OSHA Deadline Approaches

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On December 1, 2013 employers in the United States are required to train their employees on new standards mandated by the United Nations back in 1992 at their "Earth Summit". The harmonization of classification and labeling of chemicals was one of six program areas that were endorsed by the United Nations General Assembly to strengthen international efforts concerning the environmentally sound management of chemicals.

It was recognized that an internationally harmonized approach to classification and labeling would provide the foundation for all countries to develop comprehensive national programs to ensure the safe use of chemicals.

The adoption and implementation of the system within the United States alone is estimated to affect over 40 million workers, in over 5 million workplaces, costing an estimated $97 million a year for the next three years. Employers and manufacturers are tasked with implementing the program from new labeling to training both management and employees on the new system. On the plus side, OSHA estimates that the revised standard will prevent 43 fatalities and 585 injuries and illnesses annually. The annualized monetized benefits associated with these reductions in safety and health risks are an estimated $266 million a year. OSHA estimates additional annualized benefits of $585 million a year from cost reductions and productivity improvements attributable to the proposed revisions. In total, OSHA estimates that the proposed revisions will provide net annualized savings of $754 million a year. When the transition to the new system is complete, it will be a good thing.

Standardized signal words and pictograms are part of the new labeling system.

Most of us are aware of the steps needed to bring a new turf product to market within the United States and EPA registration process. We've read about the development of the molecule and the testing; both can take a very long time with substantial investment. Once the product is approved a label needs to be created. We've also known that the label is a legal binding document, that has all the information we need to safely and effectively apply product. There is a lot of work that goes into developing one label for a product, however because of the many different systems in place in our world, often times the same products needs different lablels depending where it is sold.

The harmonized label will be on chemicals around the world, using the same standards, definitions and pictograms. It will it easier on the chemical manufacturers and provide consistency for training employees.

A number of classification and labeling systems, each addressing specific use patterns and groups of chemicals, exist at the national, regional and international levels. We have been used to the standards and labeling within the United States however, when the product is to be sold worldwide, standards for labeling can change with each country. Not only do the standards change, but the criteria, definitions, and gradations found on labels differ from country to country for production, transport, use and disposal. While the existing laws and regulations are similar, they are different enough to require multiple labels for the same product both within the U.S. and in international trade and to require multiple safety data sheets for the same product in international trade. Even within the United States differing regulatory agencies have different hazard definitions and well as information to be included on the label.

When I discovered how fractured this system had become, a global harmonized system makes sense. Investigating further, you'll find the new standards and implementation is a good thing and should not be too onerous on any golf course operation.

What is it all about?

Chemicals directly or indirectly affect our lives and are essential to our food, our health, and our lifestyle. The widespread use of chemicals has resulted in the development of sector-specific regulations (transport, production, workplace, agriculture, trade, and consumer products). Having readily available information on the hazardous properties of chemicals, and recommended control measures, allows the production, transport, use and disposal of chemicals to be managed safely. Thus, human health and the environment are protected.

The sound management of chemicals should include systems through which chemical hazards are identified and communicated to all who are potentially exposed. These groups include workers, consumers, emergency responders and the public. It is important to know what chemicals are present and/or used, their hazards to human health and the environment, and the means to control them. The existing hazard classification and labeling systems address potential exposure to chemicals in all the types of use settings listed above.

For example, a product may be considered flammable or toxic by one agency or country, but not by another. OSHA HCS (hazard communication standard) defines that a chemical is flammable between 0° and 100° degrees Fahrenheit and combustible between 100° and 200° degrees Fahrenheit; whereas the new GHS defines flammable between 0° -140°F and combustible between 140° - 200°F.

Under the old statutes, the same product could be "flammable" or "combustible" depending on the governing body and could need different labels in different countries. This may not seem like a big deal, but when transport, storage, and use, are defined by whether the products are "flammable", or "combustible" things can get a little muddled. The same goes for chemicals based upon their toxicity. For example, in the US under EPA/FIFRA labeling system a chemical is deemed under "Toxic Category I" if the LD_{50} is from 0 to 50. It is deemed "Highly Toxic" by OSHAs Hazard Communication System and in Japan if it is less than 30, it is called "Poisonous". The differences are even greater as one looks at the toxicity scale as the LD_{50} increases into the hazard and low toxicity ranges. There is greater discrepancy between countries and systems. The GHS will standardize labeling offering consistent and comprehensible system for the world.

OSHA HCS
Flammable = 0-100°
Combustible = 100-200°
OSHA/NFPA
Flammable = 0-100°
Combustible = 100-200°+
EU
Extremely/Highly/Flammable = 0-131°
WHMIS
Division 2 Flammable = 0-100°
Division 3 Combustible = 100-200°
DOT
Flammable = 0-140°
Combustible = 140-200°
IMO
Flammable = 0-140°
ICAO/IATA
Flammable = 0-140°
CPSC
Flammable = 0-100°
Combustible = 100-150°
ANSI Z129.1
Extremely Flammable = 0-140°
Combustible = 140-200°
GHS
Flammable = 0-140°
Combustible = 140-200°

Prior to the Global Harmonized System (GHS), different agencies used differing temperature ranges to tell whether a chemical was flammable or combustible. This represents one small definition in the labeling of chemicals that needed consistency.

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These differences in hazards and SDS/labels impact both protection and trade. In the area of protection, users may see different label warnings or safety data sheet information for the same chemical. In the area of trade, the need to comply with multiple regulations regarding hazard classification and labeling is costly and time-consuming. Some multinational companies have estimated that there are over 100 diverse hazard communication regulations for their products globally. For small and medium size companies regulatory compliance is complex and costly, and it can act as a barrier to international trade in chemicals.

The basic goal of hazard communication is to ensure that employers, employees and the public are provided with adequate, practical, reliable and comprehensible information on the hazards of chemicals, so that they can take effective preventive and protective measure for their health and safety. Thus, implementation of effective hazard communication provides benefits for governments, companies, workers, and members of the public.

One of the training requirements of staff is now training on labels on shipping containers. These labels must now include: product identifier, signal word, pictogram, hazard statement(s), precautionary statement(s) and the supplier identification including name, address and phone number.

The GHS has maximum value if it is accepted in all major regulatory systems for chemical hazard communication. In the USA alone, implementation of the GHS would harmonize hazard definitions and label information among U.S. regulatory agencies (CPSC, DOT, EPA, OSHA, etc.). If the GHS is implemented globally, consistent information will be communicated on labels and SDSs.

It is anticipated that application of the GHS will:

- 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.

The tangible benefits to governments are:

- Fewer chemical accidents and incidents,
- Lower health care costs,
- Improved protection of workers and the public from chemical hazards,
- Avoiding duplication of effort in creating national systems,
- Reduction in the costs of enforcement,
- Improved reputation on chemical issues, both domestically and internationally.

Benefits to companies include:

- A safer work environment and improved relations with employees,
- An increase in efficiency and reduced costs from compliance with hazard communication regulations,
- Application of expert systems resulting in maximizing expert resources and minimizing labor and costs,
- Facilitation of electronic transmission systems with international scope,
- Expanded use of training programs on health and safety,
- Reduced costs due to fewer accidents and illnesses,
- Improved corporate image and credibility.
- Benefits to workers and members of the public include:
- Improved safety for workers and others through consistent and simplified communications on chemical hazards and practices to follow for safe handling and use,
- Greater awareness of hazards, resulting in safer use of chemicals in the workplace and in the home.

What chemicals are covered?

The GHS covers all hazardous chemicals. There are no complete exemptions from the scope of the GHS for a particular type of chemical or product. The term "chemical" is used broadly to include substances, products, mixtures, preparations, or any other terms that may be used by existing systems. The goal of the GHS is to identify the intrinsic hazards of chemical substances and mixtures and to convey hazard information about these hazards.

GHS Health and Environmental Hazards

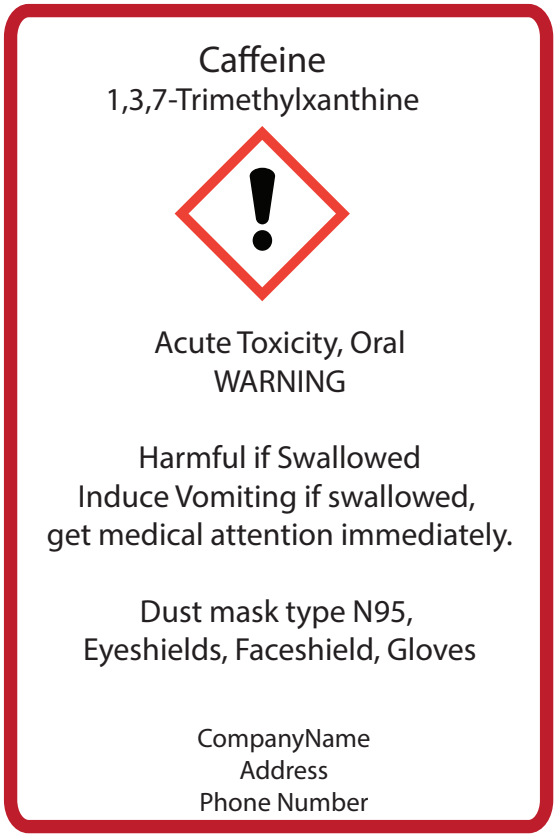
The GHS health and environmental hazard criteria represent a harmonized approach for existing classification systems. It may take a little bit of research and reading to be able to train your staff on these definitions, but most of them you already know and have seen in the past.

What do we have to do to be in compliance?

Train Employees on New Label: December 1, 2013

Each facility is required to teach their employees what they will see on the new labels and Safety Data Sheets (SDS). Though new, the label has many similar or the same items as the old labels, however this new standard once learned by your employees will apply to all labels that they will see in the future.

Employers are also required to train employees on the new standardized 16-section format of the Safety Data Sheets and the type of information they will find in the various sections.



When training use an example Safety Data Sheet (SDS) to make your point. The label for caffeine molecule makes you think twice about having another cup of coffee.

Employers have been required to provide effective information and training on the hazardous chemicals in their work areas. It must be done at the time of initial assignment to work with a chemical, and when a new chemical hazard is introduced into the work area. This training may be done by individual chemical or by the hazard (i.e. flammable liquids).

The new required training includes: The details of the hazard communication program developed by the employer, including and explanation of the labels received on shipped containers and the workplace labeling system used by their employer; the safety data sheet, including the order of information and how employees can obtain and use the appropriate hazard information. Since new labeling, OSHA is requiring employers to provide training on the new approach ensuring employees are able to access and use the information on the new labels and SDSs effectively. This is what needs to be done by December 1, 2013. At present, OSHA has not required employers to retrain employees on all hazards, just the new label elements and SDS format and approach.

SDSs still need to be readily accessible to employees for all hazardous chemicals in the workplace. Computers can now be used to store them, however they must be accessible at all times – so if the power goes out…it might be best to have a back up in place.

When training employees, there are several factors to consider and items to be addressed.

First, develop a plan or agenda covering: Who will do the training? What will be covered? How will it be conducted?

Items that should be covered in your training:

- Role of Labels, they provide an immediate source of information
- New Labels, more information included
- Label elements – explain each label element (pictogram(s), hazard statement(s), signal word and precautionary statement(s) for each hazard class and category)

Training on labels on shipping containers is similar. Labels must now include: product identifier, signal word, pictogram, hazard statement(s), precautionary statement(s) and the supplier identification including name, address and phone number The role of the SDS has not changed form the MSDS that has been in use; it still provides a detailed source of information about a specific chemical.

Employers must ensure that the SDSs are readily accessible to employees for all hazardous chemicals in their workplace. This may be done in many ways. For example, employers may keep the SDSs in a binder or on computers as long as the employees have immediate access to the information without leaving their work area when needed and a back-up is available for rapid access to the SDS in the case of a power outage or other emergency. Furthermore, employers may want to designate a person(s) responsible for obtaining and maintaining the SDSs. If the employer does not have an SDS, the employer or designated person(s) should contact the manufacturer to obtain one.

Hazard Communication Standard: Safety Data Sheets

The Hazard Communication Standard, revised in 2012, re-

Effective Completion Date	Requirements
December 1, 2013	Train employees on the new label elements and safety data sheet (SDS) format.
June 1, 2015 December 1, 2015	Compliance with all modified provisions of this final rule, except: The Distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.

Important dates in the coming years for compliance.

quires that the chemical manufacturer, distributor, or importer provide Safety Data Sheets (SDSs) (formerly MSDSs or Material Safety Data Sheets) for each hazardous chemical to downstream users to communicate information on these hazards. The information contained in the SDS is largely the same as the MSDS, except now the SDSs are required to be presented in a consistent user-friendly, 16-section format.

The SDS includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical. The information contained in the SDS must be in English (although it may be in other languages as well).

Sections 1 through 8 contain general information about the chemical, identification, hazards, composition, safe handling practices, and emergency control measures (e.g., fire fighting). This information should be helpful to those that need to get the information quickly. Sections 9 through 11 and 16 contain other technical and scientific information, such as physical and chemical properties, stability and reactivity information, toxicological information, exposure control information, and other information including the date of preparation or last revision. The SDS must also state that no applicable information was found when the preparer does not find relevant information for any required element.

The SDS must also contain Sections 12 through 15, to be consistent with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS), but OSHA will not enforce the content of these sections because they concern matters handled by other agencies.

In case you didn't know, the Department of Transportation (DOT), Environmental Protection Agency (EPA), and the Consumer Product Safety Commission (CPSC) were actively involved in developing the GHS. DOT has already modified their requirements for classification and labeling to make it consistent with international UN transport requirements and the GHS.

So when people ask you what you do during the winter, explain the new lableling system and how you need to train your staff for the coming year. They will never ask you again.

Information for this article was taken from OSHAs website. If you need more information, please visit osha.gov

The pictograms can be found at www.osha.gov/dsg/hazcom/pictograms and downloaded in many different formats (opposite page).

Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.

Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.

Section 3, Composition/information on ingredients includes information on chemical ingredients; trade secret claims.

Section 4, First-aid measures includes important symptoms/effects, acute, delayed; required treatment.

Section 5, Fire-fighting measures lists suitable extinguishing techniques, equipment; chemical hazards from fire.

Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.

Section 7, Handling and storage lists precautions for safe handling and storage, including incompatibilities.

Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).

Section 9, Physical and chemical properties lists the chemical's characteristics.

Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.

Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

Section 12, Ecological information

Section 13, Disposal considerations

Section 14, Transport information

Section 15, Regulatory information

Section 16, Other information, includes the date of preparation or last revision.

All SDSs will use this 16 section format to describe any hazardous chemical in the workplace.

The standardized pictograms found on all new labels

CORROSION
Skin Corrosion/Burns
Eye Damage
Corrosive to Metals

FLAME OVER CIRCLE
Explosives
Self-Reactives
Organic Peroxides

EXCLAMATION MARK
Irritant (skin and eye)
Skin Sensitizer
Acute Toxicity
Narcotic Effects
Respiratory Tract Irritant
Hazardous to Ozone Layer
(Non-Mandatory)

HEALTH HAZARD
Carcinogen
Mutagenicity
Reproductive Toxicity
Respiratory Sensitizer
Target Organ Toxicity
Aspiration Toxicity

GAS CYLINDER
Gases Under Pressure

ENVIRONMENT
(non- mandatory)
Aquatic Toxicity

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

SKULL & CROSSBONES
Acute Toxicity (fatal or toxic)