

Loss Control

INSIGHTS FOR SCHOOLS



After nearly 15 years of work, nations all over the world will finally have unified standards for the safe identification, use, transport and disposal of globally traded chemicals. The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), a new system adopted by the UN Economic and Social Council, is now ready for worldwide implementation.

When fully adopted, GHS will impact businesses of every size and type. Kent Candee, environmental health services manager in EMC's Home Office Risk Improvement department and a director for the American Board of Industrial Hygiene, introduces you to the future of global chemical safety in this issue of *Loss Control Insights*.

Continued inside

» BE SAFE ONLINE

The Federal Trade Commission and a partnership of security experts, marketers and consumer advocates have launched an education campaign to help consumers stay safe online. Visit www.onguardonline.gov to find out more about this initiative.

CHEMICAL SAFETY GOES GLOBAL

Many countries have regulatory systems in place for the classification and labeling of chemicals. Although these systems may be similar in content and approach, their differences are significant enough to require multiple classifications, labels and safety data sheets for the same product when marketed in different countries. This may lead to inconsistent protection for those potentially exposed to the chemicals, and also creates extensive regulatory burdens on companies producing chemicals. The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) will change all of that. In this article, EMC's Environmental Health Services Manager Kent Candee answers many questions about this new worldwide initiative.

What are some of the benefits of GHS?

The diverse and sometimes conflicting national and international labeling requirements can create confusion among employers who seek to use hazard information to effectively protect their workers and communities. The application of GHS has the potential to:

- Enhance the protection of human health and the environment by providing an internationally comprehensible system
- Provide a recognized framework to develop regulations for those countries without existing systems
- Facilitate international trade in chemicals whose hazards have been identified on an international basis
- Reduce the need for testing and evaluation against multiple classification systems

When implemented, GHS will have a dramatic impact on improving safety for workers and others through consistent and simplified communication on chemical hazards and practices to follow for safe handling and use. As a result, companies may see a reduction in accidents and illnesses, and governments will benefit through improved protection of the public from chemical hazards.

"The impact of The Globally Harmonized System of Classification and Labeling of Chemicals will include improved worker safety, public health and environmental protection, and increasing opportunities for trade and benevolence among nations."

**Jennifer Silk,
OSHA Deputy Director of
the Directorate of Standards
and Guidance**

GHS PICTOGRAMS: The International Language Of Safety



Corrosives



Gases Under Pressure



Irritant

Dermal Sensitizer

Acute Toxicity (harmful)

Narcotic Effects

Respiratory Tract

Irritation

What chemicals are covered under GHS?

GHS covers all chemical substances, solutions and mixtures. Pharmaceuticals, food additives, cosmetics and pesticide residues in food will not be covered at the point of consumption, but will be covered where workers may be exposed and when in transport.

What changes will I see in chemical labels?

One of the many benefits of adopting GHS is that it provides a consistent format for labels, making the information easier to access and understand when making hazard assessments. The standardized label elements in the GHS are:

- Symbols (hazard pictograms) that convey health, physical and environmental hazard information
- Signal words (e.g. Danger or Warning) to emphasize hazards and indicate the relative level of severity of the hazard
- Hazard statements (e.g. fatal if swallowed, toxic if swallowed, may be harmful if swallowed) to describe the nature of the hazard

» **OSHA ADDRESSES COMBUSTIBLE DUST FIRES**

Learn how to reduce and mitigate the effect of fire and explosions caused by combustible dust in a new OSHA bulletin. Download a copy of this valuable bulletin at www.osha.gov/dts/shib/shib073105.pdf.

» **EPA REVISES WASTEWATER TREATMENT EXEMPTIONS**

EPA has finalized revisions to the wastewater treatment exemptions for hazardous waste mixtures. For more information on the action known as the "Headworks Rule Exemption," visit www.epa.gov.

Regardless of what language they speak, workers worldwide will quickly understand the meaning of the pictograms used to identify hazard classes.



Oxidizers



Flammables
Self Reactives
Pyrophorics
Self-Heating
Emits Flammable Gas
Organic Peroxides



Environmental Toxicity



Carcinogen
Respiratory Sensitizer
Reproductive Toxicity
Target Organ Toxicity
Mutagenicity
Aspiration Toxicity



Acute Toxicity (severe)



Explosives
Self Reactives
Organic Peroxides

What changes will I see in Material Safety Data Sheets (SDS)?

GHS material safety data sheet headings, sequence and content are similar to the International Organization for Standardization (ISO), European Union (EU) and American National Standards Institute (ANSI) sheet requirements. The 16 headings on GHS sheets will appear in the following order:

1. Identification of the substance or mixture and of the supplier
2. Hazard identification
3. Composition/Information on ingredients
4. First aid measures
5. Firefighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/Personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information, including information on preparation and revision of the SDS

What will my employees need to know?

Employees will need to be familiar with the new look and language of GHS labels and material safety data sheets. EMC can assist you in developing appropriate training programs for your employees.

When will GHS be implemented?

GHS has been adopted by the United Nations with a goal of broad international adoption by 2008. However, GHS is a voluntary system that does not have the force of treaty obligations between nations. It is likely that different national systems/sectors will require different timeframes for GHS implementation.

Any final comments about GHS?

Everyone involved in the development and adoption of GHS is hopeful that the system will be widely applied and confident that significant benefits to human health and the environment will be the result of that application.

What Color Is Workplace Safety?



Count
on **EMC**

Environmental Health

How do you communicate the importance of safety to a multicultural workforce? Talk in colors! Color guidelines established by both the American National Standards Institute and numerous manufacturers and suppliers have developed the following industry-accepted standards for color usage within the workplace. When properly used, this type of approach can not only minimize the impact of language differences, but may also reduce the likelihood of on-the-job injuries.

THE COLORS OF SAFETY



Green — Designates “safety” and the location of first aid and emergency response equipment, including drench showers and eyewashes.



Red — Identifies fire protection equipment and apparatus. This color category also includes alarm boxes, blanket boxes, fire buckets/pails and fire extinguishers. Additionally, red is used for emergency stop bars and buttons on hazardous machinery.



Blue — Used for general informational signs and bulletin boards. Blue is also used for specific warning signs associated with railroad operations and warning signs to not use or move equipment under repair.



Black and White or Black and Yellow — Safety black with safety white or safety yellow are the colors designating traffic controls and housekeeping markings. The preferred use of safety black with safety yellow is for traffic markings, while safety black with white is reserved for information purposes.



Fluorescent Orange or Orange-Red — Used for labels and containers for blood and infectious waste.



Magenta — Used as a radiation caution, including X-ray, alpha, beta, gamma, neutron and proton radiation.



Yellow — Designates caution and marks physical hazards. Yellow may also be used on storage cabinets and safety cans containing flammable or corrosive materials. Solid yellow or yellow with black stripes or checkers may be used interchangeably to provide a more commanding appearance.



Orange — Designates dangerous parts of machines and other energized equipment that may cause injuries, including cuts, crushing, shocking or other contact-related injuries.

What are the potential stressors that can negatively impact the health of your employees? EMC uses the latest technology to evaluate the environmental conditions that may result in costly losses.

EMC's industrial hygienists perform on-site environmental health surveys to identify risks such as excessive noise levels, chemical exposures and air contaminants. Based on the results, EMC provides specific recommendations to control each identified hazard. These practical solutions may include modifications in current operating procedures, adjustments in engineering controls and/or changes in personal protective equipment.

When should you call in EMC's industrial hygienists to assess exposures to environmental health problems? “Monitoring recurring employee health complaints is a good way to determine the need for our involvement,” notes EMC Environmental Health Services Manager Kent Candee. Candee also suggests calling immediately after any adverse environmental condition is reported by OSHA.

Count on EMC to help you recognize, evaluate and control the environmental stressors that could impact the health and performance of your employees.

Is Your Roof Ready For Action?



How well has your roof survived the sub-zero temperatures and snow accumulation this winter? Is it ready to handle spring storms? A quick assessment of your roof's condition can answer both questions and help extend the life of one of your biggest investments.

Inspections Can Extend The Life Of Your Roof

Frequent inspections of roof systems can help prevent premature failure by identifying potential leak sources.

Repairing defects to prevent leaks is one way to maintain your roofs and potentially extend their service life.

When leaks occur, repair them promptly and have infrared moisture surveys conducted to detect whether moisture has infiltrated the system.

This will help identify wet insulation,

allowing you to replace it before the damage is too large to repair and replacement becomes necessary.

Even New Roofs Should Be Inspected

Inspect new roofs to find membrane defects or improper installation of the membrane before they become major problems. You may have defects in your new roof system that allow moisture penetration. This moisture enters slowly enough that no leak is observed from the interior unless it rains heavily for a significant amount of time.

You may have recovered an existing roof system, giving you two roof systems. When a leak occurs in your new roof, it may take time before the leak into the building is visible, allowing the roof system to become saturated. This increases the chance of premature failure in the roof system.

Overall, common modes of roof failure are a result of poor design and/or application. If a roof is well-designed, installed and maintained, the common defects noted in the chart below can be minimized and the serviceable life of your roof system can be extended.

TYPE OF ROOF	COMMON PROBLEMS
Built-Up Membrane	Blistering, splitting, ridging/wrinkling and slippage
Modified Bitumen Membrane	Defective lap seams, shrinkage, blistering, delamination, slippage and splitting
Single-Ply Membrane	Lap seam failure, flashing problems, punctures and shrinkage

[Courtesy of Benchmark, Inc., a professional roof and pavement consulting firm with headquarters in Cedar Rapids, Iowa.]

If a roof is well designed, installed and maintained, common defects can be minimized and extend the serviceable life of your roof system.

METAL HALIDE AND MERCURY VAPOR LIGHTING HAZARDS IN SCHOOLS

The Food and Drug Administration has identified more than 100 incidents of exposure to short-wave ultraviolet (UV) radiation from broken and unshielded high-intensity metal halide and mercury vapor light bulbs

in high school gyms. Some of these incidents have resulted in severe eye and skin burns. As a result, the FDA recommends the following actions to ensure the safety of students, spectators and staff:

- Replace any fixture that is damaged.

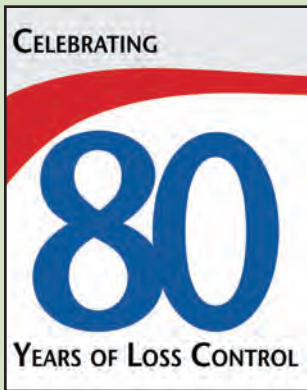
- Replace any bulbs that are missing, broken or punctured.
- Ensure light bulbs are installed in appropriate fixtures. Self-extinguishing "T" type bulbs should be installed in open fixtures or fixtures with wire guards. Non-self-extinguishing "R" type bulbs should only be installed in light fixtures that fully enclose

the bulb and have a lens of glass or plastic to protect the bulb from breakage.

- Make certain that those individuals responsible for maintenance of the lighting system understand the manufacturer's warnings, as well as any federal, state and local guidelines.

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Loss Control Insights is also available online at www.emcinsurance.com.

What's Best For Sore Muscles — Heat Or Cold?

One of the first signs of spring is the aching muscles from yard work and spring cleaning. So what's the best strategy for soothing those sore muscles? Cold first, advises the *Mayo Clinic Health Letter*.

Lead Off With Cold

To relieve pain associated with sprains and strains, it's usually best to apply a cold compress for about 20 minutes at a time every four to six hours over the first few days. Cold reduces swelling and inflammation and relieves pain. For a cold compress, use a cold pack, a plastic bag filled with ice or a bag of frozen vegetables. Remember to wrap any of these items in a dry cloth or towel to help prevent frostbite.

Follow Up With Heat

Start using heat after the pain and swelling have decreased, usually two to three days after the injury. Heat relaxes tightened sore muscles and reduces pain. Heat is usually better than cold for chronic pain such as arthritis or for muscle

relaxation. Apply heat to the injured area for 20 minutes up to three times a day. Heat lamps, hot water bottles, warm compresses or taking a warm bath or hot shower are common ways to apply heat. A new option for heat therapy is a wearable heat patch, allowing you to apply heat and keep moving.

