The Hazard Communication Standard (HCS) 29CFR 1910.1200 was introduced by the
Occupational Safety and Health Administration (OSHA) in the mid 1980’s in an effort to
insure that American workers would be provided with information and training they
needed to work safely with hazardous chemicals.

The basic premise of the Standard as stated in 29CFR 1910.1200 is; “employees have
both a need and a right to know the hazards and identities of the chemicals they are
exposed to when working. It is further stated that; “Knowledge acquired under the HCS
will help employers provide safer workplaces for their employees. These efforts will help
prevent the occurrence of work-related illnesses and injuries caused by chemicals”.

What a great idea, lets make this a performance based standard (which OSHA did) and
allow employers to have the flexibility to develop their own chemical safety programs to
meet their needs. And to make certain that employers have the tools they need to do this
effectively we will mandate that chemical manufacturers and distributors create and
provide [to employers] a Material Safety Data Sheet (MSDS) for each product they
market. And these efforts will somehow prevent chemical related illness and injury’s…
you’ve got to be kidding!

Most employers would agree that providing information and training that will insure the
safety of their employees is necessary but let’s get real. Do you honestly believe that an
employer who is trying to keep the doors open and make a profit is going to take the time
to sift through an MSDS in its current format in an attempt to extract the information they
need to make this happen? If you do I will have to assume you may be from another
planet!

Yet despite all of this each year employers diligently prepare their lists of hazardous
chemicals, gather MSDS, place them in yellow binders and attempt to teach employees
how to read and interpret the data. The obvious elephant in the room here is that
employers remain hopeful that their efforts will somehow magically make their workers
safer and protect them from the risk of a fine or lawsuit. Unfortunately the same illusion
will prevail if the Globally Harmonized System of Classification and Labeling, (GHS),
scheduled to take effect in 2011 is introduced in the same fashion because safety through
osmosis will never work.

Most readers are now well aware that OSHA is proposing a rule change to modify the
current HCS to align with the GHS [Globally Harmonized System of Classification and
Labeling]. The GHS provides a single set of harmonized criteria for chemical
manufacturers to classify their chemicals according to their health and physical hazards in
classes such as Flammable Gases, Flammable Liquids, and Self-Reactive Substances etc.
The classification of products under GHS will also include mixtures.
The primary benefit of the GHS is to increase the quality and consistency of information provided to workers, employers, and chemical users by adopting a standardized approach to hazard classification, labels and safety data sheets. OSHA will be adopting several core components of the GHS (see Illustration 1).

The rule change will not affect the performance based approach of the current HCS and thus employers will still be required to demonstrate that they have provided information and training in a manner that proves their employees understand the hazards they are exposed to. To understand how these proposed rule changes can affect you the employer and your employees let’s look at several of the changes.

Chemical Labels in the near future will include the chemical or product name, signal word, hazard statements and associated pictograms. There is little doubt that this will be a vast improvement over the current system however if the labels will also be required to include the precautionary statements, this additional information may be so overwhelming that the average user may choose to simply ignore the information altogether.
MSDS will be renamed Safety Data Sheets (SDS) and for the first time since the HCS was introduced they will be standardized utilizing the 16 section GHS format, (see Illustration 2).

So will the SDS be better than the current MSDS? Yes in as much as the user will always be able to locate the information in the same section on every SDS. However due to the amount of additional data required on an SDS such as the precautionary statements SDS will for the most part grow exponentially. And if you think the data is going to be any less technical than that presented on the current MSDS think again. SDS will still be written by technical professionals for technical professionals so even as important as a SDS may be to an employees health and safety it is very doubtful that you will ever find them reading one during their lunch break.
The GHS classifications that OSHA is proposing are criteria-based and for several hazards the GHS criteria are semi-quantitative or qualitative, and “expert judgment may be required to interpret these data”. There are seventeen classes based on physical hazards, ten based on health hazards, and two based on environmental hazards. These classes are further divided into categories that represent varying severity of hazard.

At the present, Material Safety Data Sheets in the United States are not harmonized, and often contain insufficient, contradictory or even incorrect information, which will change as OSHA incorporates GHS-based hazard communication.

By now you must be wondering if there is a rational answer to developing a successful hazard communication program hidden somewhere in all of this confusion and I think the answer is yes but it may require you the employer or the EHS manager be willing to spend some time pulling it all together.

GHS requires manufacturers and distributors to use standardized hazard statements, pictograms and signal words to denote hazards and these will be readily available on the new SDS. These three important criteria immediately inform a worker that there may be a danger associated with the chemical they are about to be exposed to. Additionally the hazard statements indicate the route of exposure that a chemical may enter the body through. So in addition to these three what other practical information can you gather from a SDS?

Well for one thing a SDS will provide you with a list of the target organs that may be adversely affected by exposure to the hazardous chemical product or substance even in small quantities so why not add these to your list of three? I often to explain to an audience that our body’s target organs such as our liver, lungs or skin act in a similar fashion as that of the oil filter in our car (see Illustration 3).

Illustration 3

Contaminated oil → Filter → Filtered clean oil

It is common knowledge that an oil filter must be changed periodically (most people are diligent about this task) to protect our automobile’s engine so that it doesn’t wear out. I am always quick to point out that if we lose our body’s target organs or if they fail to perform the task they were intended for, we cannot purchase a new one from the local automotive parts house. Remember that the next time you see a person walking around tethered to an oxygen bottle on a little cart, if you lose your lungs, you lose your choices!
So if we cannot readily purchase a new target organ what measures can we take to insure that they are protected from the potentially adverse affects of using a hazardous chemical to perform our job? The answer comes from the next piece of information we should extract from a SDS, and that of course it personal protective equipment (PPE) that our employees should use when working with this chemical.

There is going to be a vast amount of new information associated with the proposed OSHA rule change but if you know what information to look for and how to present it to your employees you could in fact finally have a very successful hazard communication program.

So this year as you are making a list of the hazardous chemicals in use at your facility take the time to identify from the SDS what the associated hazards of each are and include this information in your list. Once you have completed this task identify the target organs that may be affected by the use of each chemical on the list, the routes of exposure (how the chemical gains access to the body) and finally identify the PPE needed to keep this from happening. Present this information to your employees in a manner that they understand and you have the basis of a functional workplace safety program.

About the Author
Tom Jacques is Director Sales and Marketing for the MAXCOM Services Division of HAAS TCM Group International, a world leader in chemical management services. Mr. Jacques co-founded the MAXCOM System and recently MAXCOM/GHS, a system that has been classifying workplace chemicals according to their physical and health hazards in a similar manner as GHS since 1998. The MAXCOM System provides formatted safe-use-guides and training programs for each chemical class specific to a workplace designed to meet the comprehension levels of all employees.