WASTE NEWS

A HAZARDOUS WASTE NEWSLETTER

STONY BROOK UNIVERSITY

A PUBLICATION PRODUCED BY THE DEPARTMENT OF ENVIRONMENTAL HEALTH AND SAFETY

WASTE NEWS IS A PERIODIC NEWSLETTER, WRITTEN, EDITED AND DISTRIBUTED BY THE DEPARTMENT OF ENVIRONMENTAL HEALTH AND SAFETY. THE GOAL OF THE NEWSLETTER IS TO SHARE TIMELY RELEVANT WASTE INFORMATION AND RESOURCES WITH THE UNIVERSITY CAMPUS AND TO IMPROVE COMMUNICATION BETWEEN FACULTY, STAFF AND SAFETY SERVICES.

DO YOU HAVE POTENTIALLY DANGEROUS PEROXIDE-FORMING CHEMICALS IN YOUR LABORATORY?

BY JEFF CARTER, HAZARDOUS WASTE MANAGER

Stony Brook University (SBU) laboratory personnel manage many different chemicals, including some that are possibly classified as ***peroxide-forming chemicals.*** Peroxide-forming chemicals are a class of compounds that have the ability to form shock-sensitive explosive peroxide crystals. These compounds tend to absorb and react with oxygen from the air to form unstable peroxides. Many of the organic solvents commonly used at SBU have the potential to form these explosive peroxide crystals. There are four classes of peroxide forming chemicals (Class A, B, C and D) that must be properly handled, stored and labeled. The full list of all four classes can be found on our website at: http://www.stonybrook.edu/ehs/waste/news.shtml

SO, WHAT CAN YOU DO TO ENSURE A SAFER WORK ENVIRONMENT AND TO SAFEGUARD AGAINST PEROXIDE-FORMING CHEMICALS?

- Date all peroxide-forming compounds when received and when opened. You are encouraged to create/use an easy-to-read labeling method. An example of a recommended label type is as follows:

Example of Peroxide-Forming Label

Peroxide-Forming Chemical
Date Received: _____
Date Opened: _____

- Inspect all containers of undetermined age prior to opening. If the container appears old, in bad condition or dried chemical residue is visible, ***do not attempt to open the container. If crystals are present or if liquid has been allowed to evaporate, do not touch or move the container and contact SBU Environmental Health & Safety (EHS) immediately at 2-6410.***
- Order less than a six months supply of these chemicals.
- Class B chemicals may be tested for peroxides using kits available from chemical suppliers using the procedure provided below (one recommended web link where this test paper [2602-500A Reel, Potassium Iodide, 7 mm x 5 m, 1/pk] can be purchased is: http://www.whatman.com/PRODpHIndicatorsandTestPapers.aspx
- If tested and no peroxides are present, the chemical label may be re-dated and initialed, and the chemical kept for an additional 6 months.

******There is a limited supply of peroxide test paper available to you from the SBU Environmental Health & Safety Department. Please contact Jeff Carter at 2-3739 to check for availability.******

PROCEDURE FOR DETECTING PEROXIDES

The presence of peroxides in chemicals can be tested with simple indicator paper. Potassium iodide paper is sensitive to peroxide concentration below 100 ppm. This test is sensitive to the formation of hydroperoxide which is the principal hazard associated with peroxide-forming solvent.

1. Don nitrile gloves, safety glasses and then immerse the test strip in the chemical for 1 second.
2. Blow/exhale slowly on the test strip for 15 to 30 seconds or until the color stabilizes (vapor in breathe provides water for the reaction to proceed).
3. A yellow color indicates a low concentration of peroxide in the sample while blue color indicates a high concentration.
4. If a high concentration is observed, EH&S must be notified immediately by calling 2-6410 to ensure proper (and ***SAFE!***) disposal. Avoid handling the container, if possible.

FOR MORE INFORMATION, PLEASE CONTACT EH&S AT 2-6410 AND/OR READ "PRUDENT PRACTICES" AT http://tinyurl.com/sbuperoxides TO LEARN MORE ABOUT THE SAFE HANDLING OF PEROXIDES.