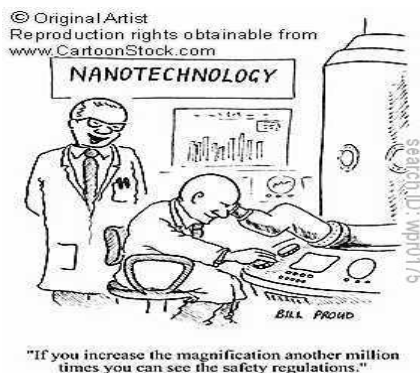


July 2010 SCS Safety Newsletter

Topics in this issue:

- **Recent Laboratory Incidents in the News**
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- **High Magnetic Fields**



<http://www.cartoonstock.com/directory/n/nanotechnology.asp>

Recent Laboratory Incidents in the News:

Please take note of two recent laboratory incidents mentioned below.

On June 28th, 2010 a hydrogen tank exploded at the University of Missouri. Four students were injured and seventeen third story windows were blown out as a result of the explosion. A portion of the news release describes the incident: "Lab personnel turned on the hydrogen tank supply to an anaerobic hood, and due to not being familiar with the warning systems designed to alert them when the hydrogen level was approaching explosive limits, the gas was left on. Once the gas reached an ignition source, it ignited and the explosion occurred." For further information please visit the following links:

<http://www.columbiatribune.com/news/2010/jun/28/explosion-injures-4-mus-schweitzer-hall/>

http://www.stltoday.com/news/local/education/article_35833510-82f8-11df-8e35-00127992bc8b.html

Another recent lab incident occurred on June 2nd, 2010 at Southern Illinois University. There were no serious injuries but total damages due to the incident are estimated at 1 million dollars. The fire began when a student was cleaning equipment with flammable hydrocarbons. For further information:

http://www.wsiltv.com/p/news_details.php?newsID=10348&type=top

Update on both incidents: <http://pubs.acs.org/cen/news/88/i27/8827news3.html>

Transportation, Storage, and Disposal of Glass Bottles:

Glass bottles can be easily broken, resulting in a significant threat to life and property depending upon the contents, quantity, and location. Glass bottles should be transported safely either by using a bottle carrier, or a cart for multiple bottles, in the halls, stairwells, and elevators. This includes using a bottle carrier each and every time chemicals in glass bottles containing quantities larger than 250mL are purchased from the SCS Storeroom. If transporting glass bottles on a cart, ensure the cart has side rails to prevent containers from sliding off and breaking.

To minimize the chance of breaking glass bottles, store them upright and on stable surfaces. If bottles are stored on the floor, secondary containment must be used to contain contents in the event of breakage.

Empty glass bottles must be decontaminated before they are disposed. Prior to decontaminating, the containers must be completely empty. After decontamination bottles can be placed in laboratory garbage cans or placed in the hallway for pick up by Building Service Workers. The chemical name on the bottle must be marked out and the word "EMPTY" written on the label. For specific decontamination procedures refer to:

<http://www.dr.s.illinois.edu/css/guidesplans/wasteguide/chapter9.aspx?tbID=gp>

High Magnetic Fields:

High magnetic fields, such as those from NMR and MRI machines, can cause possible injury to individuals working in the vicinity of these instruments. Users should be aware of the potential risks prior to using these types of instruments.

Magnetic (ferrous) objects should not be taken close (5-10 feet, depending on the magnet) to a high magnetic field. Of particular danger is the potential for tools and small objects to move uncontrollably toward the magnet. This can pose a risk to anyone or anything in the object's flight path. Thus, tools, certain ladders, keys, and any other small ferrous objects should not be taken near a high magnetic field. High magnetic fields can also cause permanent damage to watches, calculators, credit cards, cell phones, magnetic media (should not be taken inside the 20 gauss line), and other electrical equipment. These items should be removed from pockets, etc. before entering an area with a NMR or MRI instrument. Assume any piece of metal is magnetic unless proven otherwise. For more specific information concerning what types of objects should not be taken near a NMR instrument, contact the SCS NMR Laboratory Staff.

Individuals with cardiac pacemakers should not cross the 5 gauss line of a high magnetic field. (The 5 gauss line describes the distance from the center of the magnet to where a field strength of 5 gauss is experienced. If you are not sure where the 5 gauss line is located, consult with the SCS NMR Laboratory Staff.) High magnetic fields could cause the pacemaker to function improperly or to stop working altogether. Individuals with other types of medical implants including clips and prostheses that contain ferromagnetic materials should not enter areas containing high magnetic fields. If uncertain about whether it is safe to use a NMR instrument due to medical devices/implants contact the SCS NMR Laboratory Staff.