

- Dimethylaminoazobenzene (T)

- p-Dimethylamino-azobenzene

- 4-(Dimethylamino)-3,5-dimethylphenyl methylcarbamate (T)
P-Listed (Mark w/ red P)

- 3-(Dimethylamino)-1-methyl-3-oxo-1-propenyldimethyl phosphate (T)
- N,N-(2-Dimethylamino)ethanethiol
DHS Chemical of Interest

- Dimethylarsinic acid (T)

- 7,12-Dimethyl-benz[a]anthracene

- Dimethylbenzene (ortho,meta,para) (I)

- 3,3'-Dimethylbenzidine

- alpha,alpha-Dimethylbenzyl hydro-peroxide (T,I,R)

- alpha,alpha-Dimethylbenzyl-hydroperoxide (T,I,R)

- 2,2-Dimethylbutane (T,I)

-3,3-dimethyl-2-butanol
DHS Chemical of Interest

- Dimethylcarbamoyl chloride

- Dimethyldichlorosilane (T,C,I,R)
DHS Chemical of Interest

- 2,5-Dimethylhexane-2,5-Dihydroperoxide (I)

- 1,1-Dimethylhydrazine
DHS Chemical of Interest

- 1,2-Dimethylhydrazine

- O,O-Dimethyl-S-4-oxo-1,2,3-benzotriazin-3(4H)-ylmethyl phosphorodithioate (T)

- Dimethyl 3-hydroxyglutaconate dimethyl phosphate (T)

- Dimethylnitrobenzene (2,4-;3,4-; 2,5-isomers) (T)

- O,O-Dimethyl-O-para-nitrophenylphospho-rothioate (T)
P-Listed (Mark w/ red P)

- alpha,alpha-Dimethylphenethylamine
P-Listed (Mark w/ red P)

- 2,4-Dimethylphenol

-Dimethlphosphor-amidodichloridate
DHS Chemical of Interest

- 2,2-Dimethylpropane
DHS Chemical of Interest

- Dimethyl phthalate

- Dimetilan
P-Listed (Mark w/ red P)

- Dingu
DHS Chemical of Interest

- 2,4-Dinitroaniline (T)

- Dinitrobenzene (ortho, meta, para) (I,R)

- Dinitrochlorobenzene (I,R)

- 4,6-Dinitro-o-cresol, & salts
P-Listed (Mark w/ red P)

- Dinitrogen tetroxide
DHS Chemical of Interest

- Dinitroglycoluril
DHS Chemical of Interest

- Dinitrophenol
DHS Chemical of Interest

- 2,4-Dinitrophenol
P-Listed (Mark w/ red P)

- Dinitrophenol(2,3-;2,4-;2,6-isomers) (I,R)

- 2,4-Dinitrophenylhydrazine (T,I,R)

- Dinitroresorcinol
DHS Chemical of Interest

- 2,4-Dinitro-6-sec-butylphenol (X)
P-Listed (Mark w/ red P)

- Dinitrosobenzene
DHS Chemical of Interest

- 2,4-Dinitrotoluene

- 2,6-Dinitrotoluene

- Dinitrotoluene (2,4-;3,4-;3,5-isomers) (T,I,R)

- Dinoseb
P-Listed (Mark w/ red P)

- Di-n-octyl phthalate

- Dioxane
Peroxide Forming Chemical Class II

- 1,4-Dioxane
Peroxide Forming Chemical Class II

- p-Dioxane
Peroxide Forming Chemical Class II

- S,S-1,4-dioxane-2,3-diyl bis (O,O-diethyl phosphorodithioate) (T)

- Dioxathion (T)

- Dioxin (T)

- Dipentaerythritol hexanitrate (R)

- Diphenyl (T)

- Diphenylamine (T)

- Diphenylamine chloroarsine (T)

- Diphenyldichlorosilane (T,C,R)
DHS Chemical of Interest

- 1,2-Diphenylhydrazine

- Diphenyl-2-hydroxyacetic acid
DHS Chemical of Interest

- Diphosphoramide, octamethyl-
P-Listed (Mark w/ red P)

- Diphosphoric acid, tetraethyl ester
P-Listed (Mark w/ red P)

- Dipicrylamine
DHS Chemical of Interest

- Dipicryl sulfide
DHS Chemical of Interest

- Dipicrylamine (I,R)

- Dipropylamine (I)

- N,N-Dipropyl phosphoramidic dichloride
DHS Chemical of Interest

- Dipropyl ether (T,I)

- Di-n-propylnitrosamine

- Disulfoton (T)
P-Listed (Mark w/ red P)

- Disulfuryl chloride (T,C,R)

- DI-SYSTON (T)
P-Listed (Mark w/ red P)

- Dithiobiuret
P-Listed (Mark w/ red P)

- 1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)-carbonyl]oxime

- DITHIONE (T)
P-Listed (Mark w/ red P)

- Divinyl acetylene
Peroxide Forming Chemical Class III

- Divinyl ether
Peroxide Forming Chemical Class III

- DMA (Dimethylamine) (I)

- 1,1a,2,2,3,3a,4,5,5,5a,5b,6-Dodecachlorooctahydro-1,3,4-metheno-1H-cyclobuta (cd) pentalene (T)

- Dodecyltrichlorosilane (T,C,R)
DHS Chemical of Interest

- DOWCO-139 (T)

- DOWICIDE 7 (T)

- DOWICIDE I (T)

- DPA (Diphenylamine) (T)

- DYFONATE (T)

- EI (Ethyleneimine) (T,I,R)
P-Listed (Mark w/ red P)

- Endosulfan (T)
P-Listed (Mark w/ red P)

- Endothall (T)
P-Listed (Mark w/ red P)

- Endothion (T)

- Endrin (T)
P-Listed (Mark w/ red P)

- Endrin, & metabolites ***P-Listed (Mark w/ red P)***

- Epichlorohydrin
DHS Chemical of Interest

- Epinephrine
P-Listed (Mark w/ red P)

- EPN (O-Ethyl O-para-nitrophenyl phenylphosphonothioate) (T)

- Epoxyethane

- bis(2,3-Epoxypropyl) ether (T)

- Ethanal (I)

- Ethanamine, N,N-diethyl-

- Ethanamine, N-ethyl-N-nitroso-

- Ethane
DHS Chemical of Interest

- Ethane, 1,2-dibromo-

- Ethane, 1,1-dichloro-

- Ethane, 1,2-dichloro-

- Ethane, hexachloro-

- Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-

- Ethane, 1,1'-oxybis-(I)

- Ethane, 1,1'-oxybis[2-chloro-

- Ethane, pentachloro-

- Ethane, 1,1,1,2-tetrachloro-

- Ethane, 1,1,2,2-tetrachloro-

- Ethane, 1,1,1-trichloro-

- Ethane, 1,1,2-trichloro-

- 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-

- Ethanedinitrile
P-Listed (Mark w/ red P)

- Ethanethioamide

- Ethanethiol (T,I,R)

- Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester
P-Listed (Mark w/ red P)

- Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester
P-Listed (Mark w/ red P)

- Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester

- Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester

- Ethanol (T,I)

- Ethanol, 2-ethoxy-

- Ethanol, 2,2'-(nitrosoimino)bis-

- Ethanol, 2,2'-oxybis-, dicarbamate

- Ethanone, 1-phenyl-

- Ethene, chloro-

- Ethene, (2-chloroethoxy)-

- Ethene, 1,1-dichloro-

- Ethene, 1,2-dichloro-, (E)-

- Ethene, tetrachloro-

- Ethene, trichloro-

- Ethion (T)

- Ethyl acetate (I)

- Ethyl acetylene
DHS Chemical of Interest

- Ethyl acrylate (I)

- Ethyl alcohol (T,I)

- Ethyl butanoate (I)

- Ethyl butyrate (I)

- Ethyl carbamate (urethane)

- Ethyl chloride (T,I)
DHS Chemical of Interest

- Ethyl chlorocarbonate (T,C,I,R)

- Ethyl chloroformate (T,C,I,R)

- **Ethyl cyanide**
P-Listed (Mark w/ red P)

- Ethyl ether (I)
Peroxide Forming Chemical Class II
DHS Chemical of Interest

- Ethyl formate (T,I)

- Ethyl mercaptan (T,I,R)
DHS Chemical of Interest

- Ethyl methacrylate

- Ethyl methanesulfonate

- O-Ethyl methyl phosphoryl N,N-diisopropyl thiocholine (T)

- Ethyl nitrate (I,R)

- Ethyl nitrite (I,R)
DHS Chemical of Interest

- Ethyl phosphonyl dichloride
DHS Chemical of Interest

- Ethyl phosphonyl difluoride
DHS Chemical of Interest

- Ethyl propionate (I)

- Ethyldichloroarsine (I,R)

- Ethyldichlorosilane (T,C,I,R)

- O-Ethyl-S,S-dipropyl phosphorodithioate (T)

- Ethylamine (T,I)
DHS Chemical of Interest

- Ethylbenzene (T,I)

- Ethyldiethanolamine
DHS Chemical of Interest

- o-ethyl-N,N-demthylphosphoramido-cyanidate
DHS Chemical of Interest

- o-ethyl-o-2-diisopropylaminoethyl methyl phosphonite
DHS Chemical of Interest

-o ethyl-S-2-diisopropylaminoethyl methyl phosphonothiolate
DHS Chemical of Interest

- Ethylene
DHS Chemical of Interest

- Ethylene cyanohydrin (I,R)

- Ethylene diamine (T)

- Ethylene dibromide

- Ethylene dichloride

- Ethylene glycol dimethyl ether
Peroxide Forming Chemical Class II

- Ethylene glycol dinitrate (R)

- Ethylene glycol monoethyl ether

- Ethylene oxide (I,T)
DHS Chemical of Interest

- Ethylenebisdithiocarbamic acid, salts & esters

- Ethylenediamine
DHS Chemical of Interest

- **Ethyleneimine (T,I,R)**
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Ethylenethiourea

- Ethylidene dichloride

- Ethylphenyldichlorosilane (T,C,R)

- O-Ethyl O-para-nitrophenyl phenylphosphonothioate (T)

- O-Ethyl-S-phenylethyl phosphonodithio-ate (T)

- Ethylphosphonothioic dichloride
DHS Chemical of Interest

- S-[2-(ethyl-sulfonyl) ethyl] O,O-dimethyl phosphorothioate (T)

- Ethyltrichlorosilane (I,R)
DHS Chemical of Interest

- EXOTHION (T)

- FAC (Prothoate) (T)

- **Famphur**
P-Listed (Mark w/ red P)

- Fensulfothion (T)

- Ferric arsenate (T)

- Ferric chloride (T,C)

- Ferrous arsenate (T)

- Fishberry (T)

- Fluoboric acid (T,C)

- Fluoranthene

- Fluoride salts (T)

- **Fluorine**

P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Fluoroacetamide
P-Listed (Mark w/ red P)

- Fluoroacetanilide (T)

- Fluoroacetic acid and salts (T)

- Fluoroacetic acid, sodium salt
P-Listed (Mark w/ red P)

- Fluoroboric acid (T,C)

- Fluorosulfonic acid (T,C,R)

- Fluosilicic acid (T,C)

- Fluosulfonic acid (T,C,R)
DHS Chemical of Interest

- Fonofos (T)

- Formaldehyde (T,I)
DHS Chemical of Interest

- Formetanate hydrochloride
P-Listed (Mark w/ red P)

- Formic acid (C,T)

- Formparanate
P-Listed (Mark w/ red P)

- FOSTION (T)

- Fulminate of mercury (I,R)

- Fulminic acid, mercury(2+) salt (R,T)
P-Listed (Mark w/ red P)
Contains Mercury (Mark w/ red P)

- FUMARIN (T)

- Fumazone

- Fuming sulfuric acid (T,C,R)

- FURADAN (T)
P-Listed (Mark w/ red P)

- Furan (I)
Peroxide Forming Chemical Class II
DHS Chemical of Interest

- 2-Furancarboxaldehyde (I)

- 2,5-Furandione

- Furan, tetrahydro-(I)

- 3-[1-(2-Furanyl)-3-oxobutyl] 1-4-hydroxy-2H-1-benzopyran-2-one (T)

- Furfural (I)

- Furfuran (I)
Peroxide Forming Chemical Class II

- Gasoline (I)

- GB (O-Isopropyl methyl phosphoryl fluoride) (T)

- Germane
DHS Chemical of Interest

- Germanium tetrafluoride
DHS Chemical of Interest

- Glucopyranose, 2-deoxy-2-(3-methyl-3- nitrosoureido)-, D-

- D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-

- Glutaraldehyde (T)

- Glycerolmonolactate trinitrate (R)

- Glycidylaldehyde

- Glycol dinitrate (R)

- Glyme
Peroxide Forming Chemical Class II

- Gold cyanate (R)

- Gold fulminate (R)

- Guanidine nitrate (I,R)

- Guanidine, N-methyl-N'-nitro-N-nitroso-

- Guanyl nitrosaminoguanylidene hydrazine (R)
DHS Chemical of Interest

-Guanyl nitrosaminoguanyltetrazene
DHS Chemical of Interest

- Guncotton (I,R)

- Guthion (T)

- Hafnium (I,T,R)

- Hanane (Tetramethylphosphor-odiamidic fluoride) (T)

- Heptachlor (T)
P-Listed (Mark w/ red P)

- 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetra-hydro-4,7-methanoindene (T)
P-Listed (Mark w/ red P)

- n-Heptane (and isomers) (T,I)

- 1-Heptene (and isomers) (T,I)

- HETP (Hexaethyl tetraphosphate) (T)
P-Listed (Mark w/ red P)

- 6,7,8,9, 10, 10-Hexachlor-1, 5,5a, 6,9, 9a-hexa-hydro-6,9-methano-2,4,3-benzo-dioxathiepin- 3-oxide (T)
P-Listed (Mark w/ red P)

- Hexachlorobenzene

- Hexachlorobutadiene

- 1,2,3,4,5,6-Hexachlorocyclohexane (Lindane) (T)

- Hexachlorocyclopentadiene

- 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4,4a,5,6,7, 8,8a-octahydro-1,4-endo-endo-5,8-dimethanonaphthalene (T)
P-Listed (Mark w/ red P)

- Hexachloroethane

- 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo-exodimethanonaphthlene
P-Listed (Mark w/ red P)

- Hexachlorophene

- Hexachloropropene

- Hexadecyltrichlorosilane (T,C,R)

- Hexaethyl tetraphosphate (T)
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Hexafluoroacetone
DHS Chemical of Interest

- Hexafluorophosphoric acid (T,C)

- Hexamethylenediamine (T)

- n-Hexane (and isomers) (T,I)

- Hexanitrodiphenyl amine (I,R)
DHS Chemical of Interest

- Hexanitrodiphenylamine
DHS Chemical of Interest

-Hexanitrostilbene
DHS Chemical of Interest

- 1-Hexene (and isomers) (T,I)

- Hexolite
DHS Chemical of Interest

- Hexotonal
DHS Chemical of Interest

- n-Hexylamine

- Hexyltrichlorosilane (T,C,R)
DHS Chemical of Interest

- HMX
DHS Chemical of Interest

- HN1 (nitrogen mustard-1)
DHS Chemical of Interest

- HN2 (nitrogen mustard-2)
DHS Chemical of Interest

- HN3 (nitrogen mustard-3)
DHS Chemical of Interest

- Hydrated lime (C)

- Hydrazine (R,T)
DHS Chemical of Interest

- Hydrazine azide (I,R)

- Hydrazine (T,I)

- Hydrazine, 1,2-diethyl-

- Hydrazine, 1,1-dimethyl-

- Hydrazine, 1,2-dimethyl-

- Hydrazine, 1,2-diphenyl-

- Hydrazinecarbothioamide
P-Listed (Mark w/ red P)

- Hydrazine, methyl-
P-Listed (Mark w/ red P)

- Hydrazoic acid (I,R)

- Hydriodic acid (T,C,R)

- Hydrobromic acid (T,C,R)

- Hydrochloric acid (T,C,R)

- Hydrochloric acid (conc. 37% or greater)
DHS Chemical of Interest

- Hydrocyanic acid (T,I,R)
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Hydrofluoric acid (C,T,R)

- Hydrofluoric acid (conc. 50% or greater)
DHS Chemical of Interest

- Hydrofluosilicic acid (T,C)

- Hydrogen
DHS Chemical of Interest

- Hydrogen azide (I,R)

- Hydrogen bromide (T,C,R)

- Hydrogen bromide (anhydrous)
DHS Chemical of Interest

- Hydrogen chloride (T,C,R)

- Hydrogen chloride (anhydrous)
DHS Chemical of Interest

- **Hydrogen cyanide (T,I,R)**
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Hydrogen fluoride (C,T,R)
DHS Chemical of Interest

- Hydrogen iodide (T,C,R)
DHS Chemical of Interest

- Hydrogen peroxide (T,C,I,R)

- Hydrogen peroxide (conc. 35% or greater)
DHS Chemical of Interest

- **Hydrogen phosphide**
P-Listed (Mark w/ red P)

- Hydrogen selenide (T,I)
DHS Chemical of Interest

- Hydrogen sulfide
DHS Chemical of Interest

- Hydroperoxide, 1-methyl-1-phenylethyl-(R)

- 3-Hydroxy-N-cis-crotonamide (T)

- beta-Hydroxypropionitrile (I,R)

- Hypochlorite compounds (T,C,I,R)

- 2-Imidazolidinethione

- Indeno[1,2,3-cd]pyrene

- Indium (T)

- Indium compounds (T)

- Inerteen (Polychlorinated byphenyls) (T)

- Iodine monochloride (T,C,R)

- Iodine pentafluoride
DHS Chemical of Interest

- Iron, pentacarbonyl-
DHS Chemical of Interest

- Iron arsenate (T)

- Iron (III) chloride (T,C)

- Isobenzan (T)

- 1,3-Isobenzofurandione

- Isobutane
DHS Chemical of Interest

- Isobutyl alcohol (I,T)

- Isobutyronitrile
DHS Chemical of Interest

- **Isodrin**
P-Listed (Mark w/ red P)

- **Isolan**
P-Listed (Mark w/ red P)

- Isooctane (T,I)

- Isooctene (mixture of isomers) (I)

- Isopentane (I)
DHS Chemical of Interest

- Isoprene (T,I,R)
DHS Chemical of Interest

- Isopropanol (T,I)

- Isopropyl acetate (T,I)

- Isopropyl alcohol (T,I)

- Isopropyl benzene

- Isopropyl chloride (I)
DHS Chemical of Interest

- Isopropyl chloroformate
DHS Chemical of Interest

- Isopropyl ether
Peroxide Forming Chemical Class III

- Isopropyl mercaptan (T,I)

- o-isopropyl methylphosphonochloridate
DHS Chemical of Interest

- o-isopropyl methylphosphonofluoridate
DHS Chemical of Interest

- O-Isopropyl methyl phosphoryl fluoride (T)

- Isopropyl percarbonate(T,C,I,R)

- Isopropylamine (T,I)
DHS Chemical of Interest

- **3-Isopropylphenyl N-methylcarbamate (T)**
P-Listed (Mark w/ red P)

- Isopropylphosphonothioic dichloride
DHS Chemical of Interest

- Isopropylphosphonyl difluoride
DHS Chemical of Interest

- Isosafrole

- 3(2H)-Isoxazolone, 5-(aminomethyl)-
P-Listed (Mark w/ red P)

- Kepone (T)

- LAH (Lithium aluminum Hydride)(C,I,R)

- LANNATE (T)
P-Listed (Mark w/ red P)

- Lasiocarpine

- Lauroyl peroxide (T,C,I,R)

- Lead acetate

- Lead azide
DHS Chemical of Interest

- Lead, bis(acetato-0)tetrahydroxytri-

- Lead compounds (T)

- Lead acetate (T)

- Lead arsenate (T)

- Lead arsenite (T)

- Lead azide (I,R)
DHS Chemical of Interest

- Lead carbonate (T)

- Lead chlorite (I,R)

- Lead cyanide (T)

- Lead 2,4-dinitroresorcinate (I,R)

- Lead mononitroresorcinate (I,R)

- Lead nitrate (T,I)

- Lead orthoarsenate (T)

- Lead oxide (T)

- Lead phosphate

- Lead styphnate (I,R)
DHS Chemical of Interest

- Lead subacetate

- Lead trinitroresorcinate (I,R)

- Lewisite (T)

- Lewisite 1
DHS Chemical of Interest

- Lewisite 2
DHS Chemical of Interest

- Lewisite 3
DHS Chemical of Interest

- Lime nitrate (I,R)

- Lindane

- Lithium (C,I,R)

- Lithium aluminum hydride (C,I,R)

- Lithium amide (C,I,R)
DHS Chemical of Interest

- Lithium ferrosilicon (I,R)

- Lithium hydride (C,I,R)

- Lithium hypochlorite (T,C,I,R)

- Lithium nitride
DHS Chemical of Interest

- Lithium peroxide (C,I,R)

- Lithium silicon (I,R)

- London purple, Mixture of arsenic trioxide, aniline, lime, and ferrous oxide (T)

- Lye (T,C)

- Magnesium (I,R)

- Magnesium (powder)
DHS Chemical of Interest

- Magnesium aluminum phosphide
DHS Chemical of Interest

- Magnesium arsenate (T)

- Magnesium arsenite (T)

- Magnesium chlorate (I,R)

- Magnesium diamide
DHS Chemical of Interest

- Magnesium dioxide (I)

- Magnesium nitrate (I,R)

- Magnesium perchlorate (T,I,R)

- Magnesium peroxide (I)

- Magnesium phosphide
DHS Chemical of Interest

- Maleic anhydride

- Maleic hydrazide

- Malonic nitrile (T)

- Malononitrile

- Manganese (powder) (I)

- Manganese acetate (T)

- Manganese arsenate

- Manganese bromide (T)

- Manganese chloride (T)

- **Manganese, bis(dimethylcarbamodithioato-S,S')-,**
P-Listed (Mark w/ red P)

- **Manganese dimethyldithiocarbamate**
P-Listed (Mark w/ red P)

- Manganese methylcyclopentadienyl tricarbonyl (T)

- Manganese nitrate (T,I)

- Manganous arsenate (T)

- Manganous bromide (T)

- Manganous chloride (T)

- Manganous nitrate (T,I)

- Mannitol hexanitrate (R)
DHS Chemical of Interest

- MARLATE (T)

- Mayer's reagent (T)
Contains Mercury (Mark w/ red P)

- MCA (Monochloracetic acid) (T,C)

- MECARBAM (T)

- MDEA
DHS Chemical of Interest

- Medinoterb acetate (T)

- MEK (Methyl ethyl ketone) (I,T)

- Melphalan

- Memtetrahydrophthalic anhydride (T)

- para-Menthane hydroperoxide (I)

- Mercuric acetate (T)
Contains Mercury (Mark w/ red P)

- Mercuric ammonium chloride (T)
Contains Mercury (Mark w/ red P)

- Mercuric benzoate (T)
Contains Mercury (Mark w/ red P)

- Mercuric bromide (T)
Contains Mercury (Mark w/ red P)

- Mercuric chloride (T)
Contains Mercury (Mark w/ red P)

- Mercuric cyanate (I,R)
Contains Mercury (Mark w/ red P)

- Mercuric dioxysulfate (T)
Contains Mercury (Mark w/ red P)

- Mercuric iodide (T)
Contains Mercury (Mark w/ red P)

- Mercuric nitrate (T,I)
Contains Mercury (Mark w/ red P)

- Mercuric oleate (T)
Contains Mercury (Mark w/ red P)

- Mercuric oxide (red and yellow) (T,I)
Contains Mercury (Mark w/ red P)

- Mercuric oxycyanide (I,R)
Contains Mercury (Mark w/ red P)

- Mercuric-potassium iodide (T)
Contains Mercury (Mark w/ red P)

- Mercuric salicylate (T)
Contains Mercury (Mark w/ red P)

- Mercuric subsulfate (T)
Contains Mercury (Mark w/ red P)

- Mercuric sulfate (T)
Contains Mercury (Mark w/ red P)

- Mercuric thiocyanide (T)
Contains Mercury (Mark w/ red P)

- Mercurol (T)
Contains Mercury (Mark w/ red P)

- Mercurous bromide (T)
Contains Mercury (Mark w/ red P)

- Mercurous gluconate (T)
Contains Mercury (Mark w/ red P)

- Mercurous iodide (T)
Contains Mercury (Mark w/ red P)

- Mercurous nitrate (I,R)
Contains Mercury (Mark w/ red P)

- Mercurous oxide (T)
Contains Mercury (Mark w/ red P)

- Mercurous sulfate (T)
Contains Mercury (Mark w/ red P)

- Mercury
Contains Mercury (Mark w/ red P)

- Mercury acetate (T)
Contains Mercury (Mark w/ red P)

- Mercury ammonium chloride (T)
Contains Mercury (Mark w/ red P)

- Mercury benzoate (T)
Contains Mercury (Mark w/ red P)

- Mercury bromide (T)
Contains Mercury (Mark w/ red P)

- Mercury chloride (T)
Contains Mercury (Mark w/ red P)

- Mercury compounds (T)
Contains Mercury (Mark w/ red P)

- Mercury cyanide (I,R)
Contains Mercury (Mark w/ red P)

- Mercury, (acetato-O)phenyl-
P-Listed (Mark w/ red P)
Contains Mercury (Mark w/ red P)

- Mercury bisulfate (T)
Contains Mercury (Mark w/ red P)

- Mercury fulminate (R,T)
P-Listed (Mark w/ red P)
Contains Mercury (Mark w/ red P)
DHS Chemical of Interest

- Mercury iodide (T)
Contains Mercury (Mark w/ red P)

- Mercury nitrate (T,I)
Contains Mercury (Mark w/ red P)

- Mercury nucleate (T)
Contains Mercury (Mark w/ red P)

- Mercury oleate (T)
Contains Mercury (Mark w/ red P)

- Mercury sulfate (T)
Contains Mercury (Mark w/ red P)

- Mercury thiocyanate (T)
Contains Mercury (Mark w/ red P)

- METAISOSYSTOX-SULFON (T)

- Metal carbonyls (T)

- Metal hydrides (I,R)

- Metal powders (T,I)

- Methacrylonitrile (I, T)
DHS Chemical of Interest

- Methanal (T,I)

- Methanamine, N-methyl- (I)

- Methanamine, N-methyl-N-nitroso-
P-Listed (Mark w/ red P)

- Methane
DHS Chemical of Interest

- Methane, bromo-

- Methane, chloro- (I, T)

- Methane, chloromethoxy-

- Methane, dibromo-

- Methane, dichloro-

- Methane, dichlorodifluoro-

- Methane, iodo-

- Methane, isocyanato-
P-Listed (Mark w/ red P)

- Methane, oxybis[chloro-
P-Listed (Mark w/ red P)

- Methane, tetrachloro-

- Methane, tetranitro- (R)
P-Listed (Mark w/ red P)

- Methane, tribromo-

- Methane, trichloro-

- Methane, trichlorofluoro-

- Methanesulfonic acid, ethyl ester

- Methanethiol (T,I)

- Methanethiol, trichloro-
P-Listed (Mark w/ red P)

- Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-arbonyl]oxy]phenyl]-, monohydrochloride
P-Listed (Mark w/ red P)

- Methanimidamide, N,N-dimethyl-N'-[2- methyl-4-[[(methylamino)carbonyl]oxy]phenyl]-
P-Listed (Mark w/ red P)

- 6,9-Methano-2,4,3-benzodioxathiepin,6,7,8,9,10, 10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P-Listed (Mark w/ red P)

- 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P-Listed (Mark w/ red P)

- Methanoic acid (T,C)

- 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-

- Methanol (I)

- Methapyrilene

- Methiocarb
P-Listed (Mark w/ red P)

- Methomyl (T)
P-Listed (Mark w/ red P)

- Methoxychlor (T)

- Methoxyethylmercuric chloride (T)
Contains Mercury (Mark w/ red P)

- S- [(5-Methoxy-4-oxo-4H-pyran-2-yl). methyl) 0,0-dimethyl phosphorothioate (T)

- S-[(5-Methoxy-2-oxo-1,3,4-thiadiazol3 (2H)-yl) methyl] -0, 0-dimethyl phosphorodithioate (T)

- Methyl acetate (T,I)

- Methyl acetone (Mixture of acetone, methyl acetate, and methylalcohol) (T,I)

- Methyl acetylene
Peroxide Forming Chemical Class II

- Methyl alcohol (I)

- Methyl bromide (T)
DHS Chemical of Interest

- Methyl butyl ether (and isomers) (T,I)

- Methyl butyrate (and isomers) (T,I)

- Methyl chloride (I,T)
DHS Chemical of Interest

- Methyl chlorocarbonate (T,I,R)

- Methyl chloroform

- Methyl chloroformate (T,I,R)
DHS Chemical of Interest

- Methyl chloromethyl ether (T,I)

- Methyl cyclopentane
Peroxide Forming Chemical Class II

- Methyl ether
DHS Chemical of Interest

- Methyl ethyl ether (T,I)

- Methyl ethyl ketone (I,T)

- Methyl ethyl ketone peroxide (R,T)

- Methyl formate (T,I)
DHS Chemical of Interest

- Methyl hydrazine (T,I)
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Methyl iodide

- Methyl isobutyl ketone (I)
Peroxide Forming Chemical Class II

- Methyl isocyanate
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Methyl isopropenyl ketone (T,I)

- Methyl mercaptan (T,I)
DHS Chemical of Interest

- Methyl methacrylate (I,T)
Peroxide Forming Chemical Class I

- S-Methyl-N-((methyl-carbamoyl) oxy) thioacetimidate (T)
P-Listed (Mark w/ red P)

- Methyl parathion (T)
P-Listed (Mark w/ red P)

- Methyl pentanoate (and isomers) (I)

- Methyl phosphonyl dichloride
DHS Chemical of Interest

- Methyl phosphonyl difluoride
DHS Chemical of Interest

- Methyl propionate (I)

- Methyl propyl ketone (and isomers) (T,I)

- Methyl thiocyanate
DHS Chemical of Interest

- Methyl sulfate

- Methyl valerate (I)

- Methyl vinyl ketone (T,I)

- Methyl yellow (Dimethylaminoazobenzene) (T)

- Methylaluminum sesquibromide (I,R)

- Methylaluminum sesquichloride (I,R)

- Methylamine (T,I)
DHS Chemical of Interest

- n-Methylaniline (T)

- 2-Methylaziridine (T,I)

- Methylbenzene (T,I)

- 1-Methylbutadiene (I)

- 2-Methyl-1,3-butadiene (T,I,R)

- 2-Methylbutane (I)

- 2-Methyl-1-butene (I)
DHS Chemical of Interest

- 3-Methyl-1-butene (I)
DHS Chemical of Interest

- 3-Methyl-3-butene-2-one (T,I)

- 3-Methylcholanthrene

- Methylchlorosilane
DHS Chemical of Interest

- Methylcyclohexane (T,I)

- Methyldichloroarsine (T)

- Methyldichlorosilane (T,I,R)
DHS Chemical of Interest

- Methyldiethanolamine
DHS Chemical of Interest

- Methylene bromide

- Methylene chloride

- 4,4-Methylene bis(2-chloroaniline) (T)

- 4,4'-Methylenebis(2-chloroaniline)

- 2-Methyllactonitrile
P-Listed (Mark w/ red P)

- Methylmagnesium bromide (C,I,R)

- Methylmagnesium chloride (C,I,R)

- Methylmagnesium iodide (C,I,R)

- 2-Methyl-2(methylthio) propionaldehyde-O-(methylcarbamoyl) oxime (T)
P-Listed (Mark w/ red P)

- 4-Methyl-2-pentanone (I)

- Methylphenyldichlorosilane
DHS Chemical of Interest

- Methylphosphonothioic dichloride
DHS Chemical of Interest

- 2-Methylpropene
DHS Chemical of Interest

- Methylthiouracil

- Methyltrichlorosilane (T,C,I,R)
DHS Chemical of Interest

- Metolcarb
P-Listed (Mark w/ red P)

- Mevinphos (T)

- Mexacarbate
P-Listed (Mark w/ red P)

- MINTACOL (T)

- Mirex (T)

- Mitomycin C

- MMH (Monomethyl hydrazine (T,I)
P-Listed (Mark w/ red P)

- MNNG (N-methyl-N-nitroso-N'-nitroguanidine)

- MOCA (4,4-Methylene bis(2chloroaniline) (T)

- 5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-

- MOCAP (O-Ethyl-S,S-dipropyl phosphorodithioate) (T)

- Molybdenum (powder) (I)

- Molybdenum anhydride (X)

- Molybdenum trioxide (T)

- Molybdic acid and salts (T)

- Monochloroacetic acid (T,C)

- Monochloroacetone (T)

- Monofluorophosphoric acid (T,C)

- **Monomethyl hydrazine (T,I)**
P-Listed (Mark w/ red P)

- Muriatic Acid (T,C,R)

-O-Mustard(T)
DHS Chemical of Interest

- 1-NA (1-Naphthalenamine)

- 2-NA (2-Naphthalenamine)

- Nack (Sodium potassium alloy) (C,I,R)

- Naphtite (I,R)

- Naphtha (of petroleum or coal tar origin) (T,I)

- 1-Naphthalenamine

- 2-Naphthalenamine

- Naphthalenamine, N,N'-bis(2-chloroethyl)-

- Naphthalene

- Naphthalene, 2-chloro-

- 1,4-Naphthalenedione

- 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-,tetrasodium salt

- 1-Naphthalenol, methylcarbamate

- 1,4-Naphthoquinone

- alpha-Naphthylamine

- beta-Naphthylamine

- **alpha-Naphthylthiourea**
P-Listed (Mark w/ red P)

- 4-NBP (4-Nitrobiphenyl) (T)

- Nemagon

- Neohexane

- **NIA 10,242 (T)**
P-Listed (Mark w/ red P)

- NIALATE (T)

- Nickel (powder) (T,I)

- Nickel acetate (T)

- Nickel antimonide (T)

- Nickel arsenate (T)

- **Nickel carbonyl (T)**
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Nickel chloride (T)

- **Nickel cyanide**
P-Listed (Mark w/ red P)

- Nickel nitrate (T,I,R)

- Nickel selenide (T)

- Nickel sulfate (T)

- **Nickel tetracarbonyl (T)**
P-Listed (Mark w/ red P)

- Nickelous arsenate (T)

- Nickelous chloride (T)

- Nickelous nitrate (X,I,R)

- **Nicotine, & salts (T)**
P-Listed (Mark w/ red P)

- Nitraniline (ortho, meta, para) (I,R)

- Nitric acid (T,C,I)
DHS Chemical of Interest

- Nitric acid, thallium(1+) salt

- **Nitric oxide**
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Nitro carbo nitrate (I,R)

- Nitro urea
DHS Chemical of Interest

- Nitroaniline (I,R)

- **p-Nitroaniline**
P-Listed (Mark w/ red P)

- Nitrobenzene (I,T)
DHS Chemical of Interest

- Nitrobenzol (I,T)

- 5-Nitrobenzotriazol
DHS Chemical of Interest

- 4-Nitrobiphenyl (T)

- Nitrocalcite (I,R)

- Nitrocellulose (I,R)
DHS Chemical of Interest

- Nitrochlorobenzene (T)

- **Nitrogen dioxide (T,I)**

P-Listed (Mark w/ red P)

- Nitrogen mustard (T,C)

- Nitrogen mustard hydrochloride
DHS Chemical of Interest

- **Nitrogen oxide NO**
P-Listed (Mark w/ red P)

- **Nitrogen oxide**
P-Listed (Mark w/ red P)

- **Nitrogen tetroxide (T,I)**
P-Listed (Mark w/ red P)

- Nitrogen trioxide
DHS Chemical of Interest

- **Nitroglycerine (T,I,R)**
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Nitroguanidine
DHS Chemical of Interest

- Nitrohydrochloric acid (T,C,I)

- Nitromannite (R)
DHS Chemical of Interest

- Nitromethane
DHS Chemical of Interest

- Nitrophenol (ortho, meta, para) (T)

- 2-Nitropropane (I,T)

- N-Nitrosodi-n-butylamine

- N-Nitrosodiethanolamine

- N-Nitrosodiethylamine

- **N-Nitrosodimethylamine (T)**
P-Listed (Mark w/ red P)

- N-Nitroso-N-ethylurea

- Nitrosoguanidine (R)

- N-Nitroso-N-methylurea

- N-Nitroso-N-methylurethane

- **N-Nitrosomethyl-vinylamine**
P-Listed (Mark w/ red P)

- N-Nitrosopiperidine

- N-Nitrosopyrrolidine

- Nitrostarch (I,R)
DHS Chemical of Interest

- Nitrosyl chloride
DHS Chemical of Interest

- 5-Nitro-o-toluidine

- Nitrotriazolone
DHS Chemical of Interest

- Nitroxylene (T)

- Nitroxylol (T)

- 1-Nonene (T,I)

- 1-Nonylene (and isomers) (T,I)

- Nonyltrichlorosilane (I,R)
DHS Chemical of Interest

- OCMB (ortho-Chlorobenzylidene malonitrile) (T)

- 1,3,4,5,6,7,8,8-Octachloro-1,3,3a,4, 7,7a-hexahydro-4,7-methanoisobenzofuran (T)

- 1,2,4,5,6,7,8,8-Octachloro-4,7-methano-3a,4,7,7a-tetra-hydro- indane; (T)

- Octadecyltrichlorosilane (I,R)
DHS Chemical of Interest

- **Octamethylpyrophosphor-amide**
P-Listed (Mark w/ red P)

- n-Octane (and isomers) (T,I)

- 1-Octene (T,I)

- Octolite
DHS Chemical of Interest

- Octonal
DHS Chemical of Interest

- Octyl peroxide (I)

- Octyltrichlorosilane (I,R)
DHS Chemical of Interest

- Oil of vitriol (Sulfuric Acid) (T,C)

- Oleum
DHS Chemical of Interest

- **OMPA (Octamethyl pyrophosphoramide) (T)**
P-Listed (Mark w/ red P)

- Orthozenol (T)

- Osmium compounds (T)

- **Osmium oxide**
P-Listed (Mark w/ red P)

- **Osmium Tetroxide**
P-Listed (Mark w/ red P)

- 7-Oxa-bicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P-Listed (Mark w/ red P)

- Oxalic acid (T)

- Oxamyl
P-Listed (Mark w/ red P)

- 1,2-Oxathiolane, 2,2-dioxide

- 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide

- Oxirane (I,T)

- Oxiranecarboxyaldehyde

- Oxirane, (chloromethyl)-2 Paraldehyde

- Oxygen difluoride (T,C,R)
DHS Chemical of Interest

- Para-oxon (T)

- Paramenthane hydroperoxide (I)

- Parathion (T)
P-Listed (Mark w/ red P)

- Paris green (Copper acetoarsenite) (T)

- PCB (Polychlorinated biphenyls)

- PCP (Pentachlorophenol) (T)

- PENSAL (T)

- Pentaborane (T,I,R)

- Pentachlorobenzene

- Pentachloroethane

- Pentachloronitrobenzene (PCNB)

- Pentachlorophenol (T)

- 1,3-Pentadiene
DHS Chemical of Interest

- Pentaerythrite tetranitrate (R)
DHS Chemical of Interest

- Pentaerythritol tetranitrate (R)

- Pentafluoro-2-(trifluoromethyl)-1-propene
DHS Chemical of Interest

- Pentanol, 4-methyl-

- 1,3-Pentadiene (I)
DHS Chemical of Interest

- n-Pentanal (and isomers) (T,I)

- Pentane
DHS Chemical of Interest

- 1-Pentane
DHS Chemical of Interest

- n-Pentane (and isomers) (T,I)

- 1-Pentanethiol (and isomers) (T,I)

- 2-Pentanone,

- 1-Pentene (and isomers) (T,I)
DHS Chemical of Interest

- 2-Pentene, (E)-
DHS Chemical of Interest

- 2-Pentene, (Z)-
DHS Chemical of Interest

- Pentolite
DHS Chemical of Interest

- n-Pentyl nitrite (and isomers) (T,I)

- Peracetic acid (T,C,I,R)
DHS Chemical of Interest

- Perchloric acid (T,C,I,R)

- Perchloroethylene (T)

- Perchloromethyl mercaptan (T)
DHS Chemical of Interest

- Perchloromethylmercaptan
DHS Chemical of Interest

- Perchloryl fluoride (T,C,I)
DHS Chemical of Interest

- Peroxyacetic acid (T,C,I,R)

- PETN (Pentaerythrite tetranitrate)
DHS Chemical of Interest

- Petroleum ether (T,I)

- Petroleum naphtha (T,I)

- Pextox 14 (Tetramethylphosphor-odiamidic fluoride) (T)

- Phenacetin

- Phenarsazine chloride (T)

- Phenol (T,C)

- Phenol, 2-chloro-

- Phenol, 4-chloro-3-methyl-

- Phenol, 2-cyclohexyl-4,6-dinitro-
P-Listed (Mark w/ red P)

- Phenol, 2,4-dichloro-

- Phenol, 2,6-dichloro-

- Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-

- Phenol, 2,4-dimethyl-

- Phenol, 4-(dimethylamino)-3,5-dimethyl- , methylcarbamate (ester)
P-Listed (Mark w/ red P)

- Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P-Listed (Mark w/ red P)

- Phenol, 2,4-dinitro-
P-Listed (Mark w/ red P)

- Phenol, methyl-

- Phenol, 2-methyl-4,6-dinitro-, & salts
P-Listed (Mark w/ red P)

- Phenol, 2,2'-methylenebis[3,4,6-trichloro-

- Phenol, 2-(1-methylethoxy)-, methylcarbamate

- Phenol, 3-(1-methylethyl)-, methyl carbamate
P-Listed (Mark w/ red P)

- Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate
P-Listed (Mark w/ red P)

- Phenol, 2-(1-methylpropyl)-4,6-dinitro- ***P-Listed (Mark w/ red P)***

- Phenol, 4-nitro-

- Phenol, pentachloro-

- Phenol, 2,3,4,6-tetrachloro-

- Phenol, 2,4,5-trichloro-

- Phenol, 2,4,6-trichloro-

- Phenol, 2,4,6-trinitro-, ammonium salt(R)
P-Listed (Mark w/ red P)

- L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-

- N-Phenylaniline (T)

- Phenylbenzene (T)

- Phenyldichloroarsine (T)

- Phenylenediamine (T)

- Phenylethane (T,I)

- Phenylhydrazine hydrochloride (T)

- Phenylmercury acetate
P-Listed (Mark w/ red P)
Contains Mercury (Mark w/ red P)

- Phenylphenol (T)

- Phenylthiourea
P-Listed (Mark w/ red P)

- Phenyltrichorosilane (I,R)
DHS Chemical of Interest

- Phorate (T)
P-Listed (Mark w/ red P)

- PHOSDRIN (T)

- Phosfolan (T)

- Phosgene (I,R)
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Phosphamidon (T)

- Phosphine (T,I)
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Phosphoric acid (C)

- Phosphoric acid, diethyl 4-nitrophenyl ester
P-Listed (Mark w/ red P)

- Phosphoric acid, lead(2+) salt (2:3)

- Phosphoric anhydride (C,I)

- Phosphoric chloride (T,C,I,R)

- Phosphoric sulfide (T,C,I,R)

- Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P-Listed (Mark w/ red P)

- Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P-Listed (Mark w/ red P)

- Phosphorodithioic acid, O,O-diethyl S- methyl ester

- Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P-Listed (Mark w/ red P)

- Phosphorofluoridic acid, bis(1-methylethyl) ester
P-Listed (Mark w/ red P)

- Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P-Listed (Mark w/ red P)

- Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P-Listed (Mark w/ red P)

- Phosphorothioic acid,O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P-Listed (Mark w/ red P)

- Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P-Listed (Mark w/ red P)

- Phosphorus
DHS Chemical of Interest

- Phosphorus (amorphous, red) (T,I,R)
DHS Chemical of Interest

- Phosphorus (white or yellow) (T,I,R)
DHS Chemical of Interest

- Phosphorus oxybromide (T,C,R)

- Phosphorus oxychloride (T,C,R)
DHS Chemical of Interest

- Phosphorus pentabromide
DHS Chemical of Interest

- Phosphorus pentachloride (T,C,I,R)
DHS Chemical of Interest

- Phosphorus pentasulfide (T,C,I,R)
DHS Chemical of Interest

- Phosphorus pentoxide (C,I)

- Phosphorus sesquisulfide (T,C,I,R)

- Phosphorus sulfide (R)

- Phosphorus tribromide (T,C,R)

- Phosphorus trichloride (T,C,R)
DHS Chemical of Interest

- Phosphoryl bromide (T,C,R)

- Phosphoryl chloride (T,C,R)

- PHOSTOXIN (R,T)
P-Listed (Mark w/ red P)

- Phthalic anhydride

- Physostigmine
P-Listed (Mark w/ red P)

- Physostigmine salicylate
P-Listed (Mark w/ red P)

- 2-Picoline

- Picramide (I,R)

- Picric acid (I,R)

- Picrite
DHS Chemical of Interest

- Picrotoxin (T)

- Picryl chloride (I,R)

- Piperidine
DHS Chemical of Interest

- Piperidine, 1-nitroso-

-o-pinacolyl methylphosphonochloridate
DHS Chemical of Interest

-o-pinacolyl methylphosphonofluoridate
DHS Chemical of Interest

- Platinum compounds (T)

- Plumbane, tetraethyl-
P-Listed (Mark w/ red P)

- Polychlorinated biphenyls

- Polychlorocamphene (T)
P-Listed (Mark w/ red P)

- Polyvinyl nitrate (I,R)

- Potasan (T)

- Potassium (C,I,R)

- Potassium (metal)
Peroxide Forming Chemical Class III

- Potassium acid fluoride (T,C)

- Potassium acid oxalate (T)

- Potassium amide
Peroxide Forming Chemical Class III

- Potassium arsenate (T)

- Potassium arsenite (T)

- Potassium bichromate (T,C,I)

- Potassium bifluoride (T,C)

- Potassium binoxalate (T)

- Potassium bromate (T,I)

- Potassium chlorate
DHS Chemical of Interest

- Potassium cyanide
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Potassium dichloroisocyanurate (T,I)

- Potassium dichromate (T,C,I)

- Potassium fluoride (T)

- Potassium hydride (C,I,R)

- Potassium hydroxide (T,C)

- Potassium nitrate (I,R)
DHS Chemical of Interest

- Potassium nitrite (I,R)

- Potassium oxalate (T)

- Potassium perchlorate (T,I,R)
DHS Chemical of Interest

- Potassium permanganate (T,C,I)
DHS Chemical of Interest

- Potassium peroxide (C,I,R)

- Potassium phosphide
DHS Chemical of Interest

- Potassium silver cyanide
P-Listed (Mark w/ red P)

- Potassium sulfide (T,I)

- Promecarb
P-Listed (Mark w/ red P)

- Pronamide

- Propadiene
DHS Chemical of Interest

- Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P-Listed (Mark w/ red P)

- Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime
P-Listed (Mark w/ red P)

- 1-Propanamine (I,T)

- 1-Propanamine, N-nitroso-N-propyl-

- 1-Propanamine, N-propyl- (I)

- Propane
DHS Chemical of Interest

- Propane, 1,2-dibromo-3-chloro-

- Propane, 1,2-dichloro-

- Propane, 2-nitro- (I,T)

- Propane, 2,2'-oxybis[2-chloro-

- 1,3-Propane sultone

- Propanedinitrile

- Propanenitrile
P-Listed (Mark w/ red P)

- Propanenitrile, 3-chloro-
P-Listed (Mark w/ red P)

- Propanenitrile, 2-hydroxy-2-methyl-
P-Listed (Mark w/ red P)

- 1-Propanethiol (T,I)

- 2-Propanethiol (T,I)

- 1,2,3-Propanetriol, trinitrate (R)
P-Listed (Mark w/ red P)

- Propanoic acid (T,C,I)

- Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

- Propanal (T,I)

- 1-Propanol (T,I)

- 2-Propanol (T,I)

- 1-Propanol, 2,3-dibromo-, phosphate (3:1)

- 1-Propanol, 2-methyl- (I,T)

- Propanone (I)

- 2-Propanone (I)

- 2-Propanone, 1-bromo-
P-Listed (Mark w/ red P)

- Propargyl alcohol
P-Listed (Mark w/ red P)

- Propargyl bromide (T,I)

- Propenal
P-Listed (Mark w/ red P)

- 2-Propenamide

- 1-Propene, 1,3-dichloro-

- 1-Propene, 1,1,2,3,3,3-hexachloro-

- 2-Propenenitrile

- 2-Propenenitrile, 2-methyl- (I,T)

- Propen-1-ol
P-Listed (Mark w/ red P)

- 2-Propenoic acid (I)

- 2-Propenoic acid, ethyl ester (I)

- 2-Propenoic acid, 2-methyl-, ethyl ester

- 2-Propenoic acid, 2-methyl-, methyl ester (I,T)

- 2-Propen-l-ol
P-Listed (Mark w/ red P)

- Propham

- beta-Propiolactone (T)

- Propionaldehyde (T,I)

- Propionic acid (T,C,I)

- Propionitrile
DHS Chemical of Interest

- Propoxur

- n-Propyl acetate (T,I)

- n-Propyl alcohol (T,I)

- Propyl chloroformate
DHS Chemical of Interest

- n-Propyl formate (T,I)

- n-Propyl mercaptan

- n-Propylamine (and isomers) (I,T)

- Propylene
DHS Chemical of Interest

- Propylene dichloride (T,I)

- Propylene oxide (T,I)
DHS Chemical of Interest

- Propyleneimine (T,I)
DHS Chemical of Interest

- 2-Propylenimine
P-Listed (Mark w/ red P)

-Propylphosphonyl difluoride
DHS Chemical of Interest

- Propyltrichlorosilane
DHS Chemical of Interest

- n-Propyltrichlorosilane (T,C,I,R)
DHS Chemical of Interest

- Propyn-1-ol
P-Listed (Mark w/ red P)

- Propyne
DHS Chemical of Interest

- Prosulfocarb

- Prothoate (T)

- Pyranol (Polychlorinated byphenyls) (T)

- 3,6-Pyridazinedione, 1,2-dihydro-

- Pyridinamine
P-Listed (Mark w/ red P)

- Pyridine

- Pyridine, 2-methyl-

- Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P-Listed (Mark w/ red P)

- beta-pyridyl-alpha-N-methyl pyrrolidine (T)
P-Listed (Mark w/ red P)

- 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-

- 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-

- Pyrosulfuryl chloride (T,C,R)

- Pyroxylin (I,R)

- Pyroxylin (nitrocellulose) in ether and alcohol (I,R)

- Pyrrolidine, 1-nitroso-

- Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-
P-Listed (Mark w/ red P)

- QL
DHS Chemical of Interest

- Quinone (T)

- Quinuclidine-3-ol
DHS Chemical of Interest

- 3-Quinuclidinyl benzilate (BZ)
DHS Chemical of Interest

- Raney nickel (I)

- RACUMIN 57 (4-Hydroxy-3-(1,2,3,4-tetrahydro-1-naphthalenyl)-2H-1-benzopyran-2-one) (T)

- RATOX (T)
P-Listed (Mark w/ red P)

- Reserpine

- Resorcinol

- RDX and HMX mixtures
DHS Chemical of Interest

- Saccharin, & salts

- Safrole

- Salicylated mercury (T)
Contains Mercury (Mark w/ red P)

- Saltpeter (I,R)

- Sarin
DHS Chemical of Interest

- **Schradan (T)**
P-Listed (Mark w/ red P)

- Selenious acid

- **Selenious acid, dithallium(1+) salt**
P-Listed (Mark w/ red P)

- Selenium (T)

- Selenium compounds (T)

- Selenium dioxide

- Selenium fluoride (T)

- Selenium hexafluoride
DHS Chemical of Interest

- Selenium sulfide

- **Selenourea**
P-Listed (Mark w/ red P)

- Selenous acid (T)

- Selenious acid and salts (T)

- L-Serine, diazoacetate (ester)

- Sesquimustard
DHS Chemical of Interest

- Silane
DHS Chemical of Interest

- Silicochloroform (T,C,I,R)

- Silicon chloride (T,C,R)

- Silicon tetrachloride (T,C,R)
DHS Chemical of Interest

- Silicon tetrafluoride
DHS Chemical of Interest

- Silver acetylide (I,R)

- Silver azide (I,R)

- Silver compounds (T)

- **Silver cyanide**
P-Listed (Mark w/ red P)

- Silver nitrate (T)

- Silver styphnate (I,R)

- Silver tetrazene (I,R)

- Silver trinitroresorcinate (I,R)

- Silvex (2,4,5-TP)

- Soda niter (T,I,R)

- Sodamide (C,I,R)
Peroxide Forming Chemical Class III

- Sodium (C,I,R)

- Sodium acid fluoride (T,C)

- Sodium aluminate (C)

- Sodium aluminum hydride (C,I,R)

- Sodium amide (C,I,R)
Peroxide Forming Chemical Class III

- Sodium arsenate (T)

- Sodium arsenite (T)

- **Sodium azide**
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Sodium bichromate (T,C,I)

- Sodium bifluoride (T,C)

- Sodium bromate (T,I)

- Sodium cacodylate (T)

- Sodium carbonate peroxide (I)

- Sodium chlorate (T,I)
DHS Chemical of Interest

- Sodium chlorite (T,I)

- Sodium chromate (T,C)

- **Sodium cyanide**
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Sodium dichloroisocyanurate (I)

- Sodium dichromate (T,C,I)

- Sodium dimethylarsenate (T)

- Sodium dinitro-o-cresolate
DHS Chemical of Interest

- Sodium dithionite
DHS Chemical of Interest

- Sodium fluoride (T)

- Sodium hydride (T,C,I,R)

- Sodium hydrosulfide (T,I)

- Sodium hydrosulfite
DHS Chemical of Interest

- Sodium hyposulfite (I)

- Sodium hydroxide (T,C)

- Sodium hypochlorite (T,I,R)

- Sodium methylate (C,I,R)

- Sodium methoxide (C,I,R)

- Sodium molybdate (T)

- Sodium monoxide (T,C)

- Sodium nitrate (T,I,R)
DHS Chemical of Interest

- Sodium nitrite (T,I,R)

- Sodium oxide (T,C)

- Sodium perchlorate (T,I,R)

- Sodium permanganate (T,I)

- Sodium peroxide (T,I,R)

- Sodium phosphide
DHS Chemical of Interest

- Sodium picramate (T,I,R)
DHS Chemical of Interest

- Sodium potassium alloy (C,I,R)

- Sodium selenate (T)

- Sodium sulfide (T,I)

- Sodium sulfocyanate (T)

- Sodium thiocyanate (T)

- Soman
DHS Chemical of Interest

- Stannic chloride (T,C)

- Starch nitrate (I,R)

- Stibine
DHS Chemical of Interest

- Streptozotocin

- Strontium arsenate (T)

- Strontium dioxide (I,R)

- Strontium nitrate (T,I,R)

- Strontium peroxide (I,R)

- Strontium phosphide
DHS Chemical of Interest

- **Strychnidin-10-one, & salts**
P-Listed (Mark w/ red P)

- **Strychnidin-10-one, 2,3-dimethoxy-**
P-Listed (Mark w/ red P)

- **Strychnine, & salts**
P-Listed (Mark w/ red P)

- Styphnic acid (I,R)

- Styrene (T,I)
Peroxide Forming Chemical Class I

- Succinic acid peroxide (T,I)

- Sulfide salts (soluble) (X)

- Sulfonyl chloride (T,C,R)

- **Sulfotepp (T)**
P-Listed (Mark w/ red P)

- Sulfur chloride (T,C,R)

- Sulfur dichloride
DHS Chemical of Interest

- Sulfur dioxide, anhydrous
DHS Chemical of Interest

- Sulfur monochloride (T,C,R)
DHS Chemical of Interest

- Sulfur mustard (T,C,R)
DHS Chemical of Interest

- Sulfur oxychloride (T,C,R)

- Sulfur pentafluoride (T,C)

- Sulfur phosphide (R)

- Sulfur tetrafluoride
DHS Chemical of Interest

- Sulfur trioxide (T,C,I)
DHS Chemical of Interest

- Sulfuric acid (T,C)

- Sulfuric acid, fuming
DHS Chemical of Interest

- Sulfuric anhydride (T,C,I)

- Sulfuric acid, dimethyl ester

- **Sulfuric acid, dithallium(1+) salt**
P-Listed (Mark w/ red P)

- Sulfurous acid (T,C)

- Sulfuryl chloride (T,C,R)
DHS Chemical of Interest

- Sulfuryl fluoride (T,C,R)
DHS Chemical of Interest

- Sulfonyl fluoride (T,C,R)

- SUPRACIDE (T)

- SURECIDE (T)

- SYSTOX (T)

- 2,4,5-T (2,4,5-Trichlorophenoxyacetic acid) (T)

- Tabun
DHS Chemical of Interest

- TCDD (2,3,7,8-Tetrachlorodibenzo-para-dioxin) (T)

- TDI (Toluene-2,4-diisocyanate) (I,R)

- TEDP (Tetraethyl dithiopyrophosphate) (T)
P-Listed (Mark w/ red P)

- TEL (Tetraethyl lead) (and other organic lead) (T,I)

- Tellurium hexafluoride (T,C)
DHS Chemical of Interest

- TELODRIN (T)

- TEMIK (T)
P-Listed (Mark w/ red P)

- TEPA (Triethylenephosphoramide) (T)

- TEPP (Tetraethyl pyrophosphate) (T)

- 1,2,4,5-Tetrachlorobenzene

- 2,3,7,8-Tetrachlorodibenzo-para-dioxin (T)

- sym-Tetrachloroethane (T)

- 1,1,1,2-Tetrachloroethane

- 1,1,2,2-Tetrachloroethane

- Tetrachloroethylene (T)

- Tetrachloromethane

- 2,3,4,6-Tetrachlorophenol

- Tetraethyl lead
P-Listed (Mark w/ red P)

- Tetraethyl pyrophosphate
P-Listed (Mark w/ red P)

- Tetraethyldithiopyro-phosphate
P-Listed (Mark w/ red P)

- O,O,O',O'-Tetraethyl-S,S-methylenediphos-phorodithioate (T)

- Tetrafluoroethylene
Peroxide Forming Chemical Class I
DHS Chemical of Interest

- Tetrahydrofuran (T,I)
Peroxide Forming Chemical Class II

- Tetrahydronaphthalene (T)
Peroxide Forming Chemical Class II

- Tetrahydrophthalic anhydride (T)

- TETRALIN (T)

- Tetramethyl lead (T,I)
DHS Chemical of Interest

- Tetramethyl succinonitrile (T)

- Tetramethyllead
DHS Chemical of Interest

- Tetramethylsilane
DHS Chemical of Interest

- Tetramethylphosphor-odiamidic fluoride (T)

- O,O-Tetramethylthiuram monosulfide (T)

- Tetranitroaniline
DHS Chemical of Interest

- Tetranitromethane (R)
P-Listed (Mark w/ red P)
DHS Chemical of Interest

- Tetraphosphoric acid, hexaethyl ester
P-Listed (Mark w/ red P)

- Tetraphosphorus trisulfide (T,C,I,R)

- Tetrasul (T)

- Tetrazene (I,R)
DHS Chemical of Interest

- Tetrazol-1-acetic acid
DHS Chemical of Interest

- 1H-Tetrazole
DHS Chemical of Interest

- THF (Tetrahydrofuran) (T,I)
Peroxide Forming Chemical Class II

- Thallic oxide
P-Listed (Mark w/ red P)

- Thallium (T)

- Thallium(I) acetate

- Thallium(I) carbonate

- Thallium chloride

- Thallium(I) chloride

- Thallium compounds (T)

- Thallium(I) nitrate

- Thallium oxide
P-Listed (Mark w/ red P)

- Thallium(I) selenite
P-Listed (Mark w/ red P)

- Thallium(I) sulfate
P-Listed (Mark w/ red P)

- Thallous sulfate (T)
P-Listed (Mark w/ red P)

- THIMET (T)
P-Listed (Mark w/ red P)

- Thioacetamide

- Thiocarbonylchloride (T,C,R)

- THIODAN (T)
P-Listed (Mark w/ red P)

- Thiodicarb

- Thiodiglycol
DHS Chemical of Interest

- Thiodiphosphoric acid, tetraethyl ester
P-Listed (Mark w/ red P)

- Thiofanox
P-Listed (Mark w/ red P)

- Thioimidodicarbonic diamide
P-Listed (Mark w/ red P)

- Thiomethanol (I,T)

- Thionazin

- Thionyl chloride (T,C,R)
DHS Chemical of Interest

- Thiopbosgene (T,C,R)

- Thioperoxydicarbonic diamide, tetramethyl-

- Thiophanate-methyl

- Thiophenol
P-Listed (Mark w/ red P)

- Thiophosphoryl chloride (T,C,R)

- Thiosemicarbazide
P-Listed (Mark w/ red P)

- Thiourea

- Thiourea, (2-chlorophenyl)-
P-Listed (Mark w/ red P)

- Thiourea, 1-naphthalenyl-
P-Listed (Mark w/ red P)

- Thiourea, phenyl-
P-Listed (Mark w/ red P)

- Thiram

- Thorium (powder) (I)

- Tin compounds (organic) (T)

- Tin tetrachloride (T,C)

- Tirpate
P-Listed (Mark w/ red P)

- Titanium (powder) (I)

- Titanium sulfate (T)

- Titanium tetrachloride (T,C,R)
DHS Chemical of Interest

- Titanic chloride (T,C,R)

- TMA (Trimethylamine) (T,I)

- TML (Tetramethyl lead) (T,I)

- TNB (1,3,5-Trinitrobenzene) (I,R,T)

- TNT (2,4,6-Trinitrotoluene) (T,I,R)
DHS Chemical of Interest

- Toluene (T,I)

- Toluene diisocyanate (R,T)

- Toluenediamine

- Toluene diisocyanate (unspecified isomer)
DHS Chemical of Interest

- Toluene-2,4-diisocyanate (I,R)
DHS Chemical of Interest

- Toluene- 2,6-diisocyanate
DHS Chemical of Interest

- Toluidine (T)

- o-Toluidine

- p-Toluidine

- o-Toluidine hydrochloride

- Torpex
DHS Chemical of Interest

- Toxaphene (T)
P-Listed (Mark w/ red P)

- TRANID (T)

- Triallate

- Triamiphos

- 1H-1,2,4-Triazol-3-amine

- Trichlorethene (T)

- Trichloroacetaldehyde (hydrated) (T)

- 1,1,1-Trichloro-2,2-bis(chlorophenyl) ethane (X)

- Trichloroborane (T,C,R)

- 1,1,2-Trichloroethane

- Trichloroethylene (T)

- Trichloroisocyanuric acid (T,I)

- Trichloromethane

- **Trichloromethanethiol**
P-Listed (Mark w/ red P)

- 1,1,1-Trichloro-2, -bis (p-methoxyphenyl) ethane (T)

- Trichloromethylsulfenyl chloride (T)

- Trichloromonofluoro-methane

- Trichloronitromethane (T)

- 2,4,5-Trichlorophenol

- 2,4,6-Trichlorophenol

- 2,4,5-Trichlorophenoxyacetic acid

- Trichlorosilane (T,C,I,R)
DHS Chemical of Interest

- Triethanolamine
DHS Chemical of Interest

-Triethanolamine hydrochloride
DHS Chemical of Interest

- Triethyl phosphate
DHS Chemical of Interest

- Triethylamine

- Triethylenephosphoramide (T)

- Trifluoroacetyl chloride
DHS Chemical of Interest

- Trifluorochloroethylene
DHS Chemical of Interest

- Trifluoromethylbenzene (T,I)

- Trimethyl phosphite
DHS Chemical of Interest

- Trimethylamine (T,I)
DHS Chemical of Interest

- Trimethylchlorosilane
DHS Chemical of Interest

- 2,2,4-Trimethylpentane (T,I)

- Trinitroaniline (I,R)
DHS Chemical of Interest

- Trinitroanisole (I,R)
DHS Chemical of Interest

- Trinitrobenzene
DHS Chemical of Interest

- 1,3,5-Trinitrobenzene (I,R,T)

- Triitrobenzenesulfonic acid
DHS Chemical of Interest

- Trinitrobenzoic acid
DHS Chemical of Interest

- 2,4,6-Trinitrobenzoic acid (I,R)

- Trinitrochlorobenzene
DHS Chemical of Interest

- Trinitrofluorenone
DHS Chemical of Interest

- **Trinitroglycerin (T,I,R)**
P-Listed (Mark w/ red P)

- Trinitro-meta-cresol
DHS Chemical of Interest

- Trinitronaphthalene (I,R)
DHS Chemical of Interest

- Trinitrophenetole
DHS Chemical of Interest

- Trinitrophenol (I,R)
DHS Chemical of Interest

- 2,4,6-Trinitrophenyl methyl ether (I,R)

- Trinitroresorcinol
DHS Chemical of Interest

- 2,4,6-Trinitroresorcinol (I,R)

- Trinitrotoluene
DHS Chemical of Interest

- 2,4,6-Trinitrotoluene (T,I,R)

- 1,3,5-Trioxane, 2,4,6-trimethyl-

- tris(1-Aziridinyl) phosphine oxide (T)

- Tris(2,3-dibromopropyl) phosphate

- TRITHION (T)

- Tritonal
DHS Chemical of Interest

- Trypan blue

- Tungsten hexafluoride
DHS Chemical of Interest

- Tungstic acid and salts (T)

- Turpentine (T,I)

- UDMH (1,1-Dimethylhdrazine)

- ULTRACIDE (T)

- Uracil mustard

- Uranyl nitrate (T,I,R)

- Uranium hexafluoride
DHS Chemical of Interest

- Uranium nitrate (T,I,R)

- Urea
DHS Chemical of Interest

- Urea, N-ethyl-N-nitroso-

- Urea, N-methyl-N-nitroso-

- Urea nitrate (T,I,R)
DHS Chemical of Interest

- n-Valeraldehyde (T,I)

- Vanadic acid, ammonium salt
P-Listed (Mark w/ red P)

- Vanadic acid anhydride (T)
P-Listed (Mark w/ red P)

- Vanadic acid salts (T)

- Vanadium oxide
P-Listed (Mark w/ red P)

- Vanadium oxytrichloride (T,C)

- Vanadium Pentoxide (T)
P-Listed (Mark w/ red P)

- Vanadium sesquioxide (T)

- Vanadium sulfate (T)

- Vanadium tetrachloride (T,C)

- Vanadium tetraoxide (T)

- Vanadium trioxide (T)

- Vanadyl sulfate (T)

- VAPONA (T)

- VC (Vinylidene chloride) (T,I)
Peroxide Forming Chemical Class III

- Vinyl acetate (I,T)
Peroxide Forming Chemical Class I

- Vinyl acetate monomer
DHS Chemical of Interest

- Vinyl acetylene
Peroxide Forming Chemical Class I
DHS Chemical of Interest

- Vinyl chloride
Peroxide Forming Chemical Class I
DHS Chemical of Interest

- Vinyl ethers
Peroxide Forming Chemical Class II

- Vinyl ethyl ether (I)
Peroxide Forming Chemical Class II
DHS Chemical of Interest

- Vinyl fluoride
DHS Chemical of Interest

- Vinyl isopropyl ether (I)
Peroxide Forming Chemical Class II

- Vinyl methyl ether
DHS Chemical of Interest

- Vinyl pyridine
Peroxide Forming Chemical Class I

- Vinylamine, N-methyl-N-nitroso-
P-Listed (Mark w/ red P)

- Vinylbenzene (T,I)
Peroxide Forming Chemical Class I

- Vinylidene chloride (T,I)
Peroxide Forming Chemical Class III
DHS Chemical of Interest

- Vinylidene fluoride
DHS Chemical of Interest

- Vinyltrichlorosilane (T,C,I,R)
DHS Chemical of Interest

- VX (O-Ethyl methyl phosphoryl N,N-diisopropyl thiocholine) (T)
DHS Chemical of Interest

- Warfarin, & salts, when present at concentrations greater than 0.3%
P-Listed (Mark w/ red P)

- Warfarin, & salts, when present at concentrations of 0.3% or less

- WEPSYN 155 (T)

- WP 155 (para-(5-Amino-3-phenyl-1H-1,2,4-triazol-1-

yl)-N,N,N',N'-tetramethyl phosphonic diamide) (T)

- Xylene (I)

- Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-

- ZECTRAM (T)
P-Listed (Mark w/ red P)

- Zinc (powder) (I)

- Zinc ammonium nitrate (T,I)

- Zinc arsenate (T)

- Zinc arsenite (T)

- Zinc chloride (T,C)

- Zinc compounds (T)

- Zinc cyanide
P-Listed (Mark w/ red P)

- Zinc, bis (dimethylcarbamodithioato-S,S')-
P-Listed (Mark w/ red P)

- Zinc dithionite
DHS Chemical of Interest

- Zinc dioxide (T,I,R)

- Zinc ethyl (C,I,R)

- Zinc hydrosulfite
DHS Chemical of Interest

- Zinc nitrate (T,I,R)

- Zinc permanganate (T,I)

- Zinc peroxide (T,I,R)

- Zinc phosphide when present at concentrations greater than 10% (R,T)
P-Listed (Mark w/ red P)

- Zinc phosphide, when present at concentrations of 10% or less

- Zinc sulfate (T)

- ZINOPHOS (T)

- Ziram
P-Listed (Mark w/ red P)

- Zirconium (powder) (I)

- Zirconium chloride (T,C,R)

- Zirconium picramate (I)
DHS Chemical of Interest

- Zirconium tetrachloride (T,C,R)

Characteristics of Hazardous Chemicals

Characteristics of Hazardous Waste: Ignitability (D001)

40 CFR - CHAPTER I -261.21

(a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60 °C (140 °F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, see § 260.11), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, see § 260.11), or as determined by an equivalent test method approved by the Administrator under procedures set forth in §§ 260.20 and 260.21.

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under §§ 260.20 and 260.21.

(4) It is an oxidizer as defined in 49 CFR 173.151.

(b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990]

Characteristics of Hazardous Waste: Corrosivity (D002)

40 CFR - CHAPTER I - 261.22

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in § 260.11 of this chapter.

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55 °C (130 °F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in § 260.11 of this chapter.

(b) A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990; 58 FR 46049, Aug. 31, 1993]

Characteristics of Hazardous Waste: Reactivity (D003)

40 CFR - CHAPTER I - 261.23

(a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has *any* of the following properties:

(1) It is normally unstable and readily undergoes violent change without detonating.

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

(4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.

(b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003.

[45 FR 33119, May 19, 1980, as amended at 55 FR 22684, June 1, 1990]

Characteristics of Hazardous Waste: Toxicity (D004-D043)

40 CFR - CHAPTER I - 261.24

(a) A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in § 260.11 of this chapter, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section.

(b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

Table 1--Maximum Concentration of Contaminants for the Toxicity Characteristic

EPA HW No.\1\	Contaminant	CAS No.\2\	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	\4\200.0
D024	m-Cresol	108-39-4	\4\200.0
D025	p-Cresol	106-44-5	\4\200.0
D026	Cresol	.....	\4\200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	\3\0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide).	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	\3\0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentrachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	\3\5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

\1\Hazardous waste number.
\2\Chemical abstracts service number.
\3\Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
\4\If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

Exempted Product Categories List

The following products are hereby exempted from the Inventory/Labeling System of the CMP based upon the determination that if used according to normal procedures the product would not be classified as a hazardous chemical. However, this classification does not preclude the product from being hazardous waste if, at the time of disposal, it meets the regulatory definition of hazardous waste.

1. Household Cleaning Compounds (single container volume of 5 gallons or less), which can be purchased at a grocery store, meets the OSHA definition for commercial product, and will be used in the manner specified on the labeling. Examples include Comet, Windex, Clorox, etc. "Industrial Use" products and hazardous solvents are not acceptable for this list.

2. DNA and RNA compounds and proteinaceous chemicals, e.g. nucleic acids used in recombinant DNA experiments, enzymes, antibodies. Chemicals supplied in hazardous solvents must be tracked.

3. Metabolites, substances produced during the normal metabolism of living organisms. Examples include sucrose, ATP, citrate, starch, amino acids, vitamins, fats. Reactive substances and biohazards must be treated according to the Inventory/Labeling System of this CMP or existing campus policy.

4. Chromatographic chemicals and absorbents, e.g. silica gel, derivatives of agarose, of dextran and of cellulose.

5. Culture media, commercial products used as growth media for microorganisms or cultured cells.

6. Non-toxic and non-reactive metallic salts, e.g. NaCl, KH_2PO_4, K_2SO_4.

7. Biological buffers, non-reactive buffers commonly used for in vitro biochemical or molecular biological experiments, including Tris, amino acid derivatives, alkylsulfonates and imidazole. For examples, see "Biological Buffers" in Sigma Chemical Co. catalog.

8. Biological detergents, non-reactive detergents commonly used in biochemical research, e.g. bile salts, alkylammonium salts, polyoxyethylene ethers (Triton). For examples, see "Biological detergents" in the Sigma Chemical Co. catalog. Products that would be classified D001 wastes are not acceptable for this list.

9. All oils in volumes of 1 gallon or less. **"Used"** oil will be managed according to state requirements.

10. Gas cylinders. Empty or declared waste gas cylinders are to be returned to vendor as a condition of purchase.

11. Chemicals sealed in equipment or instruments. Disposal of such equipment or instruments may require treatment as hazardous material.

12. Non-reactive pH and ion indicators, e.g. phenolphthalein.

13. Clinical drugs or products not listed under RCRA, e.g. common antibiotics and anesthetics. Products that would be classified as D001 wastes are not acceptable for this list.

14. Drugs. Drugs used in animal research that are regulated by the DEA. Regulated drugs used for other research purposes are not acceptable for this list. Hazardous chemicals and solvents used in the manufacture of regulated drugs are to be tracked as specified in the CMP.

15. Non-radioactive isotopic derivatives of non-hazardous chemicals, e.g. isotopic compounds containing deuterium, ^{13}C or ^{15}N, such as D_2O or $^{13}CO_2$.

APPENDIX B

-Designation of Facility Supervisors and Room Updates
-Hazardous Chemical Transfer Form
-Onsite Hazardous Waste Request Form, Step by step Instructions
-Hazardous Waste Tag
-Onsite Satellite Accumulation Label and Waste Request Step by Step Instructions
-Onsite Adding and Deleting Chemicals from Inventory, Step by Step Instructions
- Onsite Printing Bar Codes, Step by Step Instructions

DESIGNATION OF FACILITY SUPERVISORS AND ROOM UPDATES

Complete the following form for any updates concerning Facility Hazardous Supervisors or designated rooms. Send completed forms to EHS, 4747 Troost. If you have any questions or problems in completing this form call 235-6697 for assistance.

DATE:_____

HAZARDOUS MATERIALS MANGER:_____

FACILITY SUPERVISOR:_____

ROOM(S):_____

- ☐ ADD
- ☐ DELETE
- ☐ CHANGE FACILITY SUPERVISOR

  NEW FACILITY SUPERVISOR:_____

_____
Print Dean's Name Authorizing this Change

_____ **DATE:**_____
Signature of Dean Authorizing this Change

_____ **DATE:**_____
For Use by EHS

Environmental Health and Safety
4747 Troost, KC, MO 64110

TRANSFER OF HAZARDOUS MATERIALS BETWEEN FACILITY SUPERVISORS

Date: _____

TRANSFER FROM-
Location (Building and Room): _____

Hazardous Materials Supervisor: _____

Hazardous Materials Supervisor's Signature: _____ Date: _____

TRANSFER TO-
Location (Building and Room): _____

Hazardous Materials Supervisor: _____

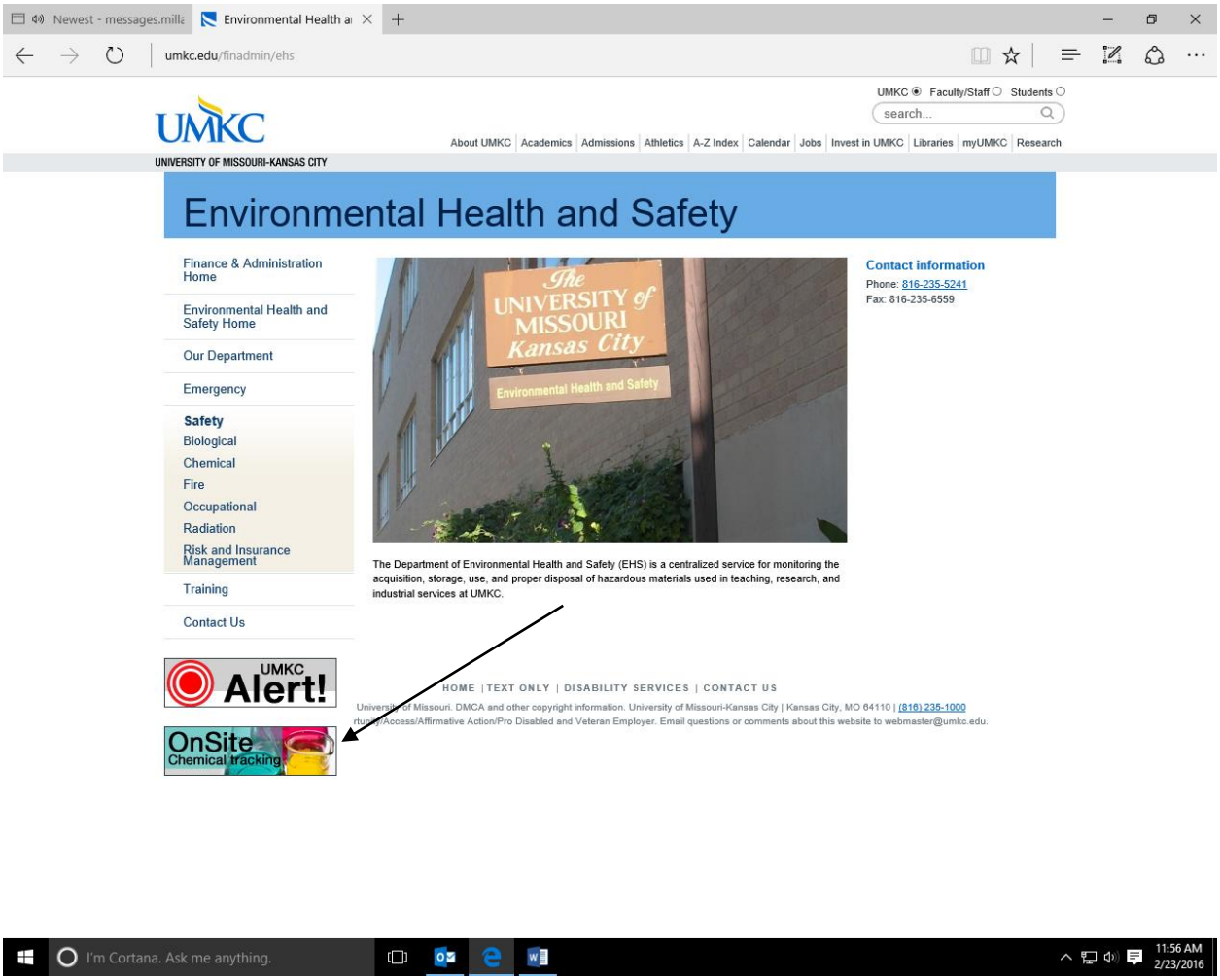
Hazardous Materials Supervisor's Signature: _____ Date: _____

	Chemical Name	Original Barcode #	New Barcode #
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

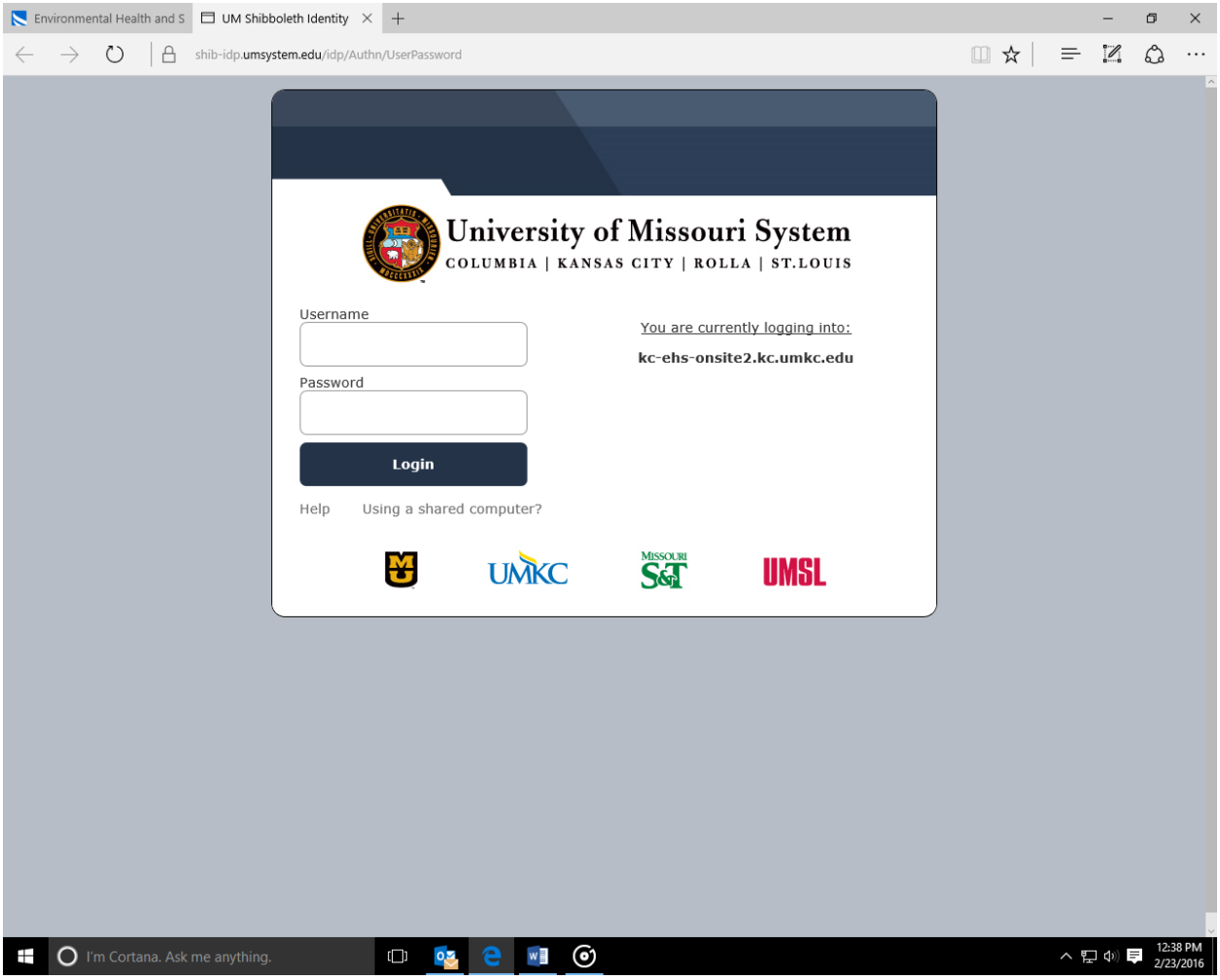
For assistance in filling out this form call 235-6697.

Step by Step instructions for Hazardous Waste Request Form.

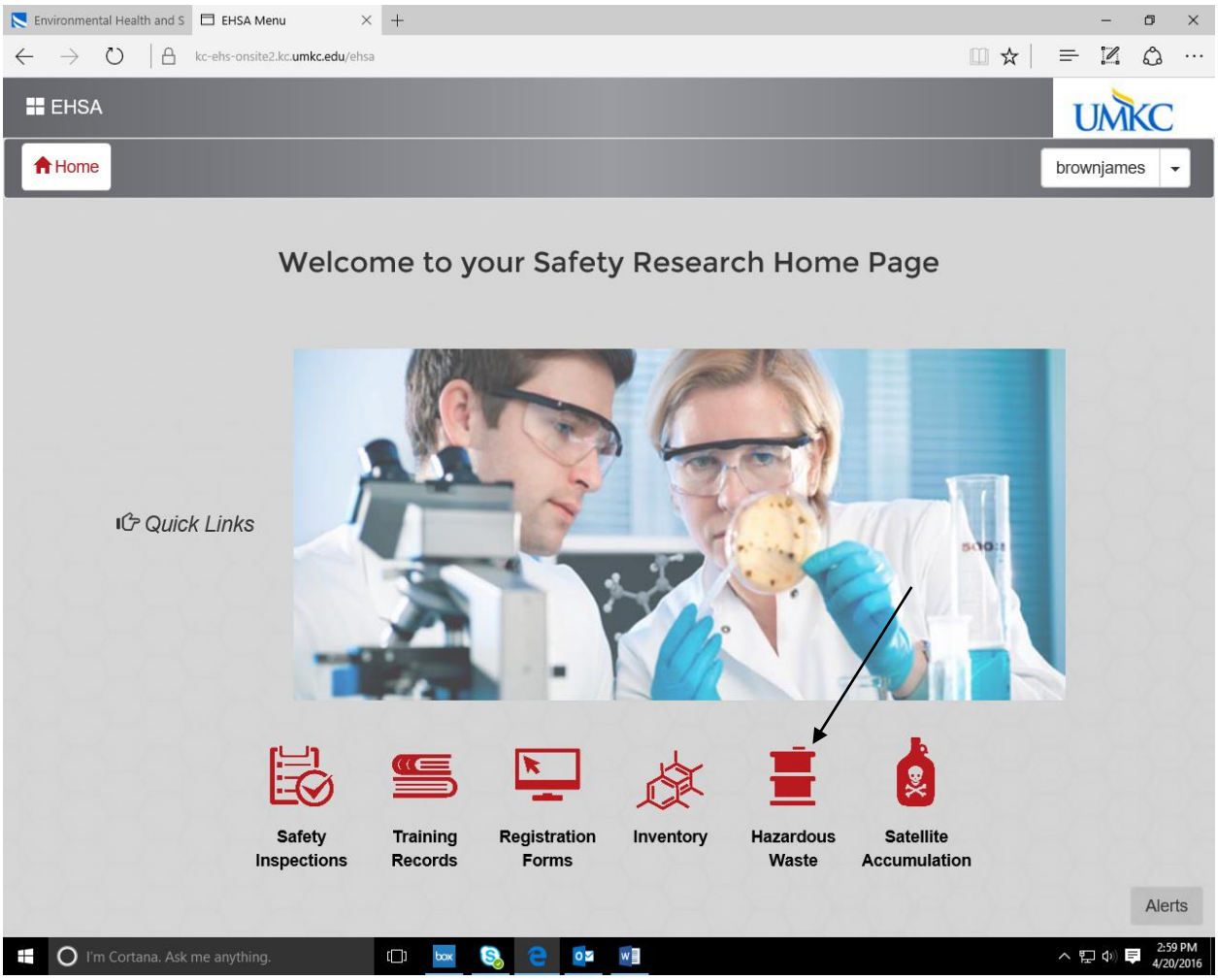
Go to EHS homepage and click on OnSite Chemical tracking.



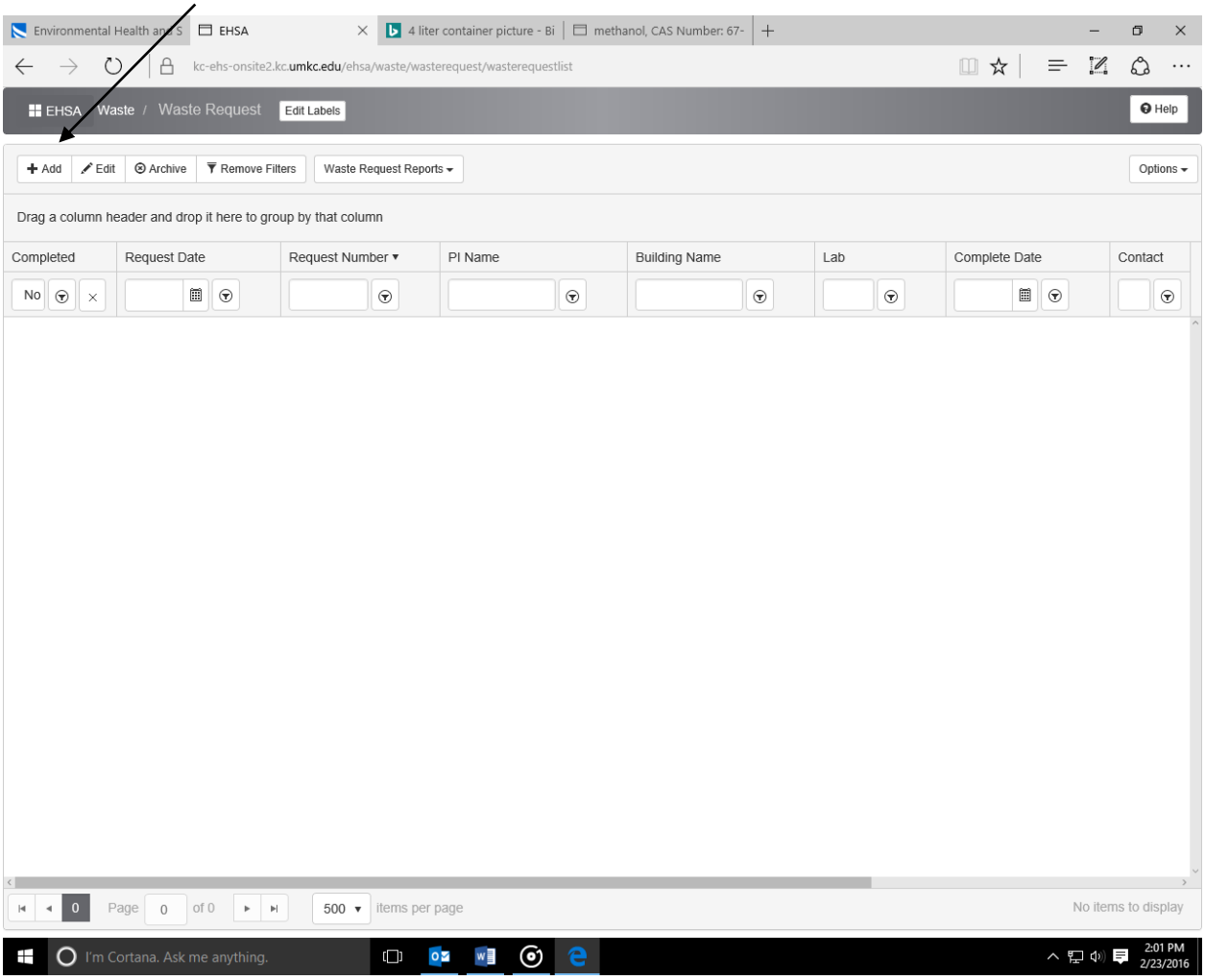
Use your UMKC username and password to access program.



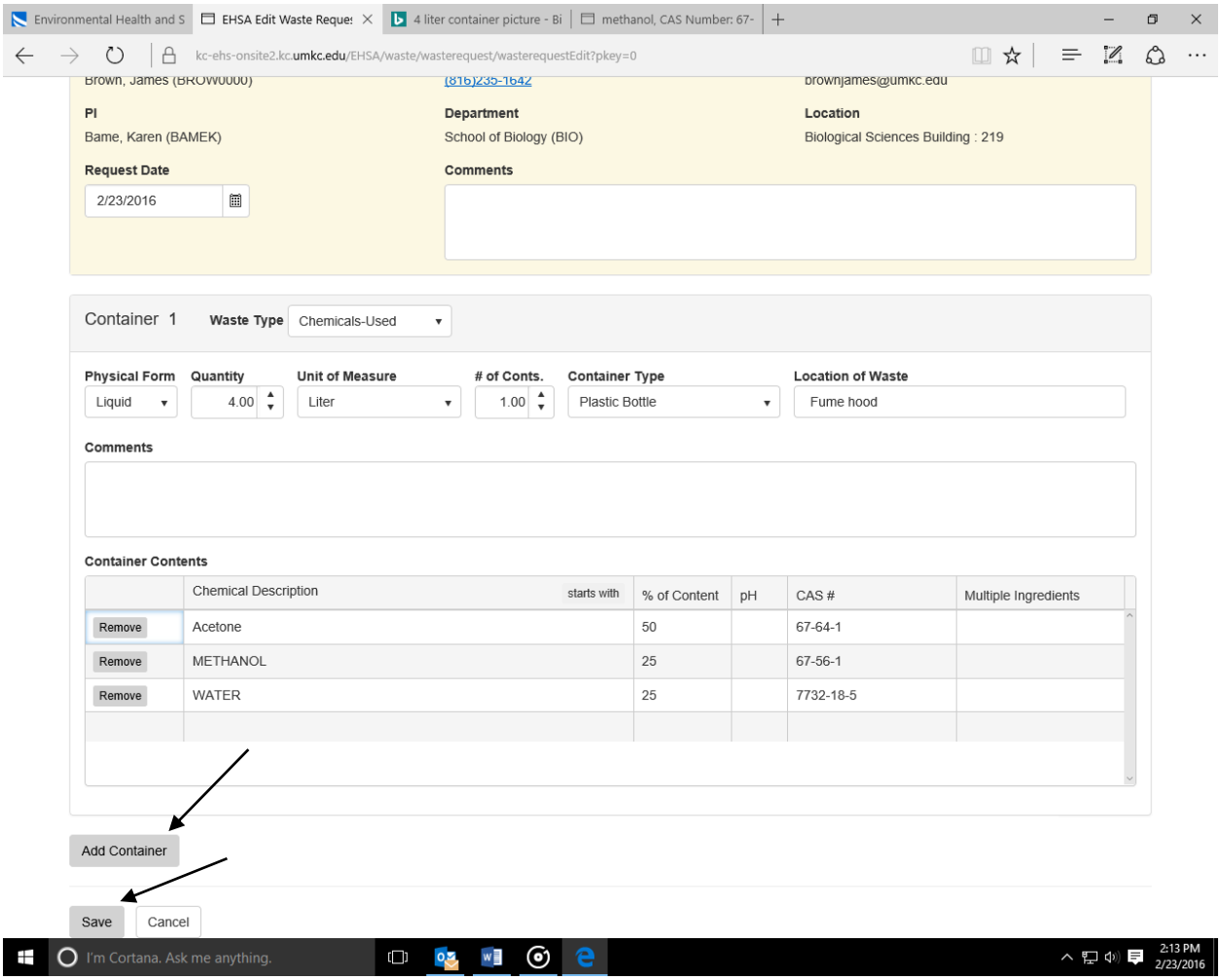
Click on the Hazardous Waste icon. This is for disposal of your laboratory hazardous waste. You also can use the Satellite Accumulation icon for disposal of your hazardous waste, which is explained in another step by step instruction.



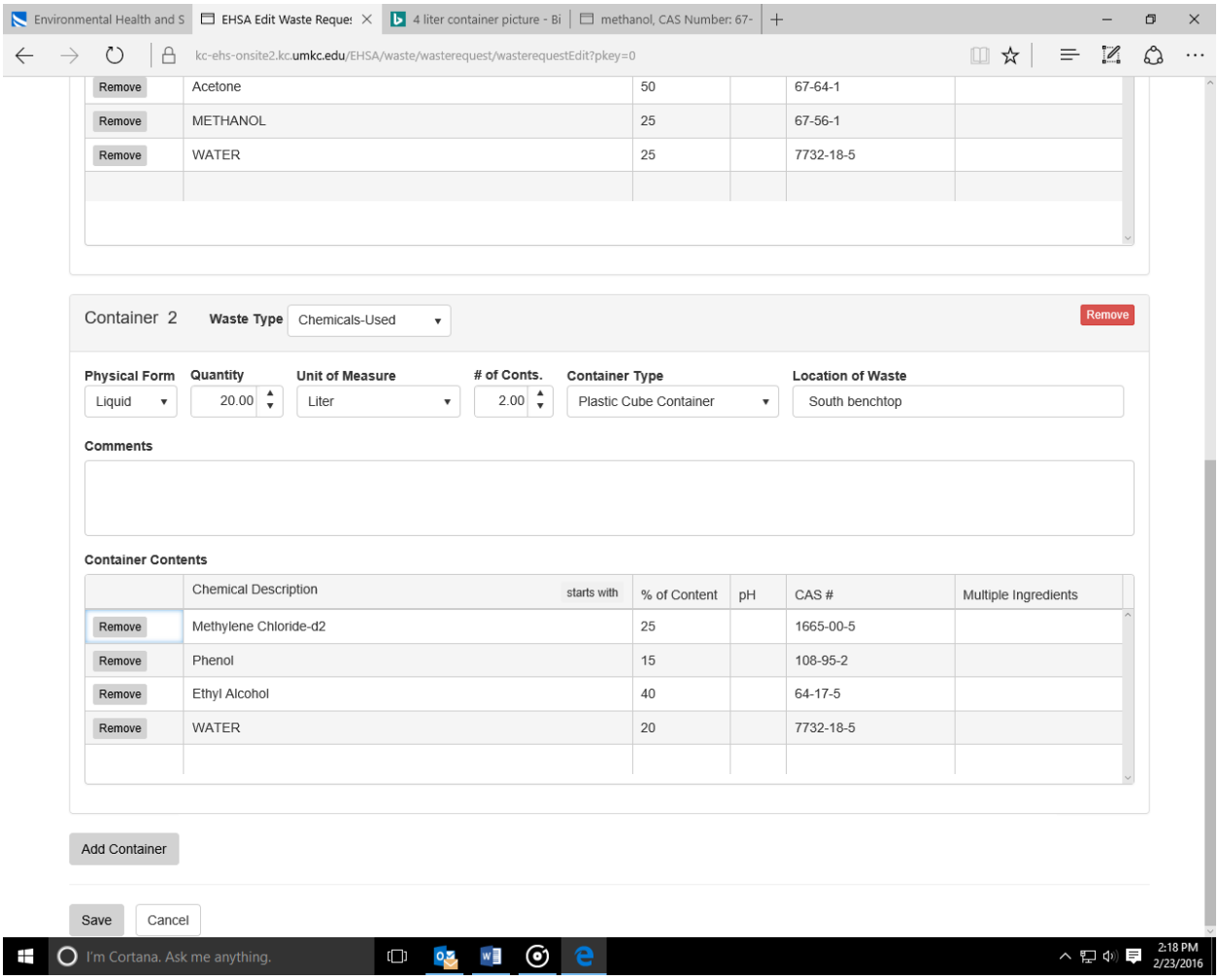
Click on Add


Environmental Health and S
EHSA
4 liter container picture - Bi
methanol, CAS Number: 67-
kc-ehs-onsite2.kc.umkc.edu/ehsa/waste/wasterequest/wasterequestlist
EHSA
Waste
Waste Request
Edit Labels
Help
Add
Edit
Archive
Remove Filters
Waste Request Reports
Options
Drag a column header and drop it here to group by that column
Completed
Request Date
Request Number
PI Name
Building Name
Lab
Complete Date
Contact
No
Page
0
of 0
500
items per page
No items to display
I'm Cortana. Ask me anything.
2:01 PM
2/23/2016

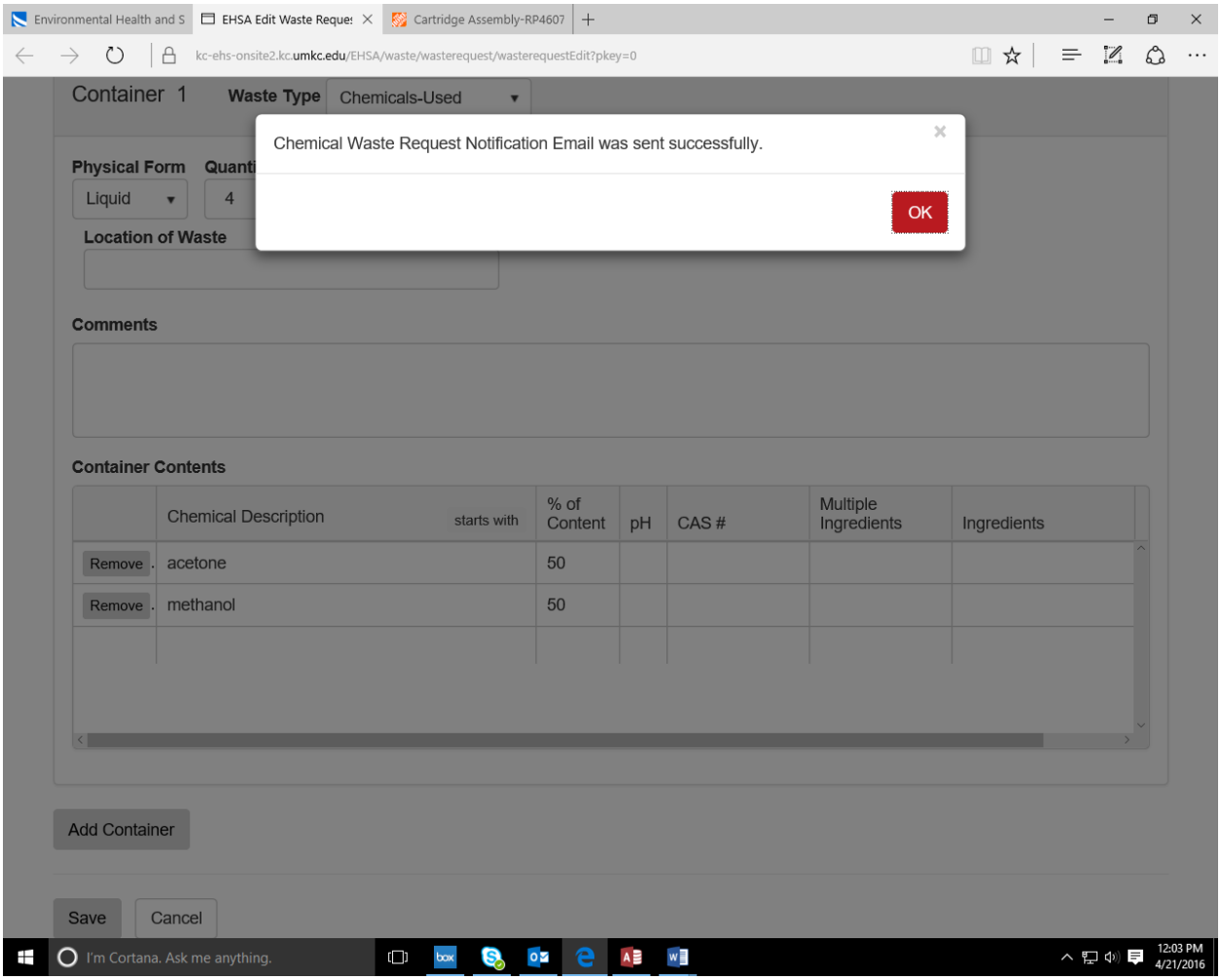
Fill out the fields and click the add container button if you want to dispose of another waste container or the save button if you only have one. If you have multiple waste containers, hit the save button after you have completed all the waste containers for pick-up.



I hit add container and did a second waste container



Then hit the save button and this is the screen you get which tells you that is was successfully entered and that an email was sent to EHS informing us that there is a waste container from your lab ready to be picked up. The email is automatically sent to us.



HM Tag # 000001	HAZARDOUS WASTE	Declared Waste Date 01/12/2016
ChemName	Federal Law Prohibits Improper Disposal	

Sulfuric Acid

Quantity 300 **Units** g

Rm #	Person Authorizing PU	Contact #	RGN	DOT Class	EPA/DNR #
Bldg	Dr. Jekle	555-5555	1	8	D002

EPA ID #: MOD-073-133-647
MODNR GEN ID#: 001048
Facility ID #: HH1105

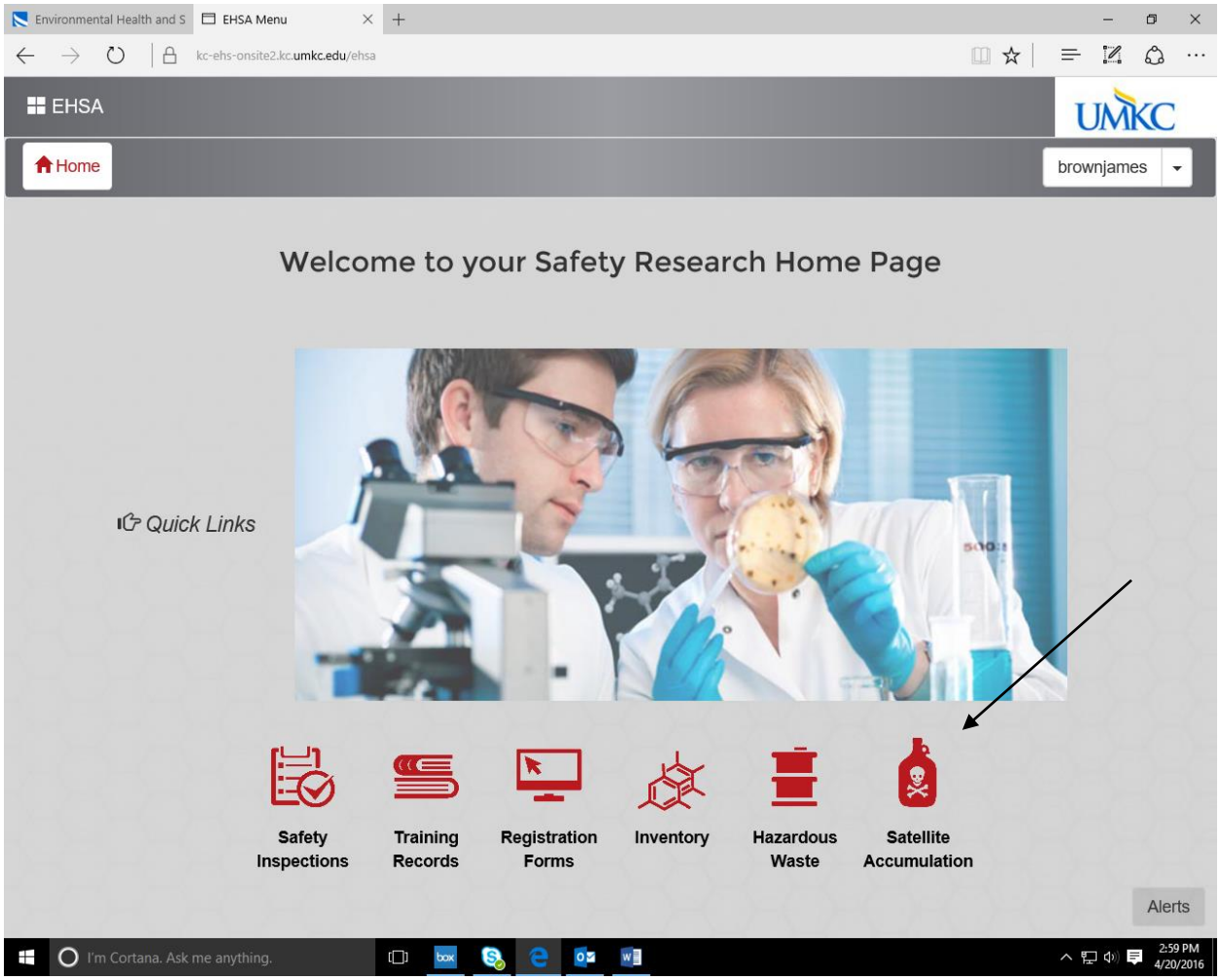
If found contact:
UMKC Police Department (816) 235-1515
UMKC EHS Office (816) 235-1642
US Environmental Protection Agency

Generator Facility Information: The University of Missouri – Kansas City
5010 Troost Avenue, Kansas City, Missouri 64110

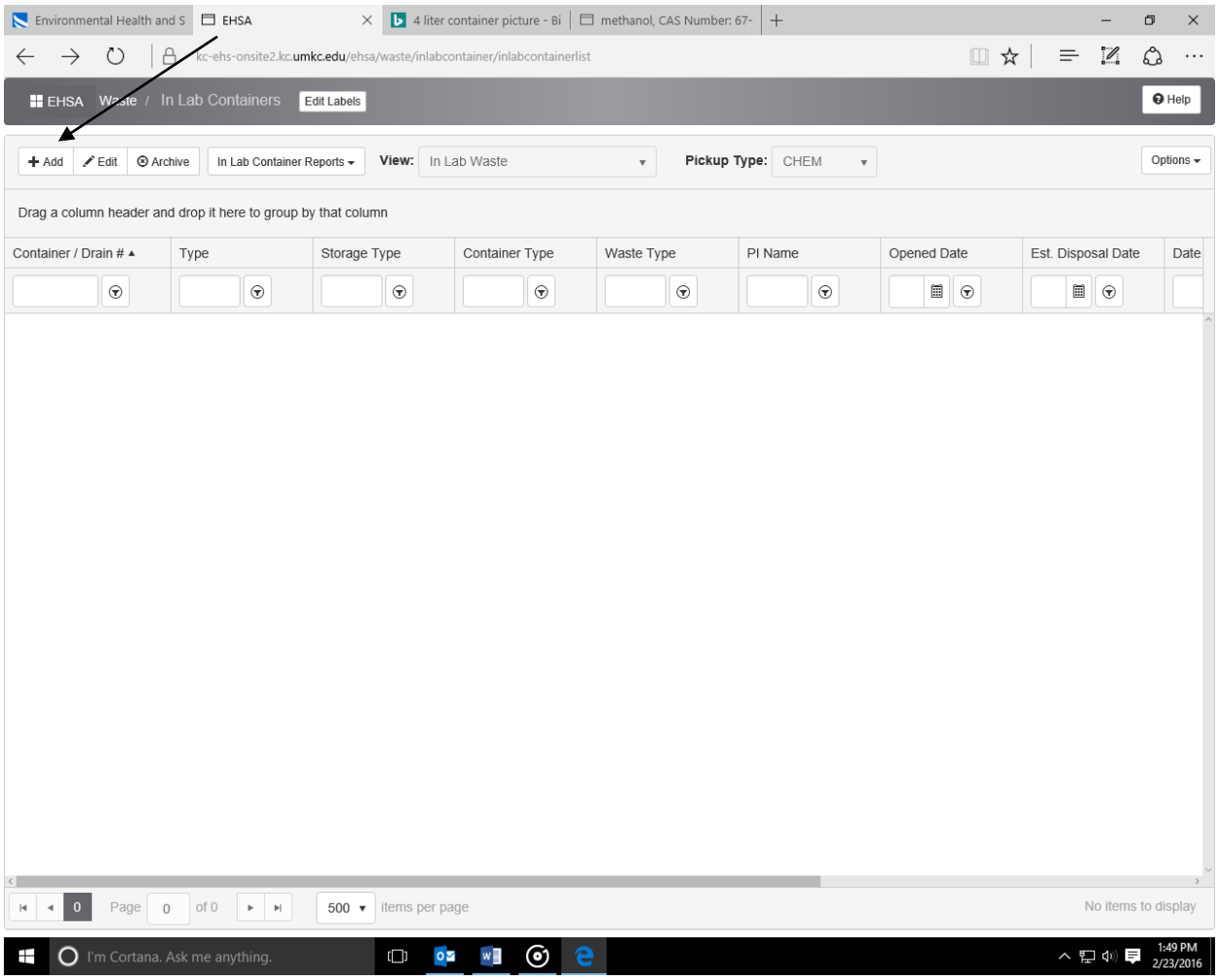
HANDLE WITH CARE!

Step by Step Instructions for Satellite Accumulation Label and Waste Request

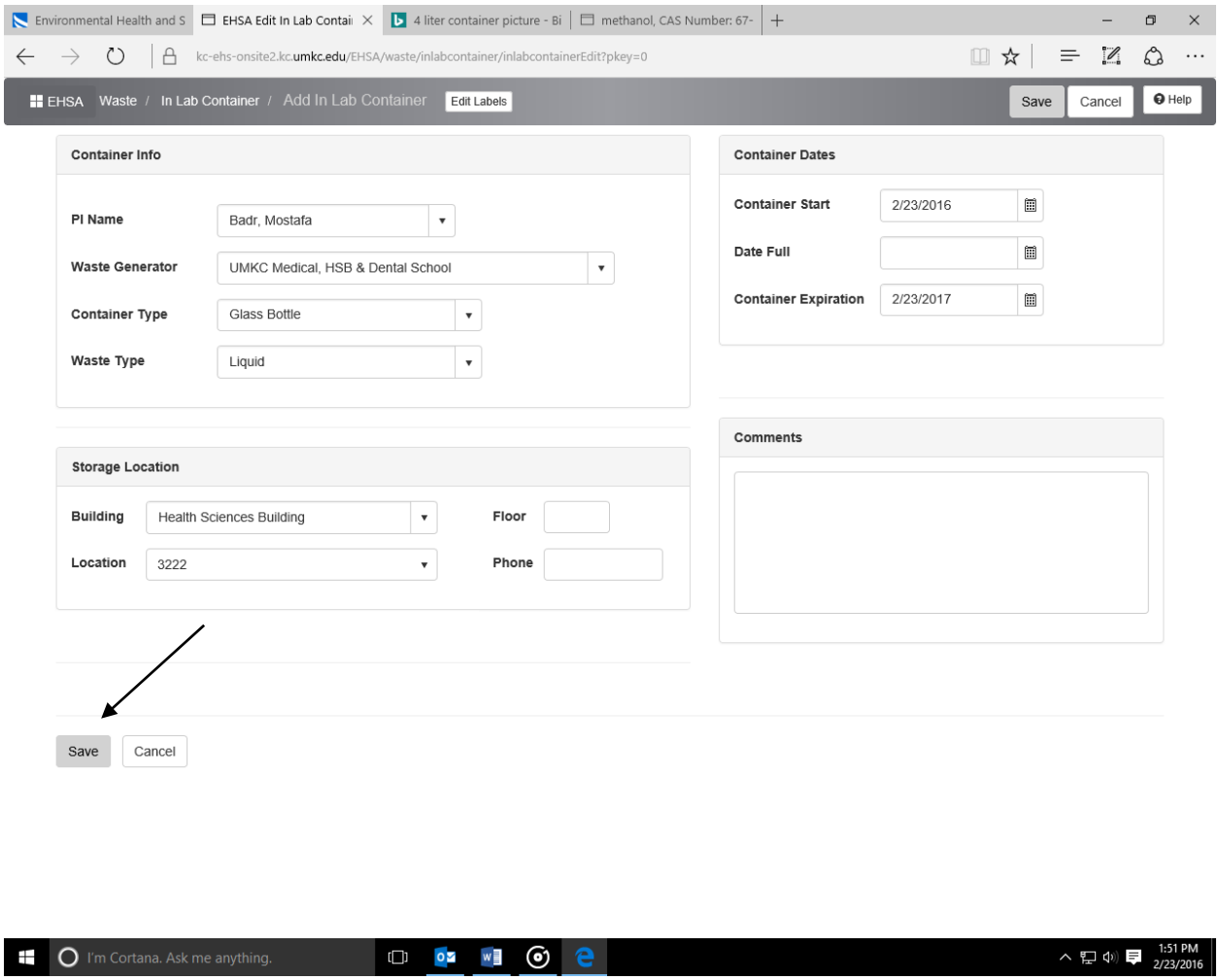
Click on the Satellite Accumulation icon. This is for the satellite accumulation chemical waste label.



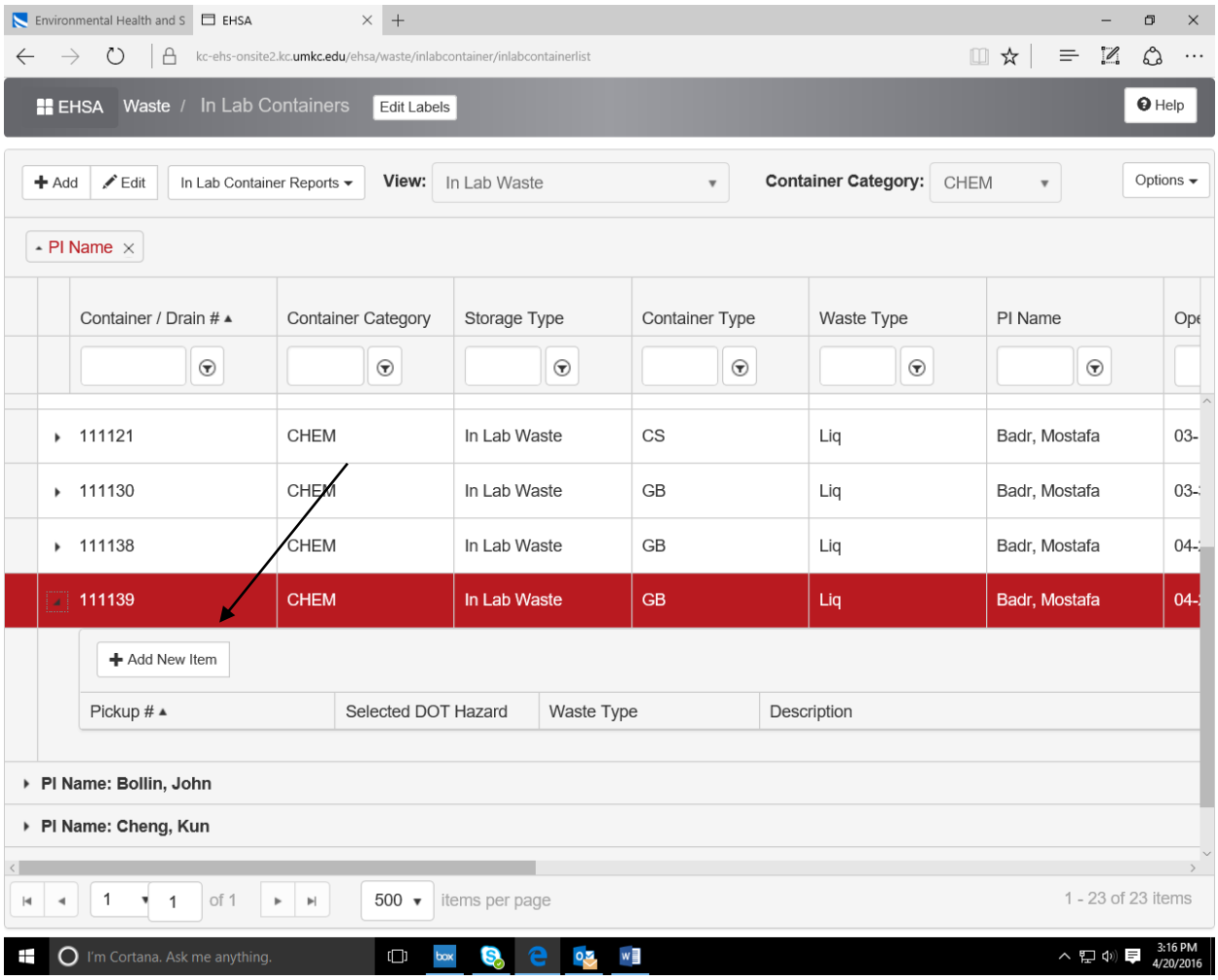
Click Add


Environmental Health and S
EHSA
4 liter container picture - Bi
methanol, CAS Number: 67-
kc-ehs-onsite2.kc.umkc.edu/ehsa/waste/inlabcontainer/inlabcontainerlist
EHSA
Waste / In Lab Containers
Edit Labels
Help
Add
Edit
Archive
In Lab Container Reports
View:
In Lab Waste
Pickup Type:
CHEM
Options
Drag a column header and drop it here to group by that column
Container / Drain #
Type
Storage Type
Container Type
Waste Type
PI Name
Opened Date
Est. Disposal Date
Date
0
Page
0
of 0
500
items per page
No items to display
I'm Cortana. Ask me anything.
1:49 PM
2/23/2016

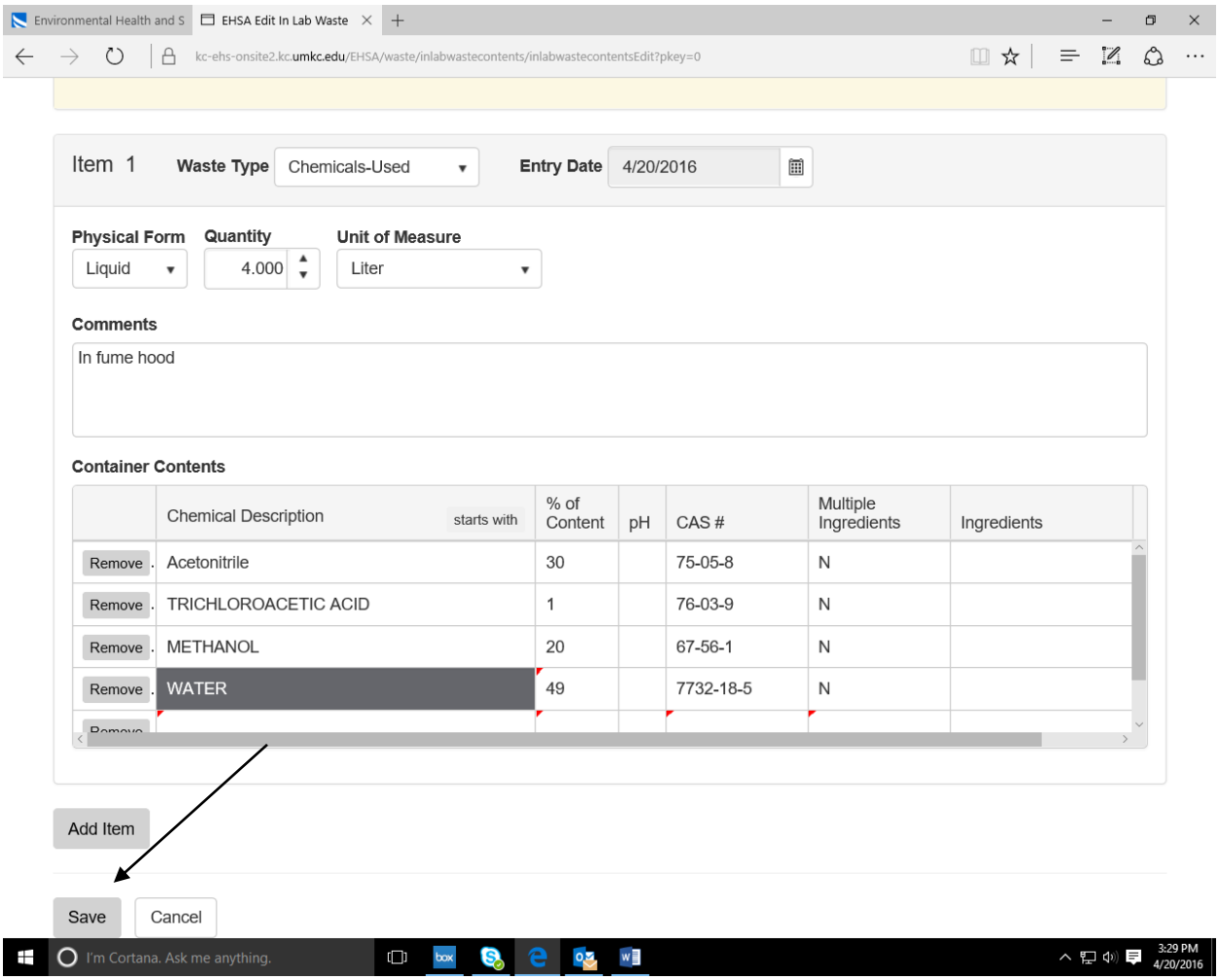
Fill out required fields and click save.



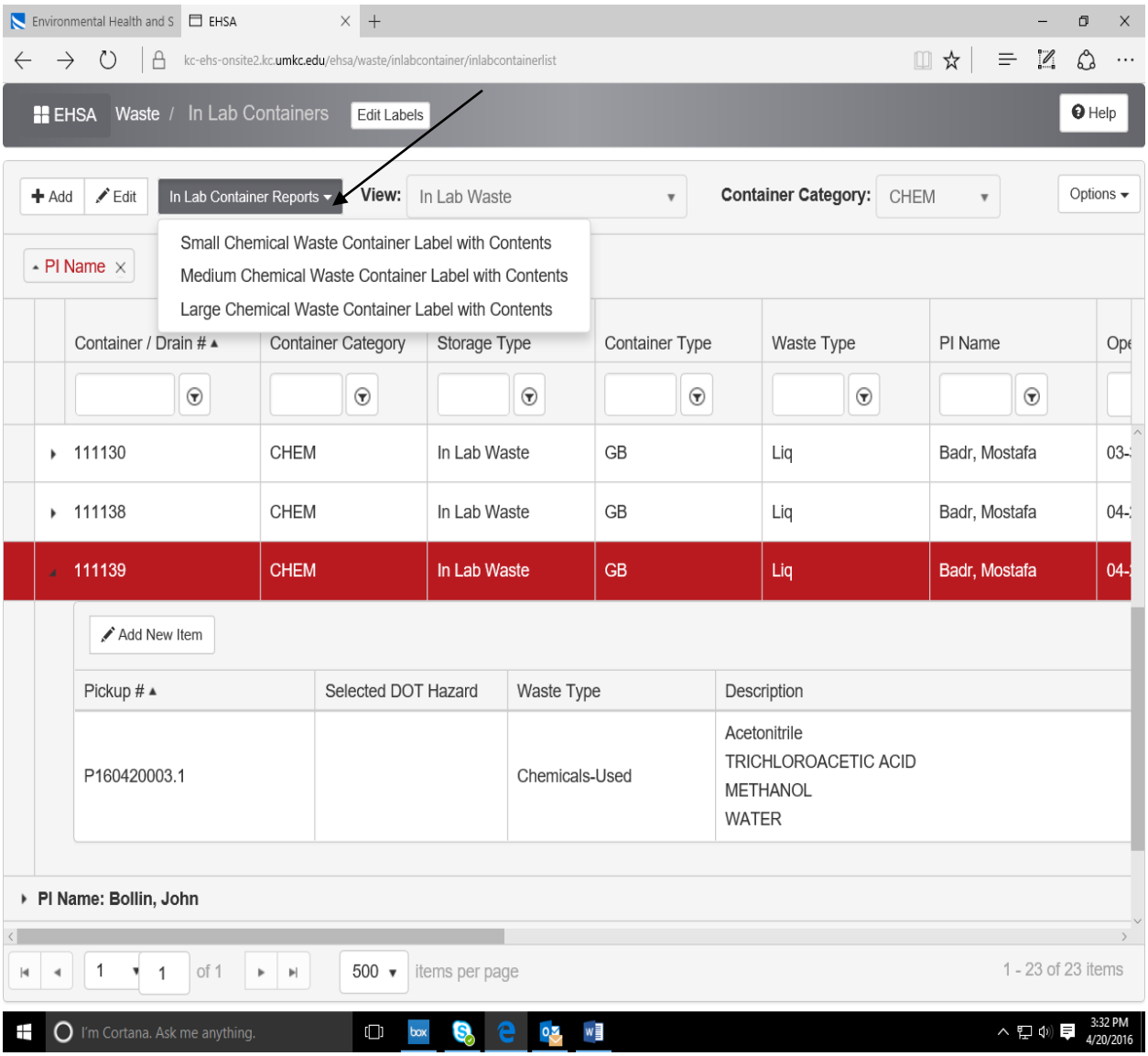
Highlight field and click on the Add New Item



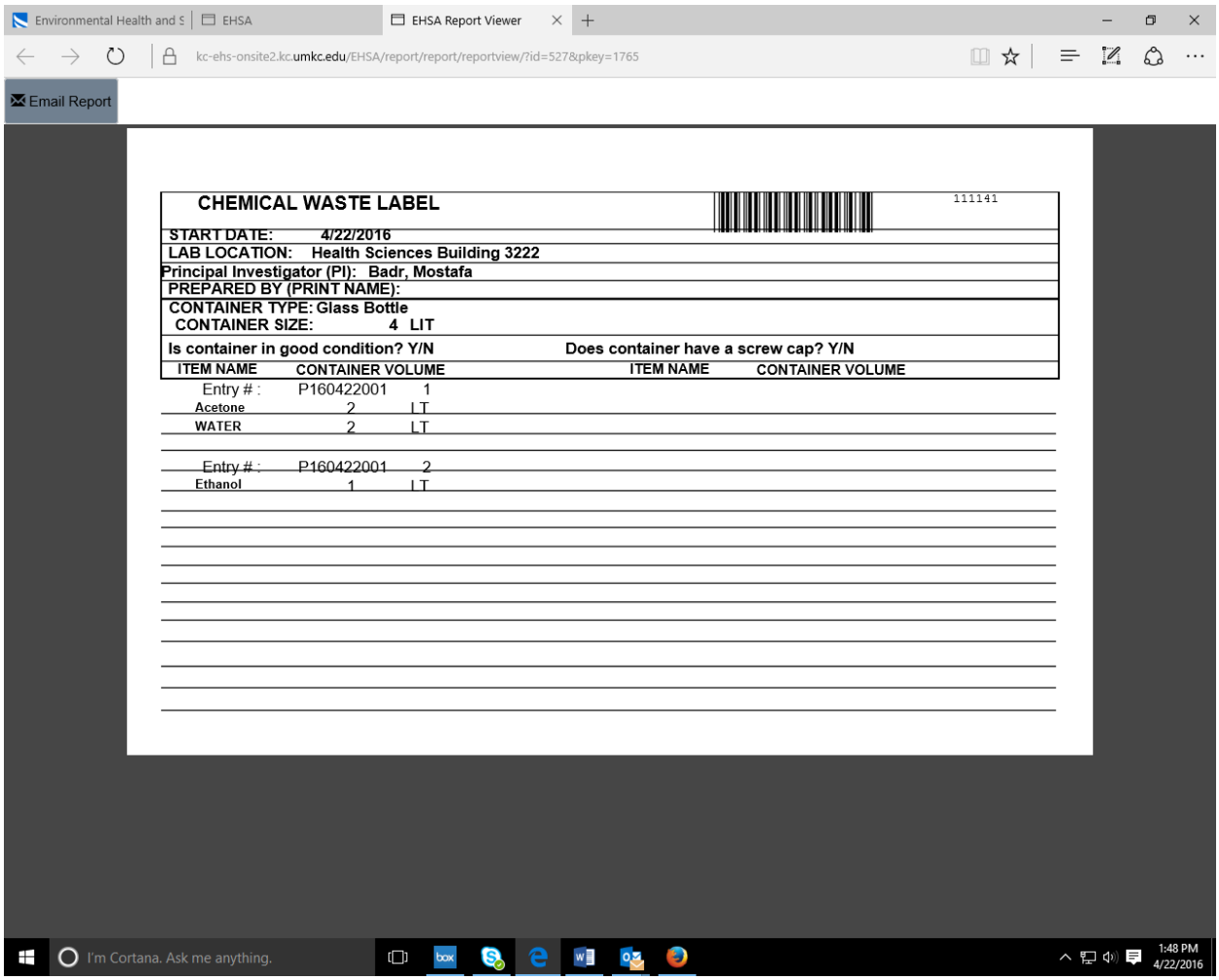
This is the screen you get. Fill out the form using the drop down boxes. For the chemical description, click on the box underneath and type the chemical name in it. This will automatically go to 100%, if there are multiple chemicals, simply click underneath the chemical you just typed and put the other chemicals that are in the container, adjusting the percentages for the chemical. Click the save button**.** Click the add item button to add chemicals to the container at a later time.



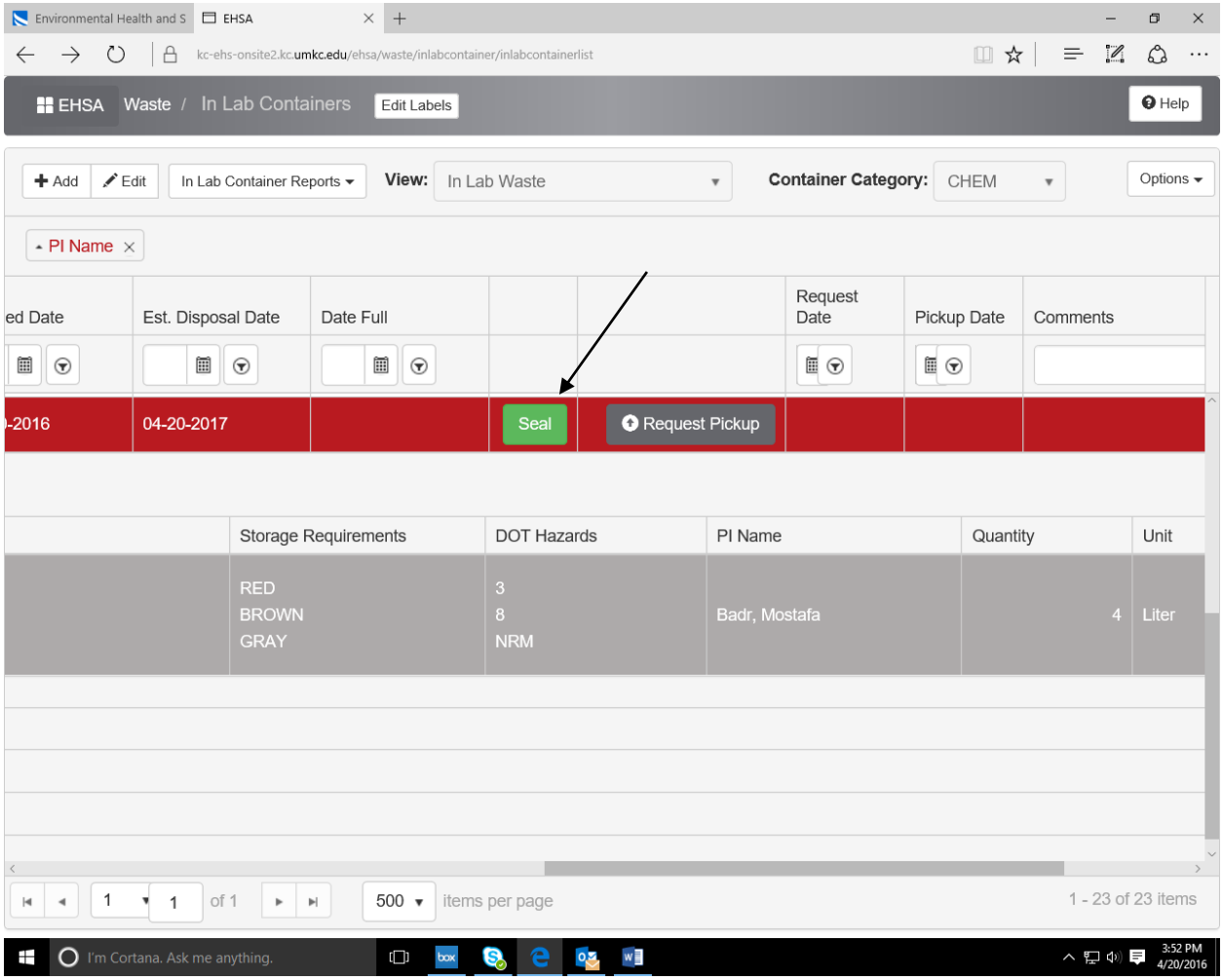
Here is the screen you get with the entry you just made highlighted. Click on the **In Lab Container Reports** drop down box and you will have three choices for your chemical waste label, small, medium, and large. Pick which one you want depending on the size of your accumulation container and click on it. The small would be for around a one liter container, a medium for a 4 liter container, and a large for a 20 liter container.



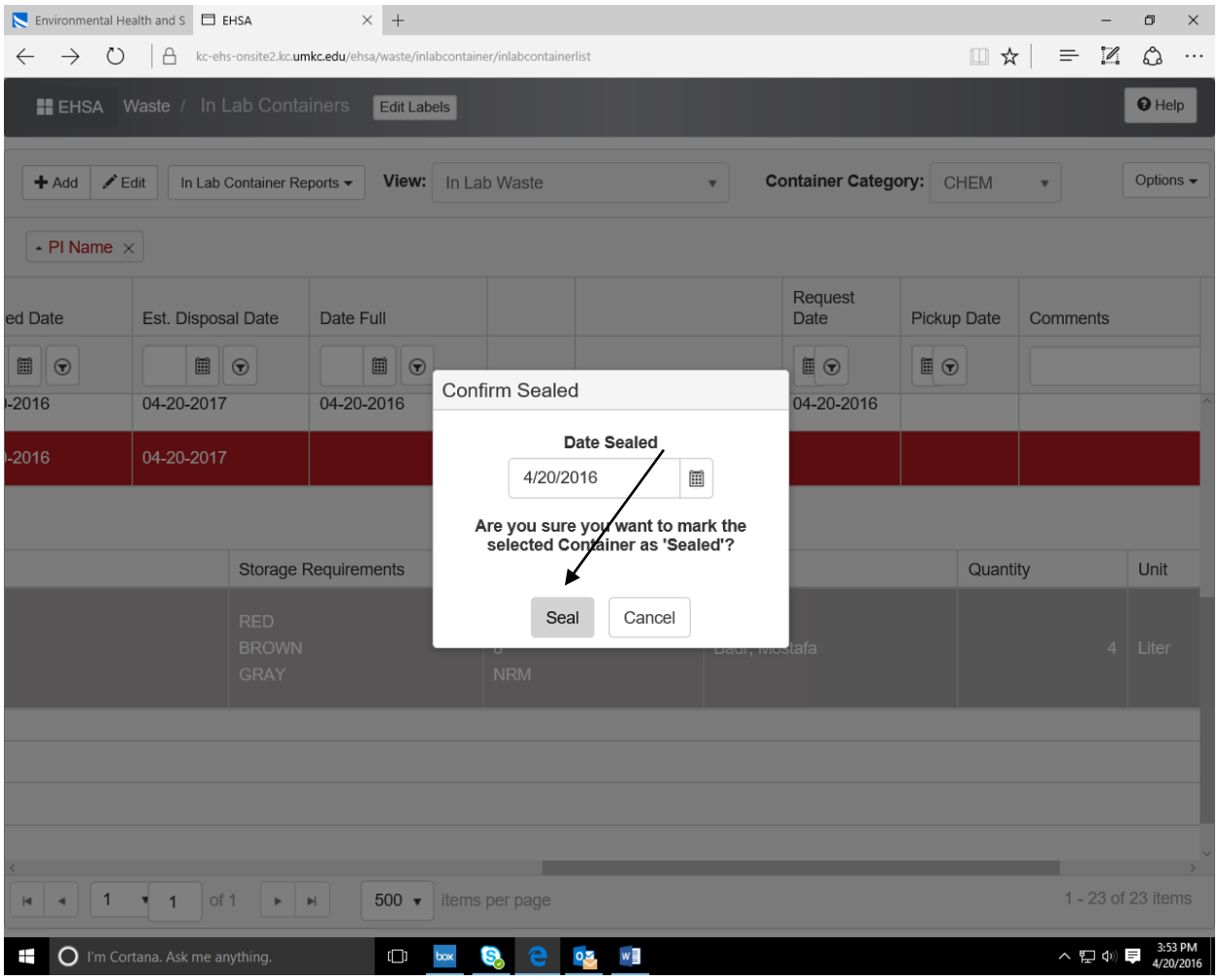
I picked the medium label and this is what it looks like. Print the chemical waste label and you can handwrite the constituents on the label as you add them and update them to the accumulation container via the program as mentioned above by highlighting the Container #, which this one is 111141, and clicking on the add item button. Attach the label to your waste container. This is how we track the waste container and it is very important to attach this to your accumulation container.



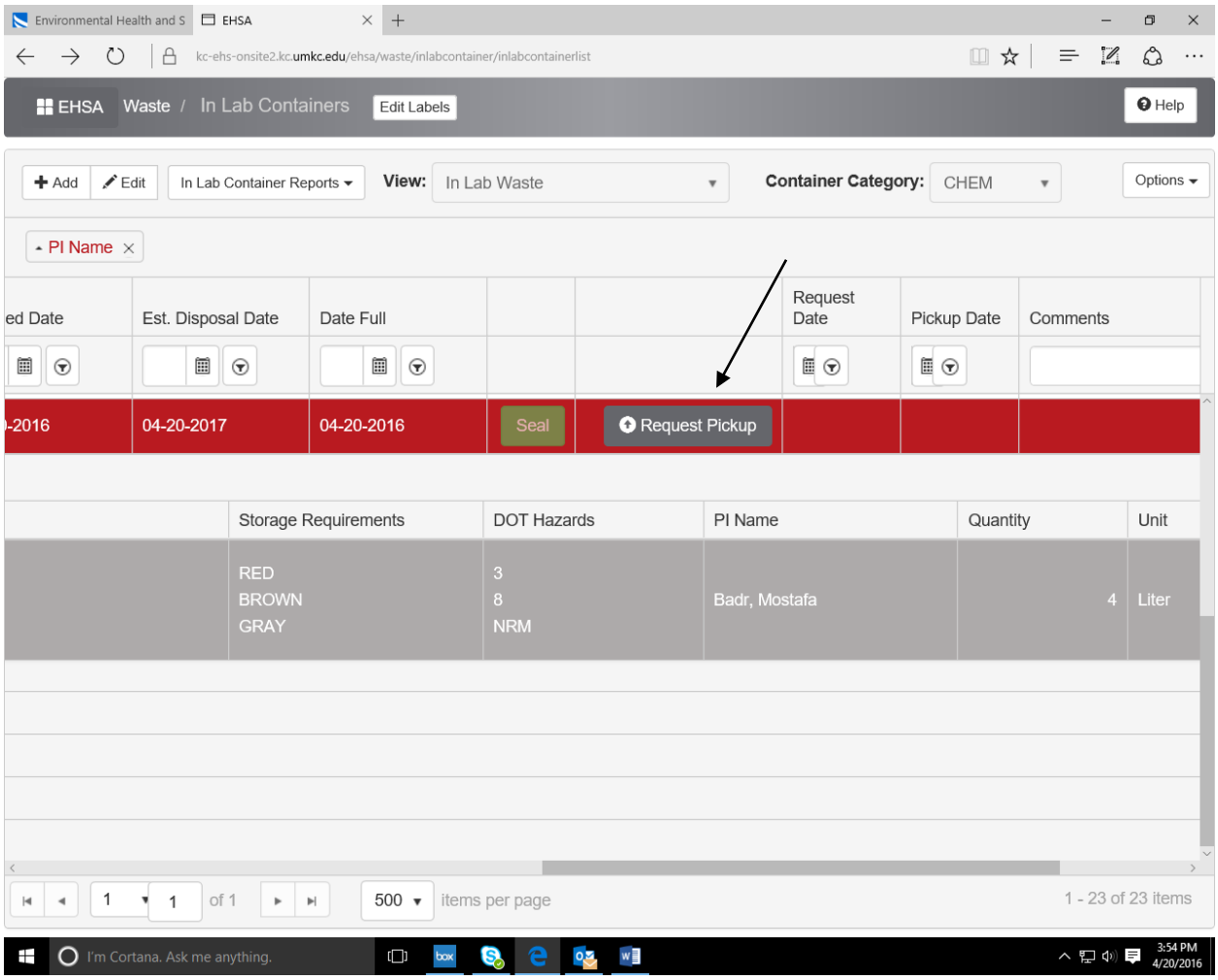
When your accumulation container is full, you can request that it be picked up from your label contents. Highlight the container number, in this case it is 111139. Scroll over to the seal button and click on it.



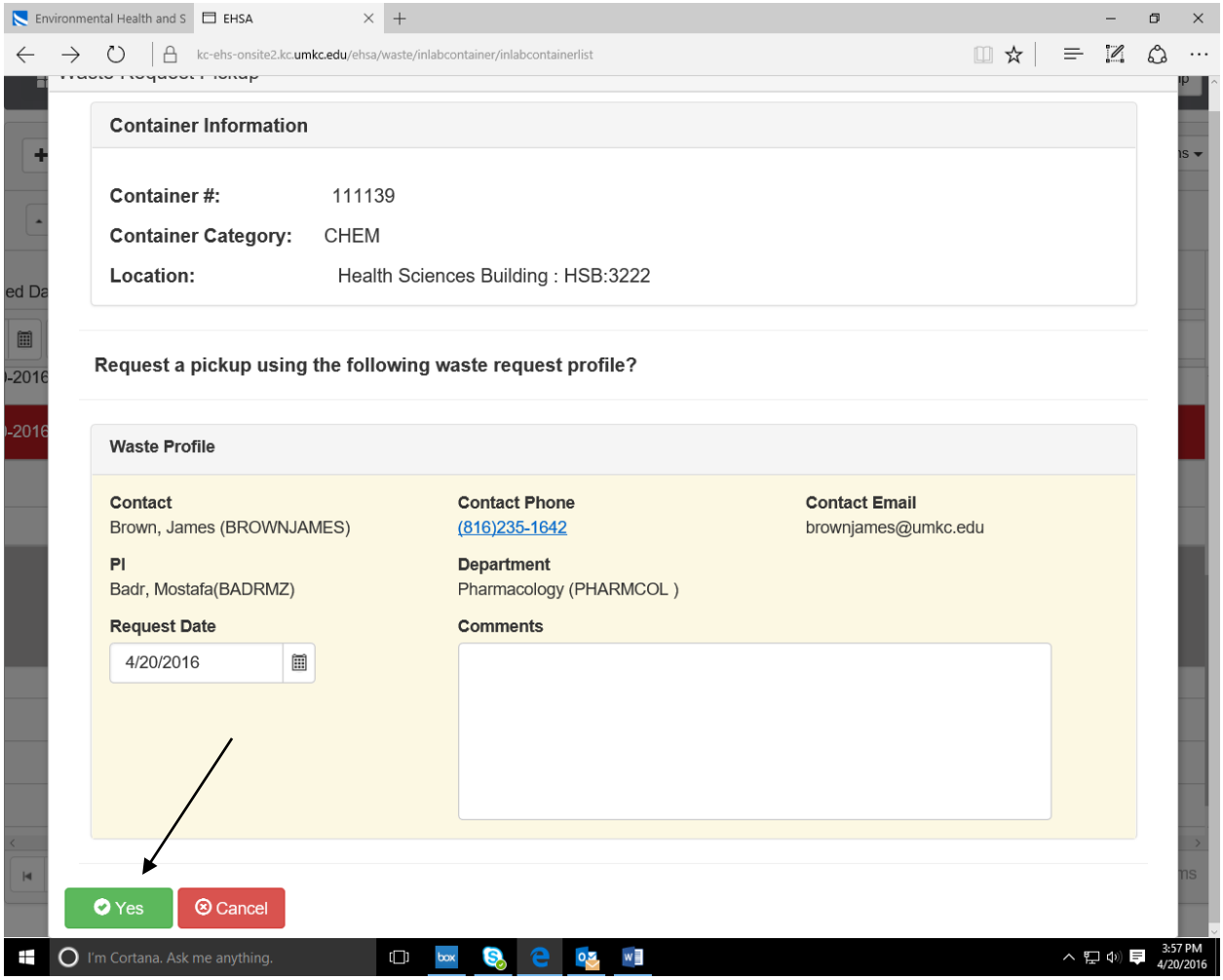
This is the screen you get. Click on seal.



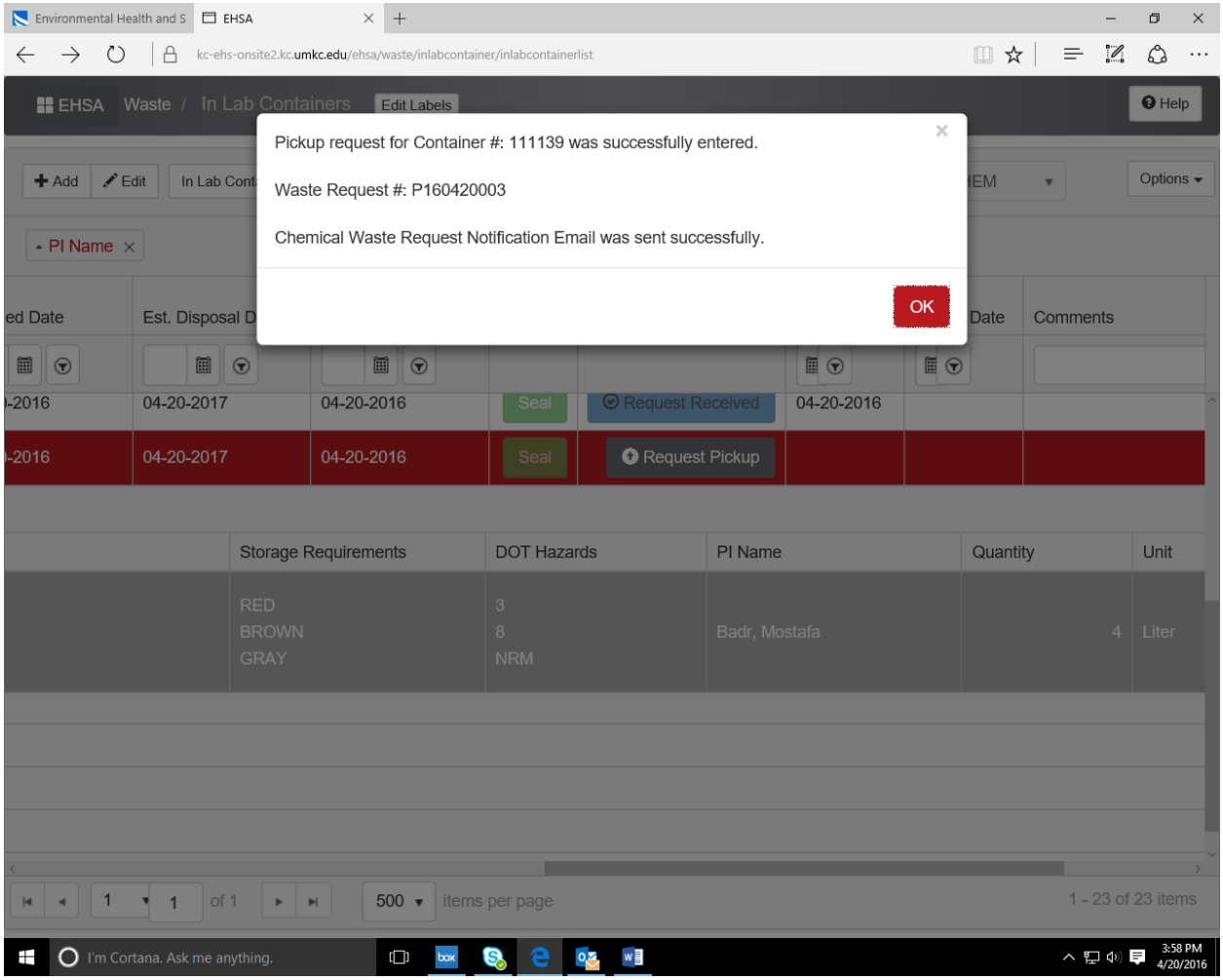
Then click on the request pickup button.



It will ask you to create a waste profile if you have not done so before. Just fill out the required fields and this will be a one-time task. If you have created a waste profile before, this is what your screen will look like with the appropriate information. Click on the Yes button

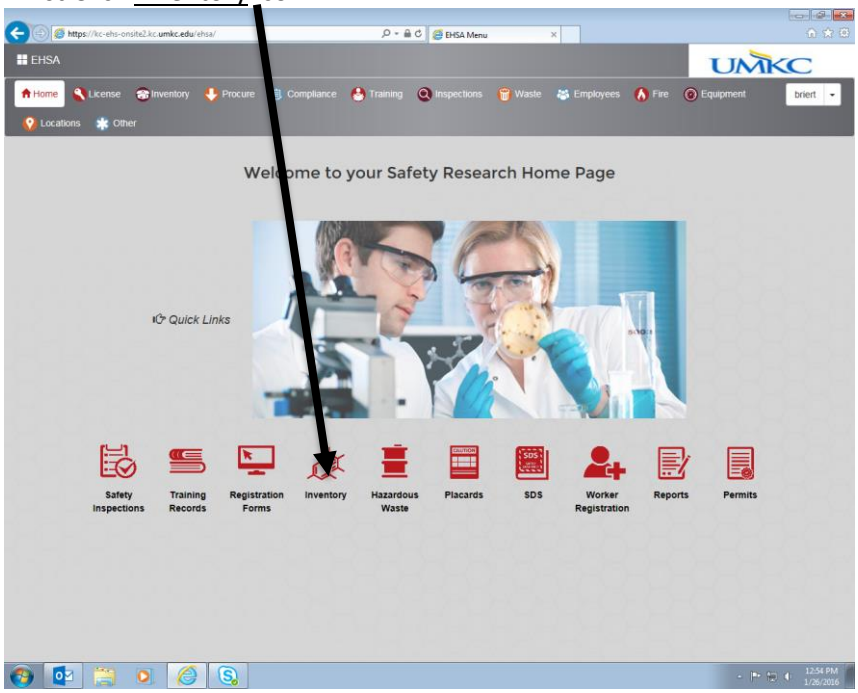


After you click on the Yes button, this is the screen you will get which tells you that is was successfully entered and that an email was sent to EHS informing us that there is a waste container from your lab ready to be picked up. The email is automatically sent to us.

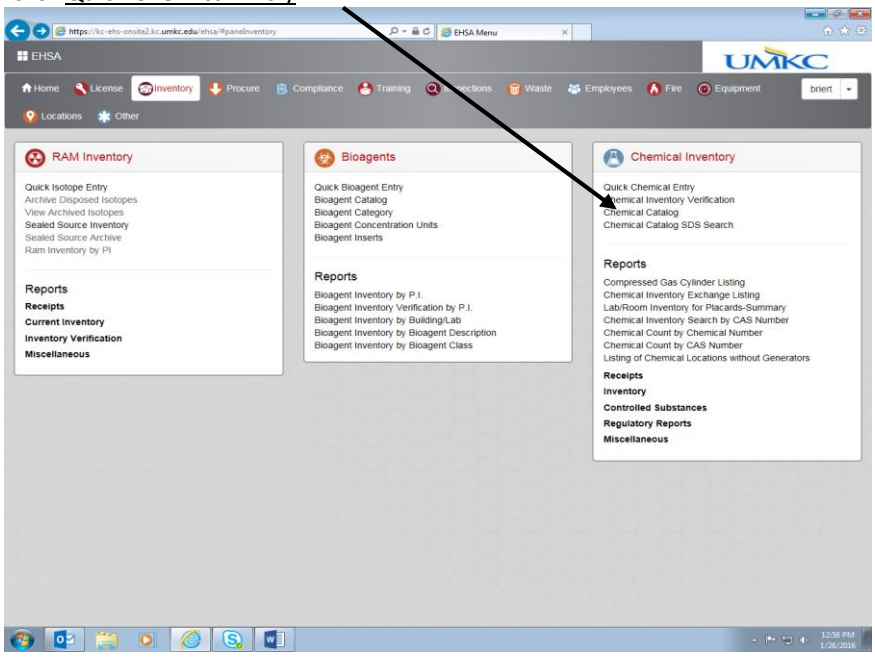


Adding and Deleting Chemicals from Inventory:

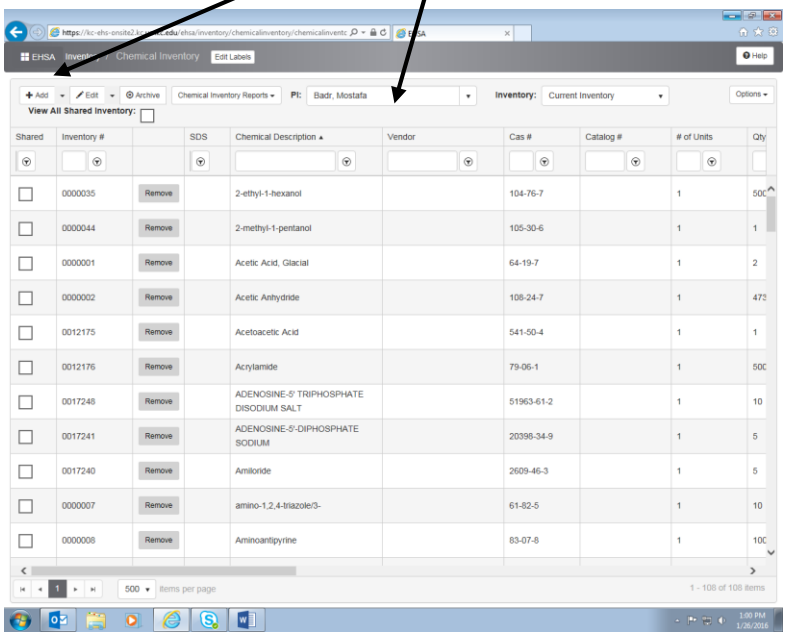
-First Click inventory icon



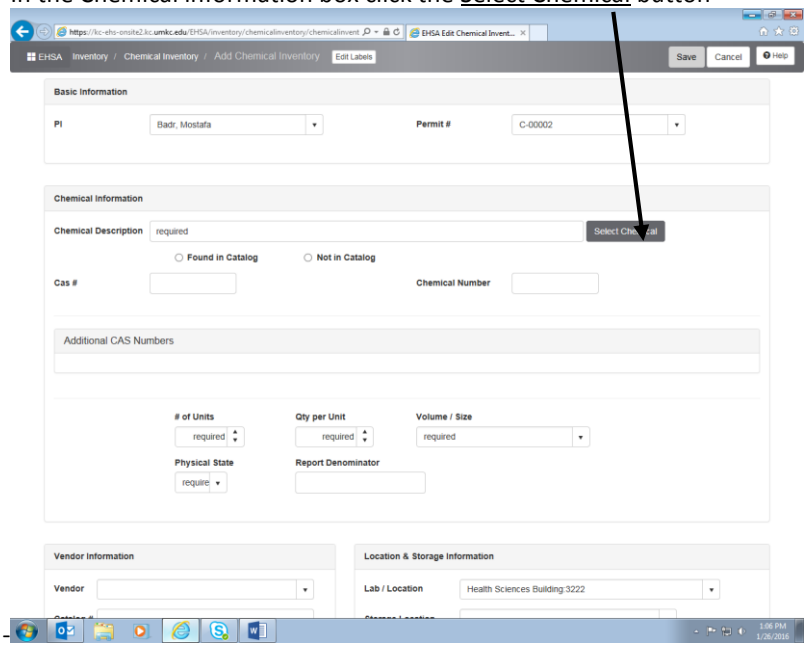
-click Quick Chemical Entry link



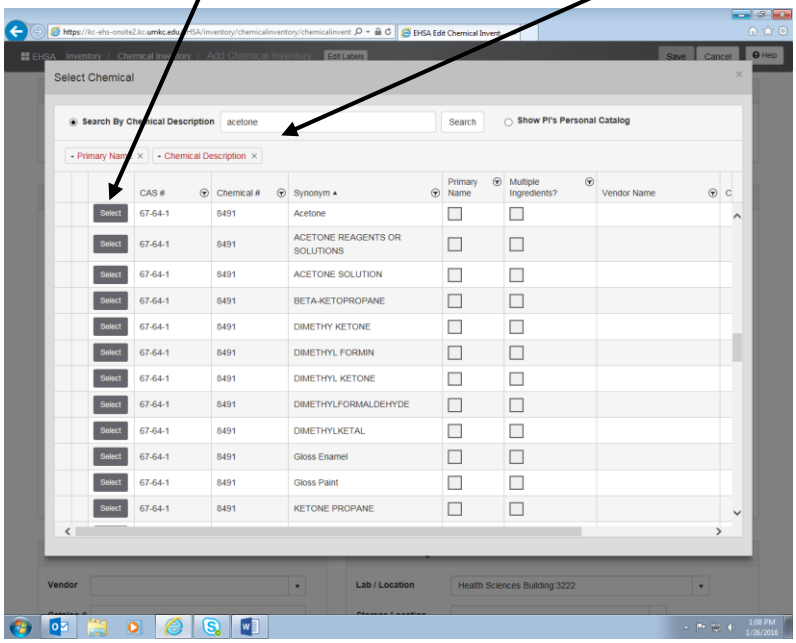
-Be sure the correct PI is selected in the PI box
-Then click the +Add button to begin **adding** a Chemical



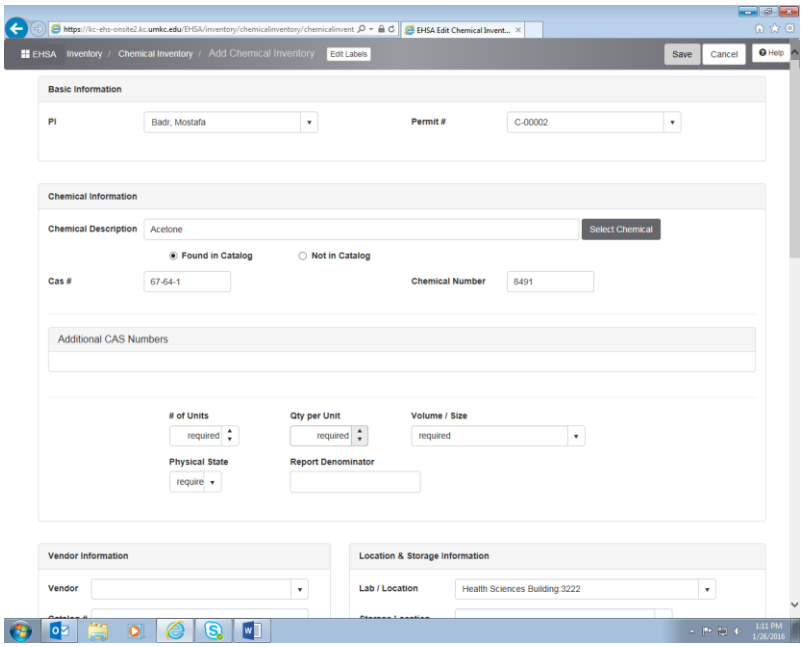
-In the Chemical information box click the Select Chemical button



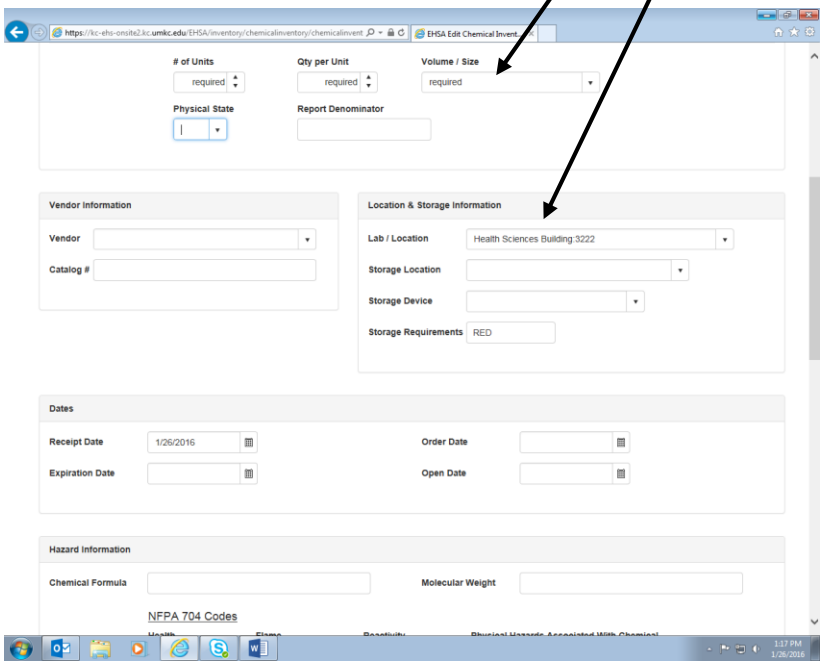
-Type the name of the chemical and press the search button to find it.
-Then press the select button



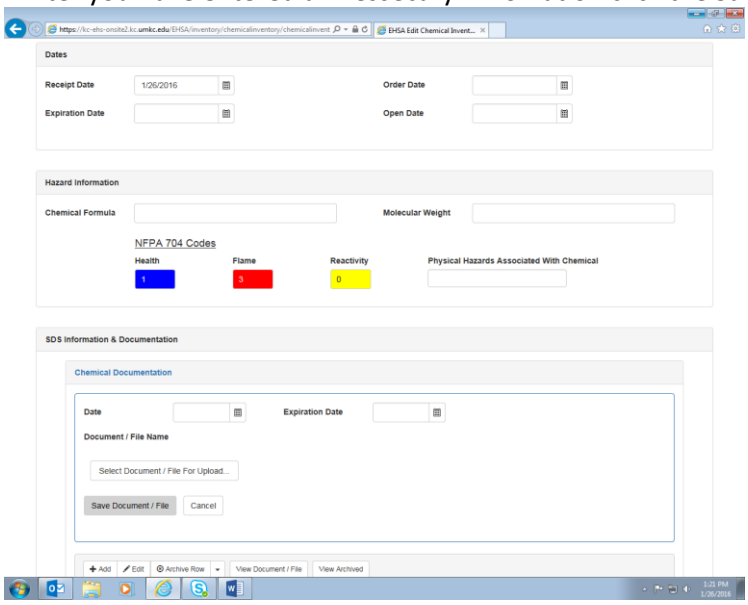
-After selecting the chemical you will be taken back to this screen with the Chemical Description, Cas#, and Chemical Number fields filled in.



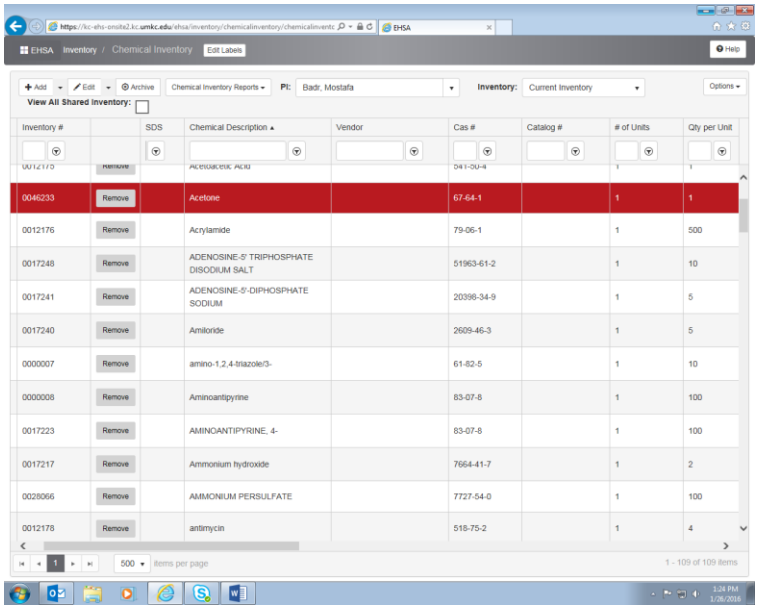
-Then scroll down and fill in the boxes describing the quantity and physical state of the Chemical.
-Then enter in the storage information in the Location & Storage Information box



-Scrolling down further allows you to add more infromation about the chemical and gives you Hazard information about the Chemical.
- After you have entered all nessecary infromation click the Save button at the bottom of the screen

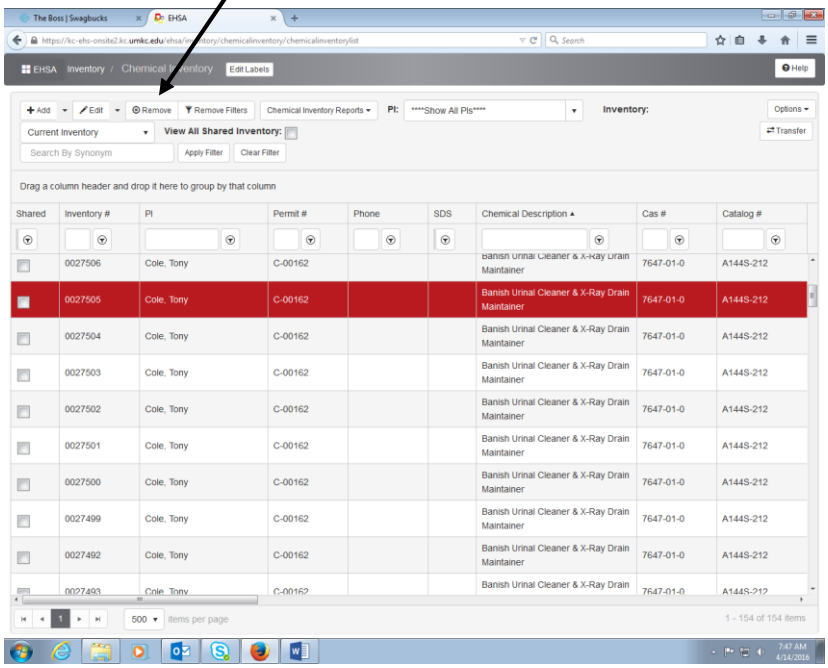


-You will be taken back to the Quick Chemical Entry page from before with the newly entered chemical selected in Red.
-Scrolling right allows you too see more information about the chemical including storage requirments and quantities.



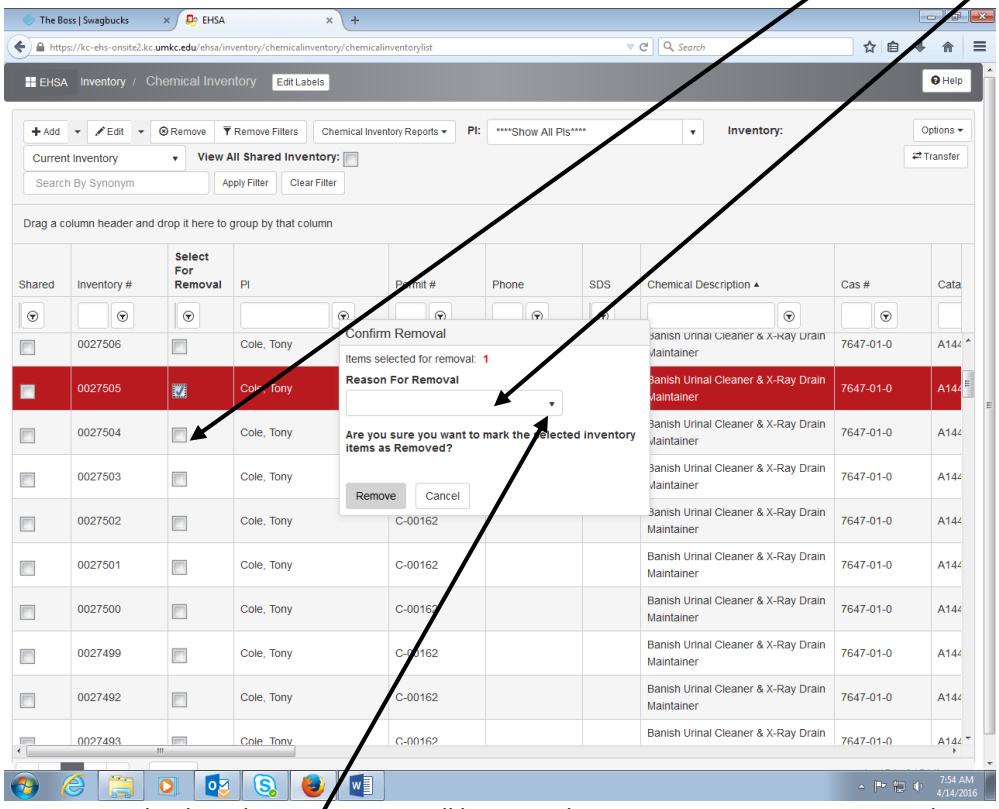
Deleting one or multiple chemicals:

Chemical Click the Remove Button



- A box will appear asking for you to conform removal

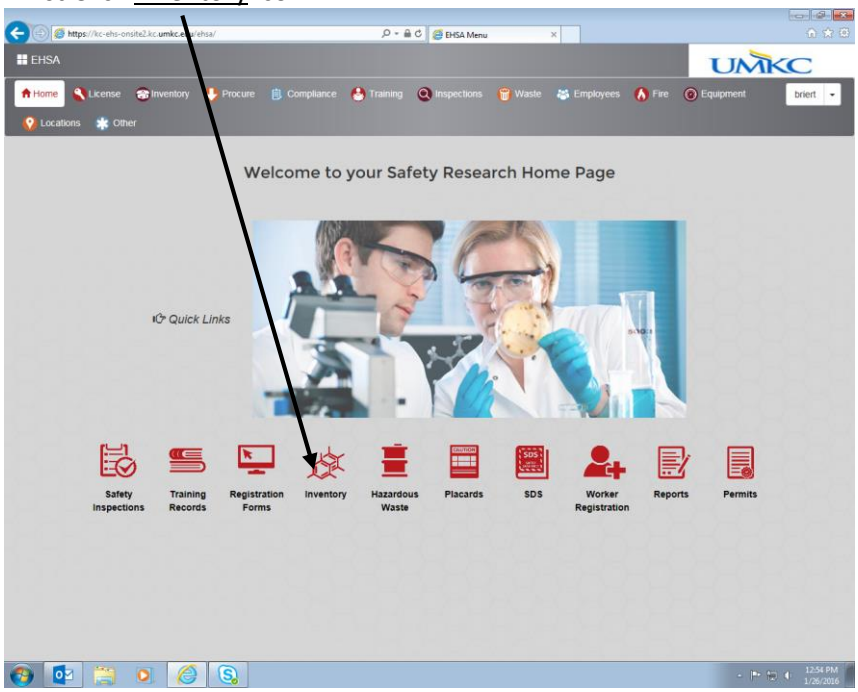
-Selected all the chemicals you want to be removed by clicking these check boxes. You can click multiple boxes to delete multiple chemicals. The number of items selected will appear in red



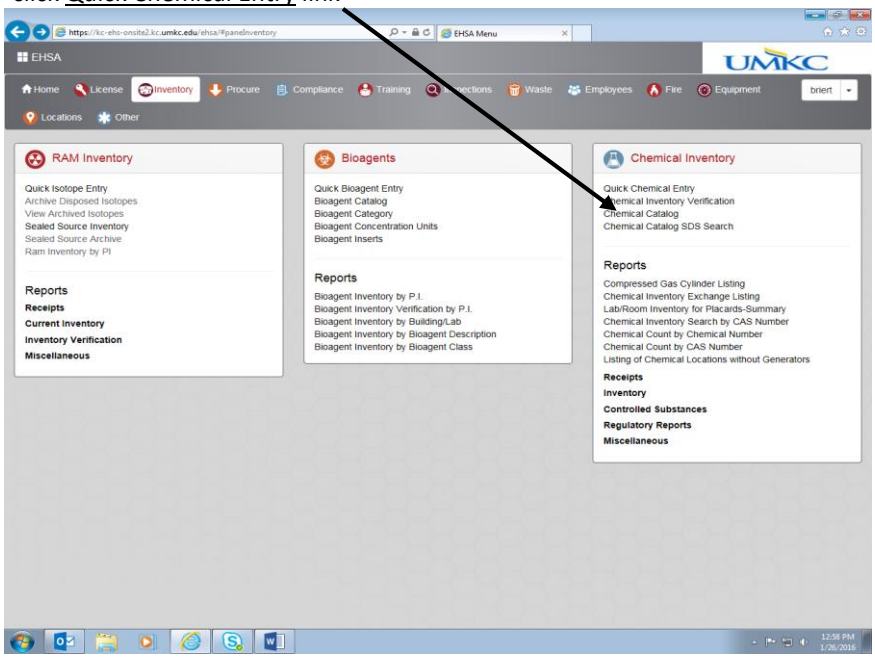
-In the drop down menu you will be given the options: Data Entry Error, Used, Transferred, or Waste. Select one then click the remove button and the entry will be deleted from the Inventory.

Printing Bar Codes:

-First Click inventory icon



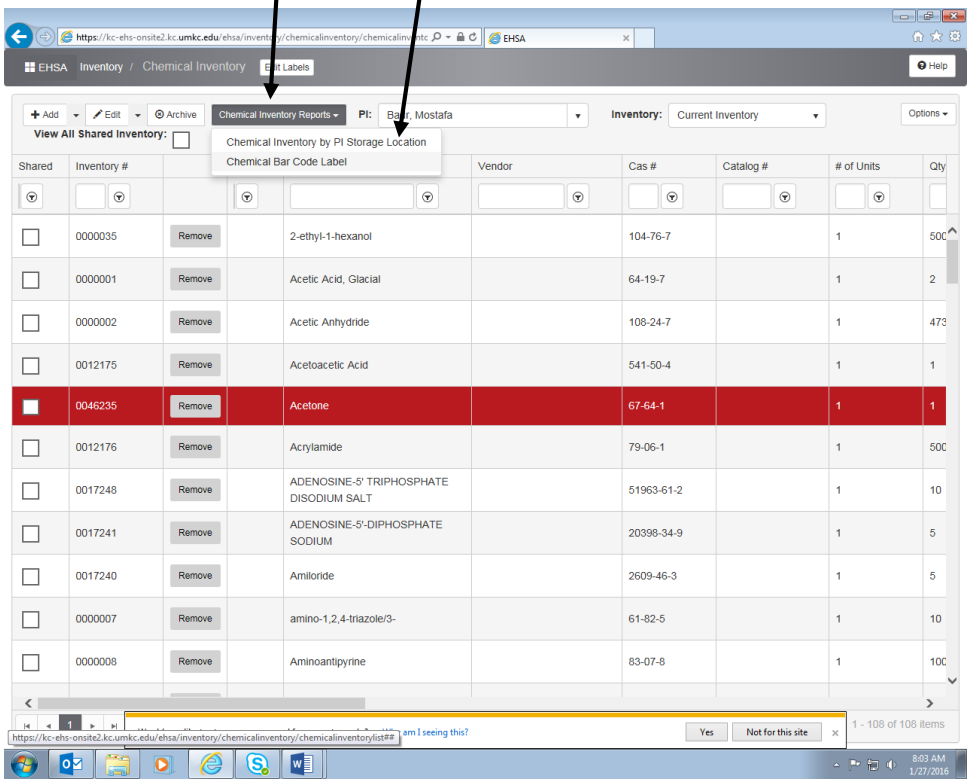
-click Quick Chemical Entry link



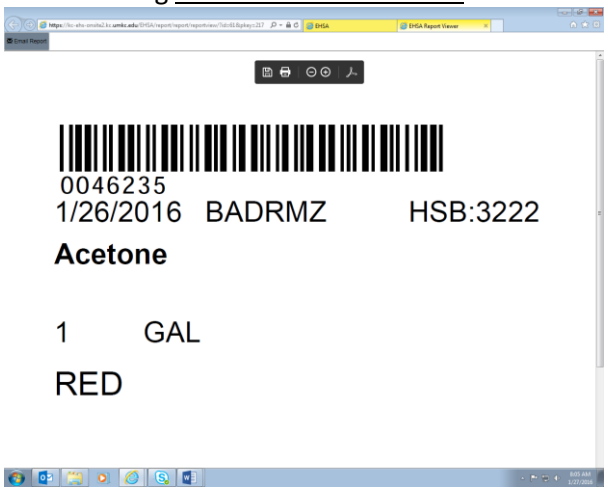
-Be sure the correct PI is selected in the PI box

-Then click the chemical you want to print a bar code for which should select it in red.

-Next click the Chemical Inventory Reports button and click the Chemical Bar Code label button from the drop down menu.



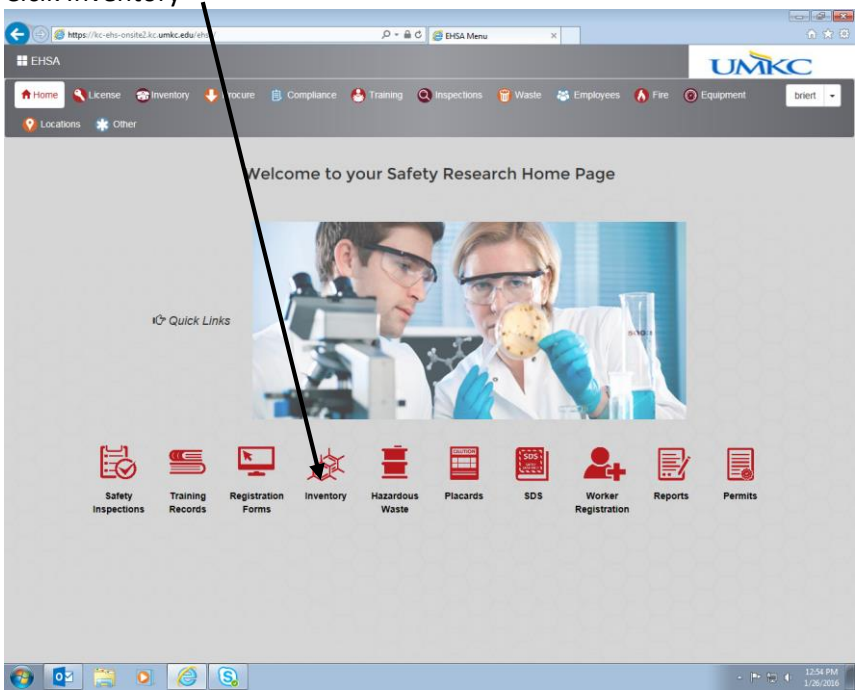
-After clicking Chemical Bar Code label a second window will open up containing a PDF of the label



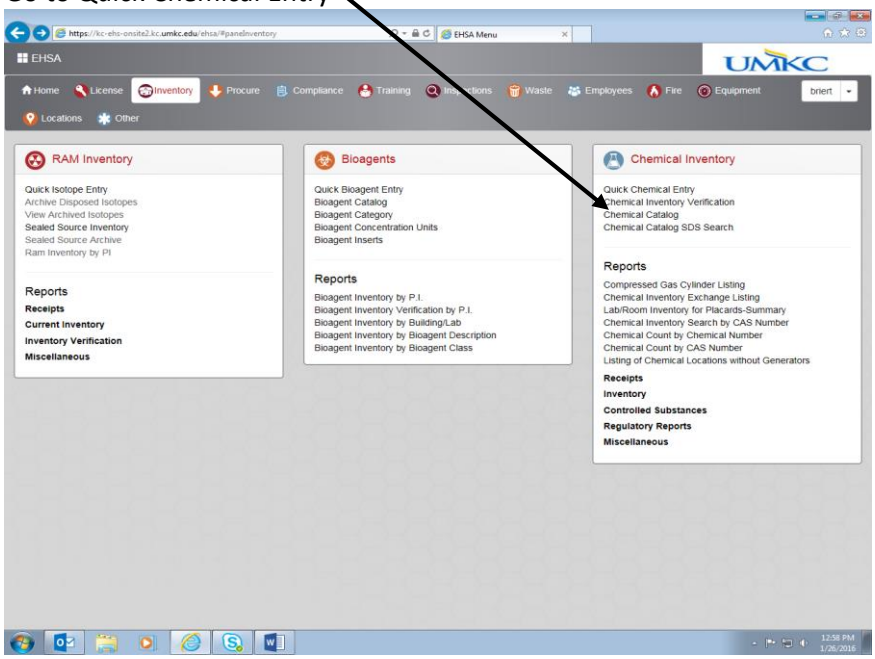
Printing Multiple Bar Codes: By Date

-This is so you can print multiple bar codes for chemicals you have recently logged or logged between certain dates.

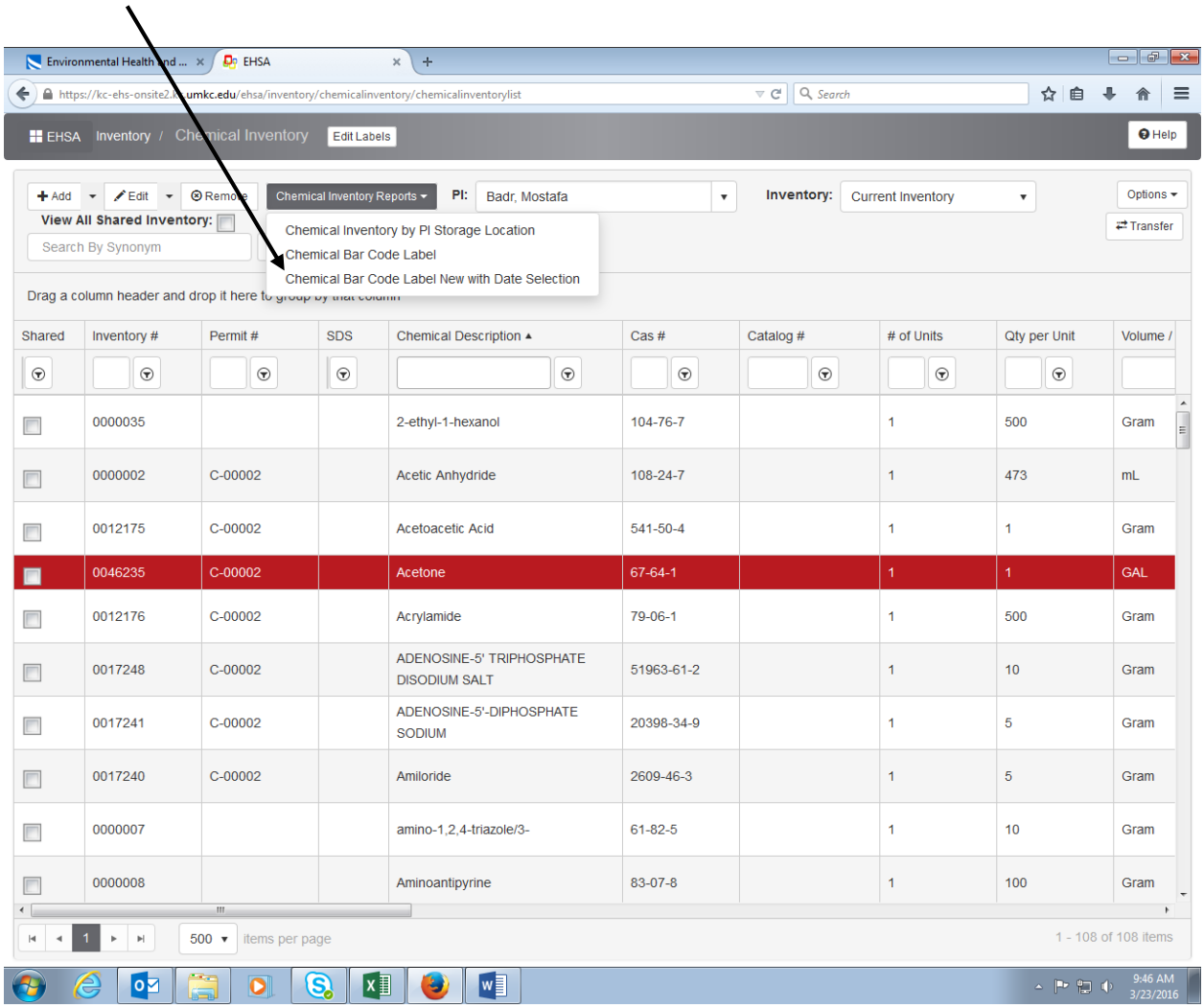
Clcik Inventory



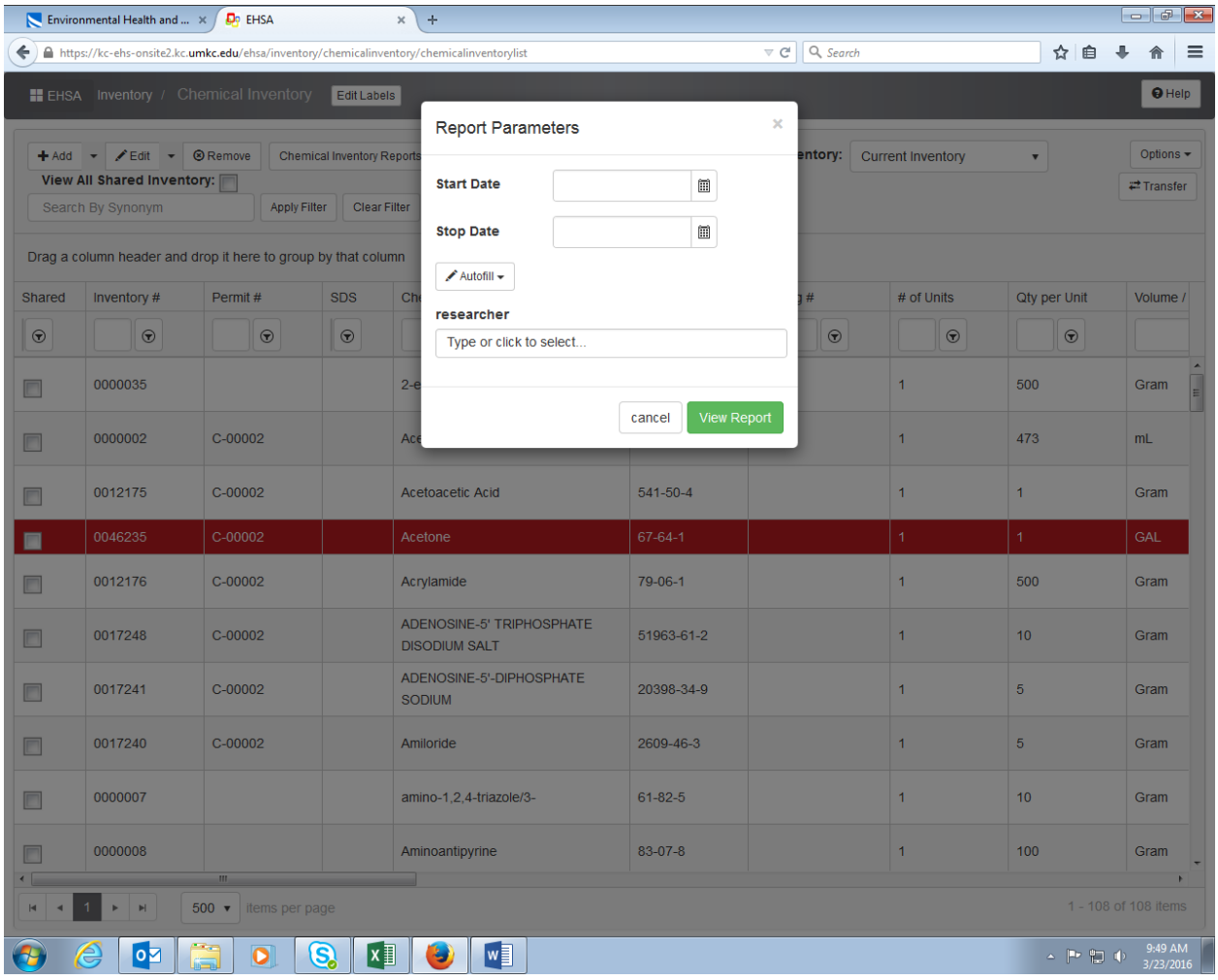
Go to Quick Chemical Entry



Click **the Chemical Inventory Reports** Tab and then Clcik **Chemcial Bar Code Label New with Date Selection.**



-This window will pop up
-Select a range of dates for the new bar codes you want to print then select for which PI and click **View Report**



APPENDIX C

-Chemical Management and Treatment Protocols

APPROVED TREATMENT AND PROTOCOLS
FOR
HAZARDOUS AND NONHAZARDOUS CHEMICALS

1. Barium Chloride residues: Dissolve in water (not to exceed one L total volume) and add excess 3M H_2SO_4. After standing overnight, filter insoluble $BaSO_4$, dry, mix with equal amount of sand and package for transfer to landfill. Neutralize the filtrate with NaOH and discard into the drain with excess running water.

2. Magnesium Sulfate or Zinc Sulfate residues: Dissolve in water (not to exceed one L total volume) and neutralize with NaOH. Filter insolubles, dry and package for transfer to landfill. Discard filtrate into the drain with excess running water.

3. Acid Solutions: HCl, HNO_3, H_2SO_4, H_3PO_4 and Acetic (Vinegar). Neutralize with $NaHCO_3$ or NaOH, total volume of solution not to exceed one L. Discard neutralized solution into the drain with excess running water.

4. Basic Solutions: NaOH, KOH, $Ca(OH)_2$ and $Al(OH)_3$. Neutralize with HCl, total volume of solution not to exceed one L. Discard neutralized solution into the drain with excess running water.

5. Oils - Vegetable or mineral: **No Treatment Allowed**. Add oils to **"used"** oil container for disposal by EHS.

6. Solutions of Hazardous Salts: **No Treatment Allowed**. Solutions of hazardous salts must be disposed into proper liquid used chemical containers (separate containers for light and heavy metals) for disposal by EHS.

7. Solid Hazardous Salts: **No Treatment unless specifically approved by EHS**. Solid hazardous salts must be disposed into proper solid used chemical containers (separate containers for light and heavy metals) for disposal by EHS.

8. Solutions of Non-hazardous Salts: No Treatment Required. Dissolve any residue in water and discard into the drain with excess running water.

9. Solid Non-hazardous Salts: No Treatment Required. Package for transfer to landfill.

10. Alcohols - No Treatment Required: Solutions of water soluble alcohols (<24% by volume) may be discarded into the drain with excess running water. Solutions of water soluble alcohols (>24% by volume) must be disposed into proper liquid used chemical containers for disposal by EHS.

11. Alcohols - No Treatment Allowed: Solutions of water insoluble non-hazardous and hazardous alcohols must be disposed into proper liquid used chemical containers for disposal by EHS.

12. Formaldehyde Solutions: Add about 1 mL of bleach per 1 % formaldehyde concentration per mL of solution, let stand for 20 minutes and discard into the drain with excess running water. However if there are other hazardous chemicals in the solution, e.g., chloroform, etc., then this method is not applicable. That chemical solution would need to be placed in a liquid used chemical container for disposal by EHS.

13. DAB Solutions: Add 50 mL of bleach to one L of water in a one gallon plastic container. Pour no more than 250 mL of DAB solution into the plastic container and mix by shaking. Allow container to stand at least 24 hours before discarding into the drain with excess running water.

14. Dilute Solutions of Ethidium Bromide (e.g., electrophoresis buffer containing 0.5 micrograms/mL ethidium bromide).

    Method 1: The following method is from Lunn and Sansone (1987)

    1. Add 2.9 g of Amberlite XAD-16 for each 100 mL of solution, total volume not to exceed 500 mL. Amberlite XAD-16, a nonionic, polymeric absorbent, is available from Rohm and Haas.

2. Store solution for 12 hours at room temperature, shaking it intermittently.

3. Filter the solution through a Whatman No. 1 filter and discard filtrate into the drain with excess running water.

4. Seal the filter and Amberlite resin in a plastic bag and dispose of the bag into the BFI bio-hazardous waste container.

Method 2: The following method is from Bensaude (1988)

1. Add 100 mg of powdered activated charcoal for each 100 mL of solution, total volume not to exceed 500 mL.

2. Store the solution for one hour at room temperature, shaking it intermittently.

3. Filter the solution through a Whatman No. 1 filter and discard the filtrate into the drain with excess running water.

4. Seal the filter and the activated charcoal in a plastic bag and dispose of the bag in the BFI bio-hazardous waste container.

15. Mercury Residues- Create a paste of zinc powder and dilute (5-10%) sulfuric acid. The paste should then be worked into the surface to be cleaned, and swept up after it has dried. The residue should wash away with soap and water. Next, the surface should be washed again with trisodium phosphate detergent and water, or nitric acid. All solutions and waste should be collected and disposed of through EHS.

APPENDIX D

-Hazardous Waste Incompatibility List
-OnSite Storage Requirements
-Campus Building Abbreviations and Addresses
-Training Available to Personnel Handling Hazardous Waste

HAZARDOUS CHEMICAL INCOMPATIBILITY LIST

RGN	REACTIVITY GROUP	INCOMPATIBLE WITH
1	Acids mineral non-oxidizing	4-15, 17- 26, 28, 30-34, 101-107
2	Acids mineral oxidizing	3-34, 101-103, 105-107
3	Acids organic	2, 4-5, 7-8, 10-12, 15, 18, 21, 22, 24-26, 33-34, 102-105, 107
4	Alcohols & glycols	1-3, 8, 18, 21, 25, 30, 34, 104-105, 107
5	Aldehydes	1-3, 7-8, 10, 12, 21, 25, 27-28, 30, 33-34, 104-105, 107
6	Amides	1-2, 21, 24, 104-105, 107
7	Amines, aliphatic & aromatic	1-3, 5, 12, 17-18, 21, 24, 30, 34, 104-105, 107
8	Azo compounds, diazo compounds & hydrazines	1-5, 9, 11-13, 17- 23, 25, 30-34, 102-107
9	Carbamates	1-2, 8, 10, 21-22, 25, 30, 104, 107
10	Caustics	1-3, 5, 9, 13, 17-19, 21-22, 24-27, 32, 34, 102-103, 107
11	Cyanides	1-3, 8, 17-19, 21, 25, 30, 34, 103-104, 107
12	Dithiocarbamates	1-3, 5, 7-8, 18, 21, 25, 30, 34, 103-105, 107
13	Esters	1-2, 8, 10, 21, 25, 102, 104-105, 107
14	Ethers	1-2, 104, 107
15	Fluorides inorganic	1-3, 107
16	Hydrocarbons aromatic	2, 104, 107
17	Halogenated organics	1-2, 7-8, 10-11, 20-23, 25, 30, 104-105, 107
18	Isocyanates	1-4, 7-8, 10--12, 20-22, 25, 30-31, 33, 104-107
19	Ketones	1-2, 8, 10-11, 20-21, 25, 30, 104-105, 107
20	Mercaptans & other organic sulfides	1-2, 8, 17-19, 21-22, 25, 30, 34, 104-105, 107
21	Metals, alkali and alkaline	1-13, 17-20, 25-27, 30-32, 34, 101-104, 106-107
22	Metals, other elemental & alloys as powders, vapors or sponges	1-3, 8-10, 17-18, 20, 28, 30, 34, 102-104, 106-107
23	Metals, other elemental & alloys as sheets, rods, drops or moldings	1-2, 8, 17, 102-104, 107
24	Metal & metal compounds, toxic	1-3, 6-7, 10, 26, 30, 34, 102-103, 106-107
25	Nitrides	1-5, 8-13, 17-21, 26-27, 30, 31, 34, 101-104, 106-107
26	Nitriles	1-3, 10, 21, 24-25, 30, 104-105, 107
27	Nitro compounds organic	2, 5, 10, 21, 25, 104-105, 107
28	Hydrocarbons, aliphatic, unsaturated	1-2, 5, 22, 30, 104, 107
29	Hydrocarbons, aliphatic saturated	2, 104, 107
30	Peroxides & hydroperoxides organic	1-2, 4-5, 7-9, 11-12, 17-22, 24-26, 28, 31-34, 101-105, 107
31	Phenols & Cresols	1-2, 8, 18, 21, 25, 30, 34, 102-105, 107
32	Organophosphates, phosphothioates, phosphodi-	1-2, 8, 10, 21, 30, 34, 104-105, 107
33	Sulfides inorganic	1-3, 5, 8, 18, 30, 34, 102-104, 106-107
34	Epoxides	1-5, 7-8, 10-12, 20-22, 24-25, 30-33, 102, 104-105, 107
101	Combustible & flammable materials, misc.	1-2, 21, 25, 30, 102, 104-105, 107
102	Explosives	1-3, 8, 10, 13, 21-25, 30-31, 33-34, 101, 103-105, 107
103	Polymerizable compounds	1-3, 8, 10-12, 21-25, 30-31, 33, 102, 104-105, 107
104	Oxidizing agents, strong	1, 3-9, 11-14, 16-23, 25-34, 101-103, 105, 107
105	Reducing agents, strong	1-8, 12-13, 17-20, 26, 31-32, 34, 101-104, 106-107
106	Water & mixtures containing water	1-2, 8, 18, 21, 22, 24-25, 33, 105, 107
107	Water reactive chemicals	ALL

OnSite Storage Requirements

AEROSOL	AEROSOL CONTAINERS - Flammable Gas mixture with liquid - Store with Flammable Liquids in flammable cabinet - Class 3. Note: Contact Chemical Safety for Special Waste Handling Issues.
BIO	BIOHAZARDOUS MATERIAL - SEE BIOSAFETY OFFICE
BLUE	HEALTH HAZARD - Store separately in vented, cool, dry, area away from acids, oxidizers, alkalines, and flammable solvents. Store in unbreakable chemically resistant secondary containers. Segregate incompatibles. Segregate solids and liquids. Toxic if inhaled, ingested, or absorbed through skin. Examples: Cyanides, heavy metal compounds, i.e. cadmium, mercury, osmium, etc.
BROWN	CORROSIVE - ORGANIC ACID - Store separately in acid storage cabinet, away from away from Oxidizing and Inorganic acids, alkalines, toxics, oxidizers, and flammables. Segregate solids and liquids. Never store with Nitric Acid. May harm skin, eyes mucous membranes.
COR-NOS	CORROSIVE - NOT SPECIFIED - as Acid or Alkaline - liquid or solid, do not store with other corrosives.
DESICATE	Water reactive or pyrophoric materials. Store in a closed container with controlled low-moisture atmosphere. May be stored under inert gas such as nitrogen or argon.
DRUG	Drug - regulated by the FDA or DEA, must be kept under lock and key, with limited access. DEA licensing may be required.
EXPLO	EXPLOSIVE - FORBIDDEN EXPLOSIVE, forbidden unless 30% wetted with water - Contact CSO RESTRICTED EXPLOSIVE - Shock and friction sensitive
GAS	Compressed Gas Cylinders must be labeled according to Hazard Communication Standards, Stored with restraints to prevent falling in accordance with NFPA 45 & 55 codes, and Limited by use/spare for quantity allowed in the lab according to NFPA 45 & 55 Contact CSO at 706-721-2663 for assistance
GRAY	General, Non-Reactive - Store on general shelving preferably behind doors and below eye level of the shortest person in the lab. Chemicals that present no more than a mild to moderate risk in any hazard group (no higher than a 2 in health, fire, or reactivity ratings.
GREEN	Environmentally Hazardous Substance - Store away from municipal water drain lines. Segregate solids and liquids. Store in a separate dry, cool area. Do not dispose wastes down the drain.
LOCKED	Store Locked up
ORANGE	Corrosive Alkaline or Basic - Store in separate corrosive cabinet away from all acids, oxidizers, toxics, and flammables. Store solutions of inorganic hydroxides in labeled polyethylene containers. Segregate Organics & Inorganics, and Solids & Liquids. May harm skin, eyes, and mucous membranes.
R-WSTRIP	Flammable Solid - store away from potential ignition sources such as heat, flames, sparks, etc. Keep away from oxidizers and acids.
RAD	RADIOACTIVE MATERIAL - See Radiation Safety
RED	Flammable or Combustible Liquids - Store in flammable cabinet away from sources of ignition. Store highly volatile or temperature sensitive flammable liquids in Explosion-proof refrigerator. May be harmful when fumes/vapors are inhaled, ingested, or absorbed through skin. Flammable or Combustible Solids - Store in a separate dry, cool area away from oxidizers, corrosives, and flammable liquids. May be harmful if dusts are inhaled, ingested, or come in contact with skin.
REDSTRIP	Flammable Solid, Water Reactive, Class D Extinguisher Required - Store Separately - Contact CSO special storage procedures required.
REFRIG 1	Potential Explosive - Should be stored in an Explosion Proof Refrigerator. Temperature Sensitive, Explosion hazard. High hazard chemical with special precautions. Contact Chemical Safety for specialized training and information for this product.
REFRIG 2	RECOMMENDED REFRIGERATION TO DELAY DECOMPOSITION

RESTRICT	RESTRICTED MATERIAL - SPECIAL APPROVAL REQUIRED FOR PURCHASE - CONTACT THE CSO PRIOR TO BRINGING ON SITE
W&BSTRIP	Corrosive Acidic, Solid. Segregate from Alkaline/Basic Solids, Oxidizing or Reducing agents. White with Black Stripes = Corrosive Acidic Solid
WHITE	Corrosive Inorganic or Oxidizing Acids. Store separately in acid storage cabinet away from Organic Acids, Alkalines, Oxidizers, Toxics, and Flammable or Combustible materials. Segregate Inorganic and Oxidizing acids in secondary chemical resistant containers. Store Nitric Acid Separately. May harm skin, eyes, mucous membranes.
YELLOW	Reactive, Oxidizing, Peroxides, Explosive Reagents, Water Reactive. Store in spill trays inside a chemical storage cabinet, away from acids, alkalines, toxics, and flammable and combustible materials. Store away from ignition or water sources. If the material is water reactive or air reactive, it must be stored in a desiccator. May react violently with air, water or other substances. Shock sensitive materials must be stored away from all other chemicals, preferable in a desiccator.

Campus Building Abbreviations and Addresses

Abbreviation	Building Name	Address
AC	Administrative Center	5115 Oak
ANLB	Animal Facilities Building	1015 E. 50th St.
ANNEX	51st Street Annex Building	301 E. 51st St.
BC	Berkley Child & Family Development Center	1012 E. 52nd St.
BKSTR	University Bookstore	5000 Rockhill
BSB	Biological Sciences Building	5007 Rockhill
BLOCH	Henry W. Bloch School of Business and Public Administration	5110 Cherry
CH	Cockefair Hall	5121 Rockhill
RES-H	Cherry St. Residence Hall	5030 Cherry
RES-H	Oak St. Residence Hall	5051 Oak
DS	School of Dentistry	650 E. 25th St.
ED	Education Building	615 E. 52nd St.
EPP	Epperson House	5200 Cherry
FA	Fine Arts Building	5015 Holmes
GAR	Garage	5444 Troost
EMH	Ernest Manheim Hall	710 E. 52nd St.
GH	Grant Hall	5228 Charlotte
GSB	General Services Building	1011 E. 51st St.
RHFH	Robert H. Flarsheim Science and Technology Hall	5110 Rockhill Rd
HH	Haag Hall	5120 Rockhill
HSB	Health Sciences Building (Hospital Hill)	2220 Holmes
HSB	Health Sciences Building	TBA
KPB	Katz Pharmacy Building	5005 Rockhill
LAW	Law School	500 E. 52nd St.
MED	School of Medicine (Hospital Hill)	2411 Holmes
MNL	Miller Nichols Library	800 E. 51st St.
NH	Newcomb Hall	5123 Holmes
OMB	Old Maintenance Building	801 E. 51st St.
PAC	Performing Arts Center	4949 Cherry
RH	Royall Hall	800 E. 52nd St.
SASS	Student Academic Support Services	5014 Rockhill
SCB	Spencer Chemistry Building	5009 Rockhill
SH	Scofield Hall	711 E. 51st St.
SRC	Swinney Recreation Center (Sweh' - nee)	5030 Holmes
4825T	4825 Troost Bldg.	4825 Troost Ave.
4747T	4747 Troost Bldg.	4747 Troost Ave.
UC	University Center	5000 Holmes
UH	University House	5101 Rockhill

Training available for personnel handling hazardous waste or working in Satellite Accumulation Areas.

Chemical Management Plan Training

Laboratory Safety Awareness for Custodial

Laboratory Safety Awareness for Police/Security

Laboratory Safety Awareness for Graduate Students

Contingency Plan Training for Emergency First Responders

Hazardous Waste Operations 8 hour Refresher