Practical Insights into the Implementation of GHS Around the Globe

IHS

The 'Harmonization' dream of GHS

Since its first publication in 2003, over 50 distinct countries have adopted the Globally Harmonized System (GHS), which aims at standardizing the way chemical hazards are assessed and communicated. Most recently, the U.S. Occupational Health and Safety Administration (OSHA) has adopted GHS, making the first significant change to Safety Data Sheets (SDS), labeling and other forms of hazard communication in the United States in nearly 30 years.

So how far have we come on the path to the dream of harmonization?

The UN model regulation of GHS was designed as a building block approach – therefore it allows for inclusion or exclusion of specific harmonised elements. An example of this is the ability for regulators to select a subset from a complete list of categories for physical, health and environment hazards.

What does this mean in practical terms? Well most of us as children played with building blocks, and as we are all well aware, with one common set of building blocks can emerge many different and creative structures. [See Figure 1]
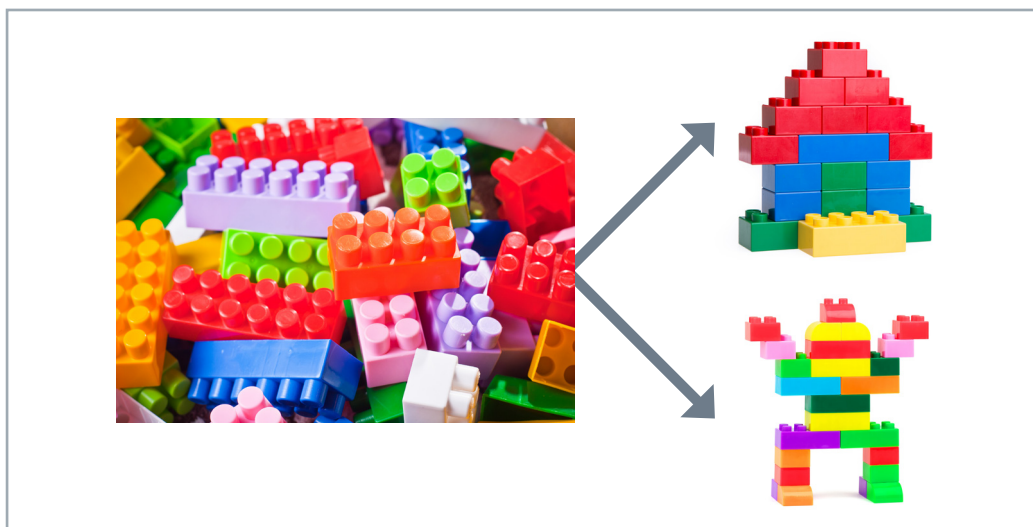

Figure 1

So just as building blocks, GHS retains this 'creativity' aspect. At this point - with the exception of the 28 EU member states, which are following a single harmonized law - The Classification, Labelling and Packaging (CLP) Regulation - most GHS country implementations incorporate adaptations and variations. These adaptations were done with variable intentions including a need to preserve the level of protection upheld by previous legislation, to satisfy lobbies and/or to recognize cultural specifics. Whatever the reason for these adaptations, these differences in implementations can have a material effect on hazard assessment and composition information disclosed on safety data sheets. If these differences are ignored, the impacts can have adverse business consequences. Consequences ranging from products blocked at the border, to fines and recalls, to products being overclassified compared to an equivalent competitive product.

The result: More than 10 years after the first edition of GHS was published, the dream of a single universal SDS or Label for a given product has long been dispelled.

In trying to better understand the many intricacies of GHS, IHS product stewardship experts have received many requests for clarifications and knowledge sharing. The following series of Questions and Answers attempts to provide some pragmatic guidance on some of the most important aspects of GHS variations and common issues.

Q: What are the typical variables of a country-specific GHS implementation that would impact labeling?

A: The most basic requirement is to communicate in a language understood by your customer, regardless of where they are located in the world. Country language is systematically cited as a legal requirement. It also goes without saying that a law about hazard communication would require one to communicate chemical hazards, protective and emergency measures clearly, in the recipient's native language.

Also, not all countries implemented all building blocks provided in the UN model regulation of GHS (or Purple Book as it is often referred to). This can be due to different agencies having jurisdiction over labor and environment. One example is the US OSHA which has not adopted environmental classification as environmental protection is under the US EPA jurisdiction.

Limiting the number of precautionary phrases (or P-Phrases) is another variable. In China for example, removing P-Phrases associated with hazards is strictly forbidden and they must all be shown on a label. In Europe and other countries, it is allowed and in cases even encouraged to remove selected P-Phrases, which are optional under certain conditions. In Europe specifically, we understand this provision originates from the business practice to create labels with multiple languages.

Other variables include:
- Disclosure of hazardous ingredients
- The requirement to disclose a statement giving the percentage of substances with unknown toxicity
- Reference to country specific legislation

As evidenced in Figure 2, the same end product may very well have different labeling depending on the country it is being marketed and sold.
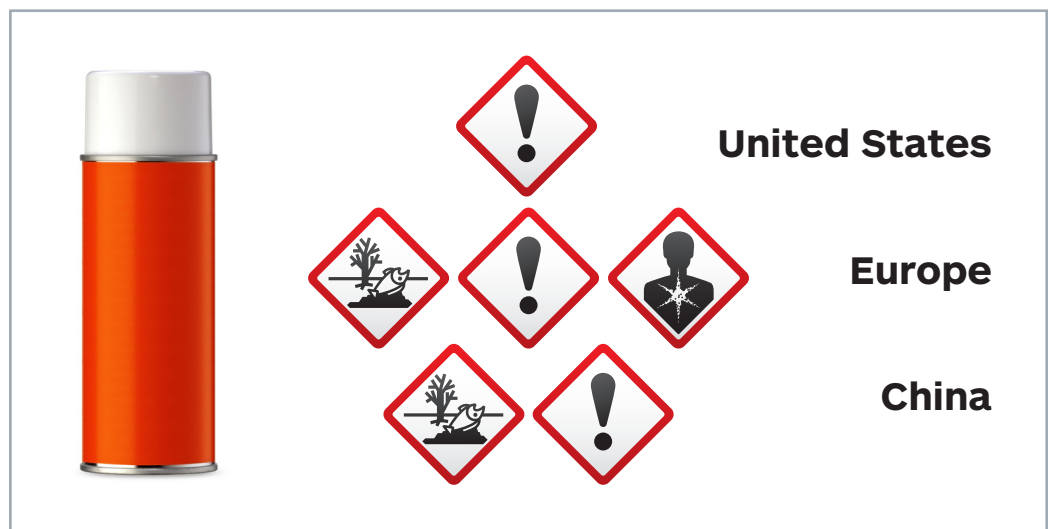

Figure 2

Q: Could you provide examples where there are additional requirements for the Safety Data Sheet required by individual countries?

A: In general countries have embraced the 16 section format, but here are some examples where there are additional requirements to consider.

In Malaysia, a safety data sheet must be provided in two languages. One can work around that requirement by providing two SDSs (one in Bahasa Malaysia, and another in English), but this approach imposes an administrative burden on the recipient, who must manage two documents in synch. A more elegant way to address this requirement is to have a single document with both languages.

An interesting situation can also be found in Turkey. In this case, the requirement extends beyond the format of the SDS to the person creating the SDS. Authors of Turkish Safety Data Sheets must be certified by an accredited agency.

Additionally, in Europe, for substances meeting a defined hazard profile and tonnage criteria, an extended Safety Data Sheet (eSDS) is needed as per the REACH regulation.

Q: I have ecotoxicity data for substances that I use for my European SDSs. May I use that data and classification for my US SDSs?

A: Although OSHA has no authority over Section 12 of the SDS, you may still include your ecotoxity data and classification from Europe or other countries. This may help you achieve consistency across your global products.

Q: We heard the intent of the Canadian government was to harmonize with the United States... Is this now in effect?

A: A superficial review of the regulations would lead one to believe that harmonization was accomplished between these two countries. However, as they say 'the devil is in the details' and at closer examination these two regulations are different.

For example, Canada actually published a definition of combustible dust which was not provided by OSHA in this context. Furthermore, in the US, the combustible dust classification should be applied even when the product is sold in a solid form and has the potential to become a combustible dust when in process. In Canada, a material is classified as a combustible dust only when it is shipped in that form.

Another difference is the inclusion of the biohazardous material classification in Canada. This is not a hazard considered by OSHA.

The last difference that will be highlighted here is on the Hazards Not Otherwise Classified (HNOCs). The concept is the same between both countries. It is the implementation that is different. Canada requires signal words and pictograms to be output. Canada also requires this information on the label. OSHA does not require HNOC information to be shown on the label, nor do they require pictograms to be in place for these. There is even an OSHA letter of interpretation that discusses Signal Words on the SDS only for HNOCs.

Many of these differences are carryovers from past legislation. The implementation of GHS did not smooth out these wrinkles.

Q: What are the most complex variables experts at IHS have seen that impact SDS authoring or labeling?

A: Many companies are using 'concentration ranges' to disclose hazardous substances in a mixture, to either reflect the variability in composition of their product, or more commonly, protect their confidential business information.

Some countries require that, when concentration ranges are used, the health and environmental hazards found applicable to the overall mixture must be compatible with the highest concentration of each ingredient.

For simple hazards which apply to a mixture based on a simple concentration cut-off (for example: Carcinogen, mutagen, reproductive toxicity) respecting the legal obligation to set substance concentration ranges compatible with a mixture's hazard profile is simple. However for additive health hazards where individual substance contributions on a given hazard must be summed up, determining the 'upper concentrations' of individual contributing substances can be quite complex. The complexity then increases exponentially with mixtures containing substances which represent several hazards.

As neither the regulations nor guidance documents gave sufficient details on the acceptable approaches for concentration range displays of hazardous ingredients in products, many of our customers approached IHS for help. Fortunately, we were able to respond to their needs in addressing this issue by taking an innovative approach. The solution that was proposed and adopted by IHS customers allows the system to automatically set concentration ranges as wide as possible, thus allowing them to protect their confidential business information and avoid disclosing exact concentrations while at the same time, disclosing ranges which respect legal requirements.

Q: Is there anything harmonized?

A: In GHS, the classification of hazards are building blocks that consist of a set of: a signal word, associated hazard phrase, precautionary phrases and a pictogram. To our knowledge, these sets have been respected by all legislation. This means that, for a given classification, one should expect the same signal word, pictogram and Hazard & Precautionary Phrases.

The most important part of the system has remained consistent. That is the criteria for classification. A substance classified as Acute Toxicity (Oral) – Category 1 is the same in all GHS implementations. This is very important, as a change in this criterion would negate all the benefits of GHS.

Finally, companies with global operations can develop worker safety programs where they teach their workforce to recognize the GHS symbols and classification, which is definitely progress from the Babel age of hazard communication where a production plant in Africa could receive safety information in line with the country of origin regulations (EU DSD/DPD, Canada WHMIS or US ANSI/OSHA information for instance) and would need to decode and understand all of these.

Q: Isn't there any way to be pragmatic and send a single SDS around the world? What are the risks and consequences of non-compliance?

A: Some say this question should not be raised. The law has been written to be respected to the letter. But it seems fair to assume that countries without a long past of chemical control and hazard communication legislation principally seek to protect their citizens by implementing GHS and as such, sending a document in line with international standards meets this objective.

Reflections about a pragmatic approach to hazard communication will become more important in the coming years, as many smaller United Nation member countries are in the process of implementing GHS on their own. At some point, the burden of managing so many versions of the same basic law will be so high that global businesses will enforce harmonization themselves by deliberately standardizing their SDSs.

So companies can indeed choose a pragmatic approach and ignore some GHS variants in some areas of the world if they want to take on the related risks. For example, Mauritius, a paradise island with 1.2 M inhabitants implemented GHS years ago. What GHS version? Do they have specific labeling requirements? In truth, it is difficult to get a copy of the legislation enforced there. Given the size of the market, it seems like an acceptable business practice to provide a UN-based GHS SDS in the preferred language of your customer in Mauritius.

As for consequences of not complying... They too are not harmonized! There are cases of shipments stopped at the border, but in some countries, failure to comply results in imprisonment! Some countries, such as China are known for their meticulous inspections of labels. However, in the majority of countries, a company found to be non-compliant would be cited or fined and required to correct the situation. However it is important to note that although regulatory authorities may simply levy fines, ultimately your customer may refuse the products or turn to a competitor whose hazard documentation and labeling corresponds to their needs and expectations.

Q: There is lots of chatter on social media regarding chemical regulations and GHS implementations. How do I know I am getting the right story?

It is very important to have a solid network of contacts in a region including government agencies and local EHS professionals. Regulations will state that the local language is the official version of the law and will take precedence over unofficial translations into English or other languages. It is not uncommon for information to be unintentionally omitted or improperly translated. By following the unofficial version of a regulation it is possible to miss critical pieces of the GHS implementation. As such, IHS has cultivated an exceptional network of regulators and professionals to assist with proper interpretation of regulations and guidance documents and how to apply the 'local flavor' of GHS nuances.

IHS Approach to Supporting GHS Implementations

Q: If the United Nations revises GHS every two years, how does IHS plan to keep up with the changes?

A: IHS diligently monitors changes proposed in GHS revisions published by the United Nations so that we can discuss impacts with our customers and plan ahead for required changes. Remember that individual country implementations do not change automatically when the UN publishes a revision. Each country updates its SDS and Label requirements as part of its own legislative process. We therefore understand the need to support multiple revisions of GHS as well as multiple flavors of country specific implementations. In general, IHS will implement a new revision of the UN Model regulation when a supported country updates its own law for integrating the latest UN GHS revision.

Q: Can you list the countries that IHS covers where GHS has been adopted?

A: Our Managed Regulatory Content covers the following countries that have implemented GHS:

Europe (including all EU member countries): Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Asia: Australia, China, Indonesia, Japan, New Zealand, South Korea, Singapore, Taiwan, Thailand, Vietnam

Americas: Canada, Brazil and the United States

IHS continues to monitor GHS development in other countries and develops solutions so that organizations with global operations can keep meeting their fundamental legal obligations while keeping a control of costs.

Q: When did IHS start to develop GHS-compliant software for SDS?

A: IHS initially developed GHS-compliant software for SDSs in 2006, prior to enforcement in Japan - the first country to comprehensively implement GHS. Today, the IHS Product Stewardship Solution™ provides the market's most comprehensive offering that will enable your organization to address all of your product-related business challenges. It has been enhanced and expanded with continued insight from our internal experts, learning from continued application of our solutions and most importantly, input from our customers through direct engagements and our ongoing Global Regulatory Focus Group. The latter point is extremely important for input in understanding our broad industry approach to interpretive areas of GHS. This gives our customers reassurance that their compliance efforts are in line with best-in-class approaches in the industry.

About the IHS Product Stewardship Solution
Prioritize the right investments to manage risk, reduce cost, and improve operational performance.

The IHS Product Stewardship Solution pulls all of the key elements together to minimize your risk and drive better performance: the integrated regulatory content to inform your decisions; capabilities to track the risk profile of every unique material; the automated rules and logic to efficiently drive the production of quality safety data sheets in multiple languages and jurisdictions; and the technology & expertise to standardize and operationalize product stewardship workflows. The authoring solution supports over 10,000 proprietary rules that drive automated regulatory compliance and the number continues to grow.

Reduce Compliance risks. Ensure quality. Create safer more sustainable products.

For more information

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