

Chemical Safety: What You Don't Know Can Hurt You!

Laboratory Safety Colloquium

Sponsored by

Environmental Health & Safety

The Office of Research & Graduate Studies



Chemical Trivia

This group of chemicals manifests its toxicity by way of **starving your cells of oxygen** through the inhibition of the respiratory enzyme cytochrome oxidase.



Chemical Trivia

This group of chemicals manifests its toxicity by way of **starving your cells of oxygen** through the inhibition of the respiratory enzyme cytochrome oxidase.

- 1. Carbon dioxide
- 2. Cyanide
- 3. Nitrogen
- 4. Hydrogen

Answer:
Cyanide



Chemical Trivia

If you had been diagnosed with **Pink Disease**, to what chemical had you most likely been exposed?



Chemical Trivia

If you had been diagnosed with **Pink Disease**, to what chemical had you most likely been exposed?

1. Mercury
2. Lead
3. Chromium
4. Copper

Answer:
Mercury



Chemical Trivia

Early symptoms of exposure to this chemical include **skin peeling from the hands** followed by weak legs and numb hands and feet, impairment of the vibration sensation in the toes, and loss of ankle reflexes.



Chemical Trivia

Early symptoms of exposure to this chemical include **skin peeling from the hands** followed by weak legs and numb hands and feet, impairment of the vibration sensation in the toes, and loss of ankle reflexes.

1. Xylene
2. Acrylamide
3. Acetone
4. Nitric Acid

Answer:
Acrylamide



Which of the following
chemicals is the **most toxic**
(based upon LD 50)?



Chemical Trivia

Which of the following chemicals is the **most toxic** (based upon LD 50)?

1. acetone 5800 mg/kg
2. n-butyl acetate 10000 mg/kg
3. cyclohexane 12,705 mg/kg
4. ethyl acetate 5620 mg/kg
5. Tetrahydrofuran 850 mg/kg
6. 1,1,1 trichloroethane 9600 mg/kg

Answer:

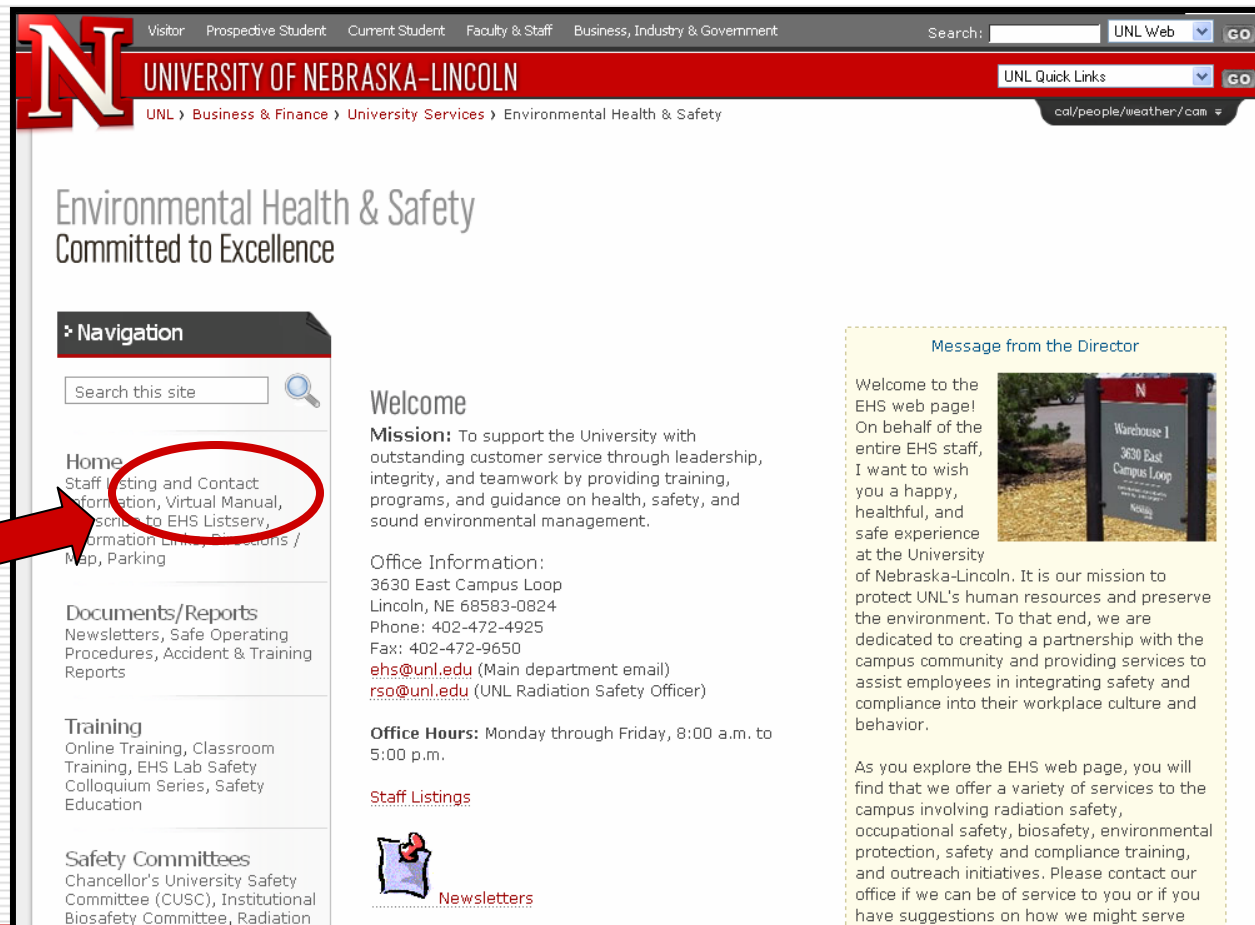
Tetrahydrofuran 850 mg/kg



Steps to develop **YOUR** Virtual Manual



EHS Virtual Manual



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Environmental Health & Safety Committed to Excellence

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Chancellor's University Safety Committee (CUSC), Institutional Biosafety Committee, Radiation

Welcome

Mission: To support the University with outstanding customer service through leadership, integrity, and teamwork by providing training, programs, and guidance on health, safety, and sound environmental management.

Office Information:
3630 East Campus Loop
Lincoln, NE 68583-0824
Phone: 402-472-4925
Fax: 402-472-9650
ehs@unl.edu (Main department email)
rso@unl.edu (UNL Radiation Safety Officer)

Office Hours: Monday through Friday, 8:00 a.m. to 5:00 p.m.

Staff Listings

Newsletters

Message from the Director

Welcome to the EHS web page! On behalf of the entire EHS staff, I want to wish you a happy, healthful, and safe experience at the University of Nebraska-Lincoln. It is our mission to protect UNL's human resources and preserve the environment. To that end, we are dedicated to creating a partnership with the campus community and providing services to assist employees in integrating safety and compliance into their workplace culture and behavior.

As you explore the EHS web page, you will find that we offer a variety of services to the campus involving radiation safety, occupational safety, biosafety, environmental protection, safety and compliance training, and outreach initiatives. Please contact our office if we can be of service to you or if you have suggestions on how we might serve



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Virtual Manual

The Virtual Manual is a new way to access information so you can find what is pertinent to you and your job. To create or access your own customized manual, enter the [Virtual Manual](#) site.



EHS Virtual Manual



Virtual Manual

(Page updated 5/7/03)

Welcome to the University of Nebraska-Lincoln, Environmental Health and Safety Department Virtual Manual. The Virtual Manual was created to help supervisors and employees consolidate EHS requirement that apply to individual work areas at UNL.

Bookmark this page now and always enter the Virtual Manual through this page. Call EHS at (402) 472-4925 if you need assistance with the Virtual Manual.

In order to bring you current and expanded information, the EHS Virtual Manual will always be a work in progress. Updates after November 1, 2001, will be noted on the associated Virtual Manual page.

We welcome your comments and suggestions so that we can make the Virtual Manual best fit your needs. *Please forward your suggestions regarding information to add to the Virtual Manual to EHS by email at ehs@unl.edu or by telephone at (402) 472-4925.*

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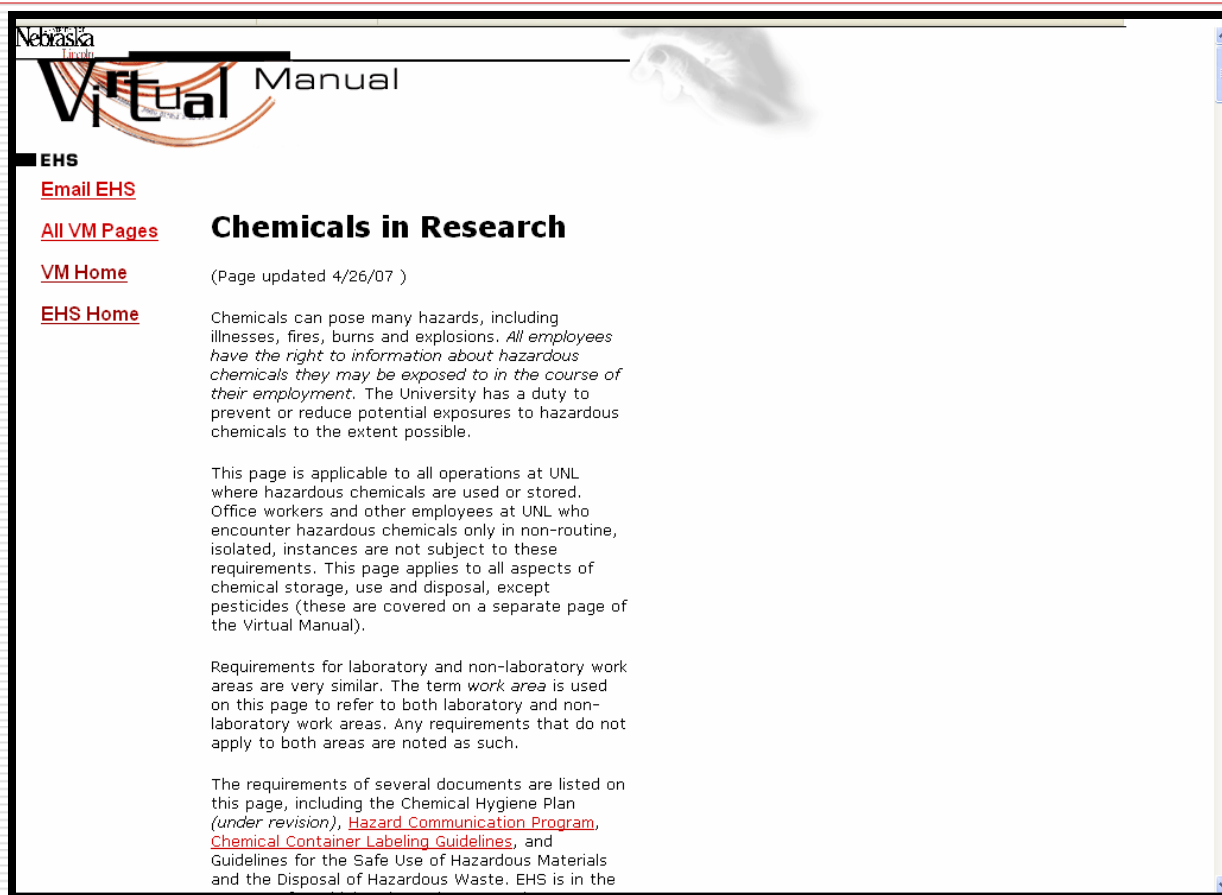

Manual

Click on the Submit button at the bottom of the table to complete your assessment. If you need to return to the assessment instructions, click the back button on your browser toolbar. (You should then be able to click the forward button on your browser to return to your assessment.)

Assessment		Subject
Part I. General Safety Information This information is applicable to all work areas, including offices.		
This box is automatically selected for you.		General Safety for Everyone
Part II. Specific Hazards Several of the following hazards may apply to your work area. Be sure to review the entire list.		
If your work involves chemicals used in research applications, check this box.	☒	Chemicals in Research
If your work involves chemicals found in shops and maintenance areas, check this box.	☐	Chemicals in Shops
If your work involves cleaning chemicals, check this box.	☐	Chemicals for Cleaning
If your work involves handling or applying pesticides, check this box.	☐	Pesticides
If you are involved with managing or removing asbestos, check this box.	☐	Asbestos
If you work with removing or managing lead-based paint, check this box.	☐	Lead
If you do research involving recombinant DNA or infectious microorganisms, check this	☐	Biological Hazards



EHS Virtual Manual



The screenshot shows a web browser window displaying the 'EHS Virtual Manual' page. The page has a header with the University of Nebraska logo and the title 'Virtual Manual'. A left sidebar contains navigation links: 'EHS', 'Email EHS', 'All VM Pages', 'VM Home', and 'EHS Home'. The main content area is titled 'Chemicals in Research' and includes a date stamp '(Page updated 4/26/07)'. The text discusses chemical hazards, employee rights to information, and university responsibilities. It also specifies the applicability of the manual to various work areas and lists several related documents like the Chemical Hygiene Plan and Hazard Communication Program.

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Chemicals in Research

(Page updated 4/26/07)

Chemicals can pose many hazards, including illnesses, fires, burns and explosions. *All employees have the right to information about hazardous chemicals they may be exposed to in the course of their employment.* The University has a duty to prevent or reduce potential exposures to hazardous chemicals to the extent possible.

This page is applicable to all operations at UNL where hazardous chemicals are used or stored. Office workers and other employees at UNL who encounter hazardous chemicals only in non-routine, isolated, instances are not subject to these requirements. This page applies to all aspects of chemical storage, use and disposal, except pesticides (these are covered on a separate page of the Virtual Manual).

Requirements for laboratory and non-laboratory work areas are very similar. The term *work area* is used on this page to refer to both laboratory and non-laboratory work areas. Any requirements that do not apply to both areas are noted as such.

The requirements of several documents are listed on this page, including the Chemical Hygiene Plan (*under revision*), [Hazard Communication Program](#), [Chemical Container Labeling Guidelines](#), and Guidelines for the Safe Use of Hazardous Materials and the Disposal of Hazardous Waste. EHS is in the





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