



A Selection and Summary of Case-Studies of Countries or Regions with Experience in Adopting and/or Implementing the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals

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Introduction

The following case studies have been assembled from information available in the public domain, supplemented in all but one instance (i.e., Ecuador) with interviews conducted by email with country/regional knowledgeable contacts. The case studies are not intended to represent exhaustive accounts of the multi-year journeys these countries have taken to adopt and implement GHS. Instead, they are intended to provide some perspectives and examples that may be useful to countries that have not yet adopted GHS.

Given limited time and resources, only a handful of case studies have been written and the choice of which countries to include was not easy or straightforward. An absence from the list should not be misinterpreted to mean that a particular country/region doesn't have a worthy story to tell. Each of the following factors were taken into consideration in the choice of countries/regions to be profiled: (1) prior to GHS implementation the country had no or few requirements for categorization of chemicals, SDSs or labeling; (2) a desire to showcase countries that represent a range of stages of GHS adoption/implementation; (3) countries that represent a variety of geographic areas; (4) countries that represent a variety of different scopes for adopting GHS (e.g., workplace only, and/or consumer and/or agricultural chemicals); and (5) an *a priori* judgment of the likelihood that some level of cooperation could be secured from representatives from the countries chosen.

The following **high level impressions** can be made from these case studies:

- Expect GHS adoption and implementation to be a multi-year journey, therefore an early start and long-term commitment are both critical.
- Make use of the multiple, helpful international (UNEP, UNITAR, ILO, UNEP, IOMC, OECD, etc.), regional (e.g., APEC Chemical Dialogue) and national (e.g., Japan, Sweden, etc.) resources, expertise and tools that are available to help plan and execute GHS adoption and implementation plans.
- Consider integrating GHS adoption/implementation into an overarching chemicals management strategy/legislation for your country/region to gain efficiencies and achieve higher overall levels of effectiveness.
- Consider conducting a situation/gap analysis to identify the best path forward. UNITAR and IOMC have tools available to assist with this and other countries found it to be a helpful exercise.
- If feasible, volunteer local resources to participate on international committees (e.g., United Nations Subcommittee on GHS and the United Nations Subcommittee on the Transport of Dangerous Goods (TDG)) in order to stay abreast of the latest developments and look for opportunities to learn of “best practices” and available resources.

- Work with multiple stakeholders (e.g., industry, labor organizations, civil society, academia, etc.) to jointly build a compelling case for adopting GHS into legislation/regulation in your country. Such a case should include a cost vs. benefit analysis, if possible. Look to leverage existing cost/benefit analyses conducted by others if a local one cannot reasonably be conducted.
- Recruit multinational companies and local business associations that operate in your country to provide assistance with GHS adoption and implementation. In particular, they can offer their international experience on GHS implementation and provide early feedback on drafts of relevant legislation/regulation. They often have strong motivation to do so for trade reasons and can offer resources and expertise in partnership.
- Cooperate/benchmark with neighboring countries to pool resources, learn “best practices” and to prevent/eliminate any unnecessary differences in approaches/timelines, and to avoid unnecessary trade barriers with the main regional trade partners. etc.
- Constant communication between those in the country who have responsibility for GHS adoption/implementation and with legislators and other policy makers is necessary in order to build necessary support.
- Emphasize both the health and environmental benefits as well as the trade benefits to GHS adoption/implementation. Consider including a regulatory impact analysis, including socio-economic impact. Be factual and credible and include as much local data, if possible, or relevant data from other countries/regions.
- Involve all relevant government agencies (e.g., transport, consumer, agricultural and industrial) from the earliest stages, build a strong alliance (e.g., formation of a national GHS multi-stakeholder committee) and rapport and stay connected together throughout the journey.
- Define a transitional period, including a grace period for materials already packaged and the need for defining a process and responsible parties to continuously update the regulation with the newer versions of the Purple Book.
- Anticipate the following challenges and consult with others well in advance to gain insight on how best to overcome them:
 - a lack of qualified local experts to do the classifications, especially of mixtures;
 - gaining support from local small and medium sized enterprises who may not appreciate the value of GHS and lack resources/expertise for successful implementation;
 - understanding exactly which aspects of the GHS implementation can result in lack of harmonization of the GHS requirements between different countries such as: building blocks, versions of the purple book used as a reference, classification cut-off for mixtures, scope of the regulation, labeling requirements to import x export, lack of a list of global harmonized GHS classifications for substances and the role of self-classification, CBI requirements and disclosure requirements on the SDS, and labelling of small containers and label size rule in relation to the container.
 - the need for capacity building efforts (e.g., free training sessions, etc.) targeting government, industry and civil society;
 - different countries, including neighboring countries, may have adopted different versions of GHS leading to discrepancies in classification and labeling; and
 - effective monitoring and enforcement of GHS compliance.

Case Studies

Note: several of the case-studies below include hyperlinks to articles published in ChemicalWatch and some readers who lack a subscription may have some initial difficulty accessing the full article. In such instances, it may be helpful to copy and paste the title of the article into your web browser and this will often take you directly to a free copy of the article.

Africa

Zambia

Local Contact: Maxwell Nkoya (mnkoya@zema.org.zm)

Zambia, as a country member of the Southern African Development Community (SADC), has signed the SADC regional policy on GHS. Several activities related to the GHS have been completed (e.g. the updating of national standards on the transport of dangerous goods and on the GHS to reflect the provisions of the 17th revised edition of the Model Regulations and the 4th revised edition of the GHS; the situation and gap analysis and the development of a road map for GHS implementation). Although the road map does not define specific dates, it is expected that implementation for substances will last 3 years, and that implementation for mixtures will follow.

As of this writing, Zambia is one of only two African countries (the other is Mauritius) which have implemented GHS, although according to [a 28 October 2019 ChemicalWatch article](#), several other countries in Africa are progressing on implementation. Kenya, for example, expects an overarching chemicals regulation to be published this year, which would align it with GHS's seventh edition. And officials in South Africa, which has implemented GHS as a voluntary standard since 2008, are reviewing feedback from a public consultation on draft regulations, which would align the country with GHS's sixth edition, with hopes that it will be in place early to mid-2020. The Democratic Republic of Congo, Tunisia, and Guinea also have implementation plans in place and the UN early in 2019 hosted introductory workshops on GHS in Ghana and Ivory Coast. A presentation by the European chemicals industry association Cefic at Chemical Watch's recent Global Regulatory Summit also reported that GHS "activities" are underway in Madagascar, Senegal, Botswana, Chad, Nigeria and Egypt.

With respect to Zambia, [Persson et al, 2017](#) noted “Here it seems that sustained capacity building and donor support for the GHS implementation have served as a factor of importance. Zambia has received support from UNITAR under the SAICM Quick Start Program (QSP) and other donors according to interviews and data collection (Projects have included Zambia as a pilot country in the Chemical Hazard Communications Project (2001–2002, UNITAR and UN-ILO), the UNDP-UNEP Partnership Initiative with Zambia: Mainstreaming Sound Management of Chemicals Issues into the MDG based National Development Planning (2007–2009, Funding from Government of Sweden), the GHS capacity building project (2011–2012, SAICM QSP/UNITAR)). It can thus be concluded that sustained capacity building and partnering with donor countries can result in countries with low capacity to implement GHS.” Persson et al also noted “... the interviewee from Zambia also expressed that a key factor in the GHS implementation in Zambia has been that it has not been implemented as a stand-alone component, but been part of a comprehensive chemicals management planning and capacity building”.

According to the ChemicalWatch interview with the manager of operations at Zambia's Environmental Management Agency David Kapindula, the country's GHS implementation required multiple projects funded by Unitar.

First it had to test comprehensibility, or whether the pictograms used in GHS to depict different hazards were understandable to the local population. After the testing and an initial baseline study, Zambia developed a GHS implementation plan with strategies – including training and awareness-raising activities – in each of the four sectors covered by GHS:

- transport;
- agriculture;
- consumers; and
- industrial.

Zambia then needed to adopt GHS into its legislation, both within the labelling part of its existing Environmental Management Act and via new specific regulations. Then there was a five-year transition period for industry and border enforcement officials to adjust to the new rules. All in all, Mr Kapindula said, the process that began in 2001 was only finally completed in 2018. He noted that challenges remain. There's been high turnover in the government of those who were originally trained, so new staff don't all have the same knowledge.

And although the legal structure is in place, enforcement has proved difficult. Zambia is a landlocked country sharing seven borders with non-GHS states. Although the Southern African Development Community, a 16-country trade bloc, adopted a policy in 2012 to implement GHS by 2020, it's unlikely now that this deadline will be met. Zambia has been trying to persuade its neighbours to adopt GHS by hosting training and workshops, but some actually see the system as a barrier to trade, not an asset.

The country also doesn't produce chemicals and many of its importers are based in countries like South Africa or India that haven't yet implemented GHS.

"Companies find it very expensive to make a label just for Zambia. So that's been the major challenge," Mr Kapindula said. "We did a lot of outreach with industry to see if they would comply ... some did, others didn't."

The following feedback was received from Maxwell Nkoya, the local GHS contact.

1. Can you please describe for me any key assistance your country/region received from international organizations or other countries/regions on your journey to implement the GHS and how it was helpful to you?

Answer: Zambia received both financial and technical assistance from the cooperating partners especially UNITAR, SAICM and IOMC members. In 2001, UNITAR through the SAICM Quick Start Program (QSP) and other donors support the Project in the Chemical Hazard Communications Project (2001–2002, UNITAR and UN-ILO). While under the UNDP-UNEP Partnership Initiative the country implemented a project called “Mainstreaming Sound Management of Chemicals Issues into the MDG based National Development Planning” (2007–2009, Funding from Government of Sweden.

Further, UNITAR/SAICM in 2010 provided resources through a project called “*Strengthening Capacities for SAICM Implementation and Supporting GHS Capacity Building in Zambia*”.

The overall objective of the project is to: *enable Zambia to work towards coordinated implementation of SAICM and contribute to GHS implementation and the protection of human health and the environment from dangerous chemicals*. The project seeks to engage all relevant stakeholders and includes activities to:

- i. enable the implementation of SAICM through support of GHS capacity building
- ii. facilitate national commitment and implementation of the GHS in Zambia
- iii. raise awareness of, and train a critical number of decision makers and stakeholders in Zambia about the GHS, its relation to SAICM, and its potential benefits for sustainable development

The project also aims at making a contribution to the implementation of international chemicals management agreements in general, such as the Basel, Rotterdam and Stockholm Conventions and Montreal Protocol, by focusing on labelling of chemicals as an important building block for sound chemicals management and trade in chemicals. The project will focus on providing more in-depth training on the GHS in order to further enable SAICM implementation in Zambia. Further, the project will build upon a UNITAR/ILO capacity building project with Zambia undertaken from 2001 to 2003 on GHS capacity building. Zambia made some progress in drafting a Zambian Standard on the Globally Harmonized System for Classification and Labelling of Chemicals and a National Standard on the Transportation of Dangerous Goods. On December 13-15, 2010 United Nations Institute for Training and Research (UNITAR) sent a GHS Expert to train GHS National Trainers. This activity was an important milestone in the successful implementation of this national project.

The Southern Africa Development Committee (SADC) also received assistance from UNITAR in the development of the Harmonized Text on GHS for the SADC region, Training of Trainers and resources for awareness.

Zambia has also been a member of the United Nations Subcommittee on GHS and the United Nations Subcommittee on the Transport of Dangerous Goods (TDG). Mr. David Kapindula and Mr. Maxwell M. Nkoya are the National Experts on the two Committees.

In addition, Zambia is a member of the UNITAR/ILO GHS Capacity Building Programme Advisory Group (PAG). The country has been attending PAG meetings whenever resources were available.

The IOMC Toolbox on Sound chemicals management has been another international tool that has help facilitate both capacity building in the four sectors namely Transport, Consumer, Agriculture and Consumer. UNITAR provided resources for training workshops in Zambia and Zimbabwe. Mr. Maxwell Nkoya served and the national trainer/expert for the two countries. The GHS Module is one of the successful components of the IOMC Toolbox.

2. What two or three factors have been most important to you that have enabled your implementation of GHS?

Answer:

- (i) Technical support especially the 2001 Comprehensibility Testing Study which revealed the gaps in Hazard Communication,
- (ii) The Training of Trainers component of the 2010 GHS Capacity Building project helped in training a critical mass of experts in the four sectors.
- (iii) Technical and financial support to Zambia and the SADC region by UNITAR and its partners were a significant political and national motivation. This was especially so because the regional approach especially arising from Trade (preventing GHS implementation as a Technical Barrier to Trade) and resolution of the Council of SADC Ministers to implement GHS in SADC.

3. What were/have been the major challenges you faced in implementing the GHS within legislation?

Answer: GHS was only incorporated in the Zambian laws in 2014 i.e. in the Environmental Management (Licensing) Regulations Statutory Instrument No. 112 of 2011. This was more than 10 years after the first recommendation were submitted. This is not unique to GHS, the legislating process of new aspects usually take long in most developing countries.

4. How did you overcome them and what are the lessons you learned in the process that might benefit other countries/regions that have not yet implemented GHS?

Answer: The challenge was over come through constant engagement of Decision Makers and presentation of actual financial costs of GHS implementation vs. the environmental health benefits (i.e. Cost-Benefit Analysis). At one point a Ministerial Brief was prepared and presented through the National Project Steering Committee. The use of reduced disease burden and health cost added to the benefits, if persons are able to perceive and comprehend chemical dangers then the population will be better protected. The results of Comprehensibility Testing Study were also helpful in providing justification for GHS implementation. The SADC Solutions on implementation was an added external and Diplomatic incentive.

5. What challenges do you continue to face in implementing GHS and how confident are you that you have the knowledge, resources and/or tools to overcome them?

Answer: Current challenges that we continue to face includes but not limited to; (i) legal requirement for GHS labelling may present Technical Barrier to trade especially for small volumes of chemicals intended for the Zambian market versus larger market that may not require GHS, in such instances Zambian business may lose out on suppliers of key chemicals; (ii) inadequate qualified experts skilled in Practical Classification and Labelling of chemicals especially Mixtures. A recommendation was made to trade a critical mass from Academia on advance Substances and Mixtures Classification especially for locally produced chemicals.

A current GEF project on Environmental Health and Pollution Management has a component on training experts from local universities in GHS Practical Classification and Labelling.

6. What other advice can you provide to other countries/regions that have not yet implemented GHS?

Answer: For a successful GHS implementation, it is very important to have all the four sectors involved. It is also very vital to have health data such as poison incidences and linkages to benefits of GHS implementation. It is a must to array fears and provide mitigation on limited on no negative impact of GHS implementation on trade.

Middle East

Gulf Cooperation Council (GCC) Countries (Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman)

Local Contacts: Abdullah Abu Haidar (ABDULLAA2@sabic.com) and Mohamed Seraj (mohamed@gpca.org.ae).

Thus far, none of the six countries that comprise the GCC has formally adopted GHS. The [Gulf Petrochemicals and Chemicals Association \(GPCA\)](#), which represents the downstream hydrocarbon industry in the Arabian Gulf, views the lack of a common approach to classifying and labeling chemicals in the region to be problematic. Differences in classification and labeling create inconsistencies in hazard communication and result in additional safety and environmental risks and inefficiencies throughout the chemical supply chain from raw material acquisition to the end of the product lifecycle. Since 2016, GPCA's Product Stewardship Task Force (PSTF) has been working to promote the adoption of GHS within its membership and more broadly with legislators throughout the GCC.

In 2017, GPCA established a [GHS Code of Practice](#) based on the EU's CLP Regulation. GPCA has proposed to legislators of the six countries to adopt GPCA Code of Practice in order to implement a consistent legislative framework for UN GHS in the GCC countries. They have recommended as an initial step, the formation of a Regional GHS Coordinating Committee, comprised of Government, Industry and public stakeholders, to act as a custodian for developing and technically supporting the implementation of a unified GHS Regional solution.

This Committee should have a clearly defined mandate and structure to achieve its objectives. Key considerations for the mandate would be:

- Securing the high level of commitment of each GCC country to implement GHS, including the provision of essential identified resources;
- Identification of key stakeholders, i.e. government, industry, society etc.;
- Development of a strategy and a time frame for the regional implementation process, based on the adoption of a 'risk based approach';
- Establish governance and communication processes that support effective implementation;
- Participate and advocate at applicable regional and international forums and industry groups to solicit common understanding and direction;



- Consider involvement in the United Nations Sub-Committee of Experts on the Globally Harmonized System (UNSCGHS), and the United Nations Sub-Committee of Experts on the Transportation of Dangerous Goods (UNSCETDG).

During 2019, GCPA's PSTF participated in two GCC Regulator's Roundtable meetings (April 10 in Oman and August 29 in Bahrain), and held a product stewardship seminar in mid-November to promote GHS and the formation of a Regional GHS Coordinating Committee. Furthermore, another seminar was held on February 6, 2020 in Abu Dhabi, UAE, to further promote GHS and the formation of a Regional GHS Coordinating Committee.

A [27 November 2019 ChemicalWatch article](#) declared that GCC are expected to formally adopt GHS mid-2020, aligning with the fifth revised edition, although GCPA has cautioned that this may set an unrealistic expectations. The Gulf Standards Organization (GSO), which was formed by GCC in 2004 and which promotes unified activities according to the best international practices within the GCC, published a draft GHS standard in October, 2019. The deadline for comments was November 26. At the November 2019 seminar, the GSO's director of standards and metrology said its board of directors could approve the standard by spring of 2020. If so, it would come into force before June, 2020. Each of the six countries in the GCC would then need to transpose the voluntary standard into their domestic legislation, which could take two to three years. Some have speculated that this time could act as the transition period for companies to adjust.

The GPCA and GSO are now meeting with environment officials in each Gulf country to plan transposing the standard into regulation. GPCA is also hoping that their idea for creating a regional committee for chemicals officials to meet and exchange best practices will take fruition as a means of promoting good communication among all stakeholders.

1. Can you please describe for me any key assistance your country/region received from international organizations or other countries/regions on your journey to implement the GHS and how it was helpful to you?

Answer: No formal international support has been provided. CEFIC is interested in our progress and our team member from Dow, Inc. Europe (Dr. Antonio Riganelli) is a strong supporter. We made initial contacts with UNITAR, UNECE, and UNEP.

2. What two or three factors have been most important to you that have enabled your implementation of GHS?

Answer: We have not implemented GHS yet. The task force at GPCA is providing all the necessary tools and support hoping the region will form a government coalition to drive the implementation

3. What have been the major challenges you have faced in implementing GHS?

Answer: GCC is made of 6 countries. The biggest challenge is to have all 6 countries organize themselves under one umbrella.

4. How did you overcome them and what are the lessons you learned in the process that might benefit other countries/regions that have not yet implemented GHS?

Answer: We are going from one country to another speaking to the regulatory bodies and advocating for GHS. So far, we visited Saudi Arabia, Kuwait, Oman, Bahrain, UAE, and still one more the go (Qatar).

5. What challenges do you continue to face in implementing GHS and how confident are you that you have the knowledge, resources and/or tools to overcome them?

Answer: The challenge is to find a group who is knowledgeable, well financed, supported by their governments, and willing to dedicate their time and efforts for this task.

6. What other advice can you provide to other countries/regions that have not yet implemented GHS?

Answer: Start as soon as possible. Utilize the local companies who implemented GHS internally (mainly international companies) and connect with governmental bodies at the very early stages.

Latin America

[An excellent summary of GHS activities in Latin America has recently been published.](#)

Argentina

Local Contacts: Elisa Coghlan (elisacoghlan@gmail.com) on behalf of the Superintendence of Labor Risks (SRT) from the Argentina Work Ministry.

Since mid-2008, GHS has been present on the agenda of the Argentine Republic. Thus, from that date and through 2012, a representative of the Ministry of Labor with training in chemistry, together with qualified personnel from the Naval Prefecture and, sporadically, from the National Gendarmerie, participated in the semiannual meetings of the GHS Subcommittee of Experts. Sometimes the representative of the Ministry of Labor was the “Head of Delegation” (related material can be found at www.unece.org/trans/main/dgdb/dgsubc4/c4rep.html).

The contributions were diverse, from descriptions of the pictograms in the Spanish, translations to the presentation of case studies such as whether to consider that fire extinguishers should be interpreted as a pressure vessel and, consequently, label them within the GHS. There were works carried out within the framework of Mercosur regarding the transport of dangerous goods, but they did not impact Argentina’s implementation of GHS.

The Institute for the Standardization and Normalization (IRAM), a member of the National Quality System, also issued voluntary standards in line with the progress made in the drafting of the UNECE material. Although IRAM planned a working group on the subject and experts from various areas of government collaborated in the drafting of standards; the system for consulting those standards implied acquiring them through purchase and this could not be homologated in the spirit of the normative plexus that it implies that all regulations are public.

In 2012, the Ministry of Labor proposed SRT to join efforts in order to evaluate the issue in more detail. This is how SRT staff attended the meeting that year with the expert of the Ministry of Labor and a fluid contact was established from then on, to assess the relevance of specific actions. The SRT was not able to continue sending representatives to the GHS Subcommittee of experts, but Argentina, through its diverse representation, continued to belong to the group of 35 countries with voice and vote in the corresponding Subcommittee.

In 2015, the Ministry of Labor, Employment and Social Security published [Resolution N° 801/2015 of 10 April 2015](#) approving the GHS implementation at the workplace. In order to allow stakeholders enough time to implement GHS provisions, article 6 of the resolution establishing its entry into force 180 days after its publication in the official journal, was amended by [Resolution SRT 3359/2015 of 29 September 2015](#). The amended resolution established that the resolution implementing GHS will enter into force as from:

- 15 April 2016 for substances; and
- 1 January 2017 for mixtures

Additional information (in Spanish only) can be found at the [SRT website](#)

Reports from the Naval Prefecture kept the SRT staff up to date with the progress and proposals. Even so, Argentina did not begin inspections or auditing of employers regarding compliance with SRT Resolution No. 801/2015 until June 1, 2018, the date from which three inspection points were incorporated into the minutes used by inspectors in labor inspections (Single Digital Act). This incorporation also allows to follow the advances in the implementation and develop strategies.

The GHS is not considered implemented if workers are not trained, this is why the SRT offers as many free training sessions as possible both in person and remotely (Virtual Classroom, Technical Notes, Facebook Live, YouTube) aimed at:

- Occupational health and safety, environmental and chemical precursor inspectors, with the objective of supporting the integral control of compliance with the norm and synergy between related sectors of the National State.
- Workers of various industries, exemplifying with the most known chemical products in their branch of activity taking into account their diverse realities.
- Students from universities, technical, secondary and primary schools.
- Responsible for occupational health and safety, guiding them in the implementation of the System.
- Middle managers of companies, in working groups coordinating them in the implementation of the System in their specific needs.
- General public.

In addition to the specific objectives, in all cases it is sought that trained people know that they benefit from the communication of hazards of the GHS and, therefore, that they demand its implementation in their workplaces and to their suppliers of chemical products. Currently, Argentina's main challenges are to increase the degree of compliance with the regulations and to expand the mandatory incorporation of GHS to phytosanitary labels and mass consumption products

The following information was provided by Elisa Coghlan (elisacoghlan@gmail.com) on behalf of the Superintendence of Occupational Risks from the Argentina Work Ministry (SRT).

1. Can you please describe for me any key assistance your country/region received from international organizations or other countries/regions on your journey to implement the GHS and how it was helpful to you?

Answer: The Argentine government and in particular the Superintendence of Occupational Risks (SRT, in Spanish), which is the competent authority in matters of GHS within the labor field in Argentina, has not received help from international organizations or other countries directly aimed at the implementation of the system.

2. What two or three factors have been most important to you that have enabled your implementation of GHS?

Answer: The main factor was to get the political authorities to include the issue in their agenda and prioritize it among the great diversity of their needs and actions. Their conviction about the positive contribution of GHS to the communication of hazards for risk management was essential to achieve the necessary regulations.

Another factor that helped was that a representative of the labor sector of Argentina was a member of the Subcommittee of Experts of GHS during many years and the transmission of the knowledge and conviction of this representative invited other governmental agents to continue with the task and carry it at the level of implementation.

Another factor to obtain the necessary support to issue the norm and to have resources for training and sensibilization was the high level of globalization of the GHS.

3. What were/have been the major challenges you faced in implementing the GHS within legislation?

Answer:

- a) In Argentina, the implementation of the GHS in labor establishments is mandatory. One of the challenges for its full implementation is that other governmental organizations also need to issue the necessary regulation for GHS to be mandatory within their fields of application. For example, for agricultural chemical products and consumer products.
- b) Another challenge is the implementation of the GHS in small businesses that see themselves as exempted. For example, offices where cleaning products are purchased in bulk and transferred to containers with no or very poor labeling.
- c) As the competent authority, the SRT adopted the 5th revised edition of the Purple Book without modifications and accept that companies implement this version or any later revision.

4. How did you overcome them and what are the lessons you learned in the process that might benefit other countries/regions that have not yet implemented GHS?

Answer:

- a) The insistence on overcoming the initial refusal of some industries and private sector organizations was fundamental, collaborating with solutions and training and showing that

even some smaller companies or some subsidiaries of identical parent companies had already implemented it.

- b) The state company YPF was supported by the SRT aiming that other oil companies to follow this implementation. Free training was provided so that the implementation would not imply an extra cost to companies, there are resources available on the SRT website, an e-mail box for consultations, and the SGA was included in training for workers, school students, universities, labor and environment inspectors.
 - c) It was very fruitful to raise awareness on how chemical products are tools that, when misused, can cause significant damage to health and the environment but that are an essential part of our life and it is very difficult or even impossible to work without them.
 - d) It is essential to form alliances with workers' organizations, chambers representing the industry and other state agencies.
 - e) Enforcement pressure is essential.
5. What challenges do you continue to face in implementing GHS and how confident are you that you have the knowledge, resources and/or tools to overcome them?

Answer:

The main challenges are:

- a) To increase coordination with other organizations so that the implementation of the GHS is mandatory in agricultural chemical products and in consumer products. If the SRT has been a pioneer in our country we believe that, together with other areas of government, we can concentrate the knowledge, resources and tools that, in coordination, can drive the implementation of the GHS in order to overcome the remaining challenges.
 - b) To increase the degree of compliance with the existent regulations, the SRT audits compliance with Occupational Health and Safety regulations and transfers the results of this audits to databases that are then processed. The SRT expects to be able to offer training to those who do not comply, as well as to the inspectors in charge of supervising compliance with labor regulations (including regulation that makes the implementation of GHS in the workplace mandatory).
6. What other advice can you provide to other countries/regions that have not yet implemented GHS?

Answer:

In our opinion, the factors that allow progress in the implementation of the GHS within the workplace are the following (in order chronological order):

- a) Explain the importance of the GHS for health care in general and for workers in particular - remembering to mention that the lack of GHS implementation can affect potential product exports.
- b) Enacting the norm demonstrating determination since there will always be a sector asking for postponement. This norm should be simple and the details can be handled on a website.
- c) Respond to genuine claims from sectors that say they cannot comply with the terms of implementation required by the standard (as long as they are reasonable), and establish priorities with clear staged effective dates, if this concept is adopted.
- d) Offer free access to the necessary material for implementation (Purple Book, pictograms, technical notes).
- e) After a while, begin inspections.



- f) Collaborate with companies that can be followed by other companies in the sector

Colombia

Local Contact: Ana Maria Ocampo (anamaco@me.com)

Colombia announced its [intention](#) to adopt GHS in November 2017. On 25 May, it was invited to join the OECD and the adoption of GHS comes as part of this process. In July, the OECD made it [mandatory](#) for members to implement GHS. Colombia also recently released a [draft decree](#) on regulating the management of industrial-use chemicals. This was also part of the country's effort to comply with the requirements of OECD membership.

The ANDEAN Community (Comunidad Andina) (Bolivia, Colombia, Ecuador and Peru) have developed draft regulations based on the 13th revised edition of the UN Model regulations, the ADR 2005 and the RID 2005, which are still under consideration.

[In accordance with Decree 1496 – which was approved on August 6, 2018 – the Globally Harmonized System of Classification and Labeling of Chemicals \(GHS\) 6th Revised Edition will be implemented in Colombia.](#) It will apply to a broad sector of public and private economic activities including extraction, production, import, storage, transport, distribution and use of chemical products, pure substances or mixtures meeting any of the hazardous GHS classification criteria. Pharmaceutical products, food additives, cosmetics, pesticide residues in food and hazardous waste are all exempt from GHS classification and labeling requirements.

Designated authorities will be adopting specific enforcement regulations with implementation deadlines, as the effective date of GHS implementation was not established by Decree 1496. Such authorities include the Ministry of Labor for chemical products used at the workplace; the Ministry of Trade, Industry and Tourism regarding chemical products for consumer use, except hygiene products for home care use, such as cleaners or pest control products and absorbents; the Ministry of Agriculture in relation to agricultural pesticides; and, the Ministry of Transport in relation to the transportation of hazardous chemicals by road.

Companies will now face the challenge of classifying and labelling of products according to GHS, including those products that were placed on the market in Colombia in accordance with classification criteria that were common practice prior to GHS, such as the US National Fire Protection Association (NFPA) Codes or the US Hazardous Materials Identification System (HMIS). These systems have generated the proliferation of labels and safety data sheets (SDS) that were proving to be confusing for local users.

GHS labels will be required on all hazardous products even if they are intended to be used only at the workplace. Labels must be clearly written in Spanish, especially for pesticide products that are sold in areas of agricultural or livestock activity.

Manufacturers and importers must ensure that information provided on product labels and Safety Data Sheets (SDSs) is kept up to date. They should be revised at least every 5 years in order to reflect any updates to the product which may have had an impact on its hazardous classification and labeling. All SDSs must clearly indicate their authoring or latest revision date. In the event of



emergency situations, such as accidental spills or leaks, manufacturers, importers and/or distributors of chemical products will be required to immediately inform the relevant emergency authorities regarding product composition, as well as any confidential information in order to identify the necessary corrective measures.

In mid-2019, the United Nations Industrial Development Organization (UNIDO), together with the Swiss Secretariat of State for Economic Affairs (SECO) and the Colombian Ministry of Trade, Industry and Tourism (MINCIT) through Colombia Productiva, [launched the Quality Programme for the Chemical Value Chain in four of the Colombia's main cities](#), namely Bogotá, Medellín, Cali and Barranquilla. Overall, the Programme seeks to contribute to the quality and international competitiveness of one of the highest added-value industries of the Colombian manufacturing sector by providing quality infrastructure public goods and supporting the implementation of main national policies.

During the four events, different technical regulation topics were addressed, including the adoption of the Globally Harmonized System (GHS) for the management and labelling of chemical substances; the new mandatory register of chemical substances for industrial use; the OECD Good Laboratory Practices, etc.

“Minor risks, better work environments, better product development and compliance with requirements of foreign markets are some of the advantages of implementing the GHS”, said Fabián Benzo, UNITAR GHS Expert. “All GQSP Colombia activities are free of charge and are be available at www.gqspcolombia.org”, said UNIDO National Technical Coordinator Helen Mier. “In total, the Programme will benefit over 470 chemical companies and 126 conformity assessment laboratories/test facilities that provide services”.

The events, which were attended by more than 450 people, brought together companies from all sectors of the chemical industry, as well as institutions, laboratories and universities.

The following feedback was received from Ana Maria Ocampo, the local Colombia GHS contact:

1. Can you please describe for me any key assistance your country/region received from international organizations or other countries/regions on your journey to implement the GHS and how it was helpful to you?

Answer:

The action plan for the implementation of the SGA in Colombia is based on the guidelines given by the United Nations Institute for Training and Research (UNITAR), the International Labor Organization (ILO), the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) and the OECD.

In 2013 the project named *“Support to the implementation of the GHS and SAICM in Colombia”* was signed in agreement with UNITAR, the Ministry of Environment and Sustainable Development and the Presidential Agency for the International Cooperation in Colombia (APC). As part of this project, the Ministry of Environment and Sustainable Development elaborated in 2015 the document containing the analysis of the situation and faults, taking into account the activities and capacities existing among the governmental institutions, the industry, the companies and the civil society regarding the sectors involved on the implementation of the GHS. This

analysis of gaps and needs was complemented in the year 2016 thanks to the information and lessons learnt in 2014, especially on the application of the OIMC Toolbox and the process in which the program of management of chemical substances for industrial use was formulated.

During the mentioned project, the development of two guides addressed to the industry was started; the first guide has to do with hazard classification, while the second one is a guide of chemical labelling and chemical processes, according to the GHS criteria. The elaboration of these two guides ended in 2016, and they were published in 2018. A third component of the project consisted on the formulation of the national strategy for the implementation of the GHS in Colombia. This process included the participation of several Ministries and lasted a prolonged lapse, until in November 2016, when the formulation of the strategy was finished, as well as an intersectoral implementation plan.

2. What two or three factors have been most important to you that have enabled your implementation of GHS?

Answer:

The most relevant aspects that have an adequate implementation of the GHS in Colombia are:

1. To know well the foundation and intention of each one of the elements of hazard communication system, in order to be able to achieve its adequate information to the users of the chemical products.
2. Use practical and specific tools to disseminate information on labels and safety data sheets in the workplace.
3. The information on the safety data sheets that are received by the suppliers of chemicals.

3. What were/have been the major challenges you faced in implementing the GHS within legislation?

Answer:

At this moment in Colombia there is a decree for the adoption of the GHS, but it has not yet been regulated by the resolutions of the respective ministries, so it creates a legal vacuum about whether it should already be adopted throughout the national territory

Important challenges in its implementation are:

To have all chemicals classified, with their respective label and safety data sheets prepared in accordance with the GHS.

Structure a training program on the GHS that will be effective and appropriate for the needs of the company.

4. How did you overcome them and what are the lessons you learned in the process that might benefit other countries/regions that have not yet implemented GHS?

Answer:

It is a difficult question. We think that the GHS in the country needs a formal regulation for its adoption and appropriate resources of the Government for the dissemination and training to the industrial sector that uses substances and mixtures, these can be successful factors for other countries.

5. What challenges do you continue to face in implementing GHS and how confident are you that you have the knowledge, resources and/or tools to overcome them?

Answer:

Colombia continues to face many challenges in the implementation of the GHS such as:

- Enacting the corresponding resolutions,
- Include additional enforcement and monitoring mechanisms and competences in case of non-compliance,
- Develop tools for dissemination and capacity building activities for the industry and government entities.
- Capacity building to perform the necessary hazard assessments.
- Acquire sufficient knowledge to review the safety data sheets and determine if its content is adequate and sufficient.
- Ensure that manufacturers and importers supply the hazardous chemicals classified and with the respective label and safety data sheet prepared in accordance with the GHS.

6. What other advice can you provide to other countries/regions that have not yet implemented GHS?

Answer:

Create sufficient capacity for adequate interpretation of the hazard classification criteria of the GHS by manufacturers (responsible for classification) and for the interpretation of hazard communication elements by users of chemical products, considering the target audience.

Ecuador

Repeated efforts to solicit an interview with representatives from Ecuador were unsuccessful, but we have chosen to include the case study anyway for its probative value.

Ecuador's GHS version was published in the Official Gazette No. 881 on January 29, 2013.

INEN 2266:2013 became mandatory when its Technical Regulation No. 078 was published on November 11, 2013. TR 078 was later amended in 2014 to extend the entry into force of INEN 2216 to 2017, and again in 2017 to extend it to 2018.

Both the standard and the Technical Regulation will be required on documentation.

The purposes of INEN 2266:2013 are:

- It establishes the requirements that must be met;
- It applies to activities in production, marketing, transport, storage and handling of hazardous materials.

More recently, Ecuador has issued a far-reaching new environmental regulation that establishes a new institutional framework for environmental protection. Published on 12 June 2019, *Executive Decree No. 752, Regulation to the Organic Code of the Environment* also lays down rules for the integral management of chemical products.

The regulation details the implementing rules for the provisions defined in Ecuador's *Organic Environmental Code*. Its application is mandatory for all entities, agencies and departments of the central and autonomous decentralized public sector, natural and legal persons, municipalities,



communities and indigenous people and groups who are based permanently or temporarily in the national territory.

The regulation comprises an introduction and five "books" or sections as follows:

1. Institutional framework
2. Natural resources
3. Environmental quality including chemical substance management
4. Climate change
5. Coastal marine zones

Book 3, Title VI is dedicated to the sound management of chemicals. It regulates the management of pure substances, mixtures of substances and substances contained in products or materials during their various phases of processing. This is a new effort by Ecuador to create a chemical management system.

Chapter I of Title VI covers the management of chemicals through the phases of supply (import, manufacturing or production), storage, transport, use and export. Chapter I, Article 522 establishes that the "National Environmental Authority will establish the national inventory of chemical substances in coordination with other relevant authorities." Article 526 states that in case of technical certainty and/or scientific knowledge that a chemical adversely affects the environment, the National Environmental Authority will restrict or prohibit its import, development, production, transfer, possession, use, transportation, storage and export in coordination with entities with competence in the matter.

Similarly, Chapter II, Article 527 establishes the Registry of Chemical Substances that will apply to all the management phases including supply (import, manufacturing or production), storage, transport, use, and export. According to Article 531, parties who handle chemical products must consider the guidelines included in the Safety Data Sheet (SDS). This data sheet must be in Spanish and must be available for all phases of management of chemical substances. Currently, Ecuador does not have a chemical substance registration requirement.

Additionally, suppliers must label in Spanish pure substances, mixtures or products that contain chemicals as well as distribute to the users the SDS with the information provided by the importer, according to the guidelines established in the *Globally Harmonized System of Classification and Labeling of Chemicals* (GHS) or the applicable national and international regulations.

Southeast Asia

[A 2014 ChemicalWatch article provided useful information on GHS implementation in Southeast Asia as of that point in time.](#) It has been supplemented with a [2016 ChemicalWatch update](#) other documents and reports as noted below.

Thailand

Local Contacts: Teeraporn Wiriwutikorn (teeraporn.w@pcd.go.th) and Piyanan Udomtang (piyanan.u@pcd.go.th).

In Thailand, the third National Strategic Plan for Chemicals Management 2007-2011 identified the need to implement GHS. The Ministry of Industry, which oversees GHS implementation, brought Hazard Classification and Communication System for Hazardous Substances BE 2555 into force in March 2012. Based on the 3rd revised edition of GHS, it applied to substances starting in March of 2013 and to mixtures in March 2017. Chemicals regulated under other departments/regulations are out of the scope, e.g. pesticide, chemical waste, used electronic device, etc.

The Department of Industrial Works (DIW) has led GHS implementation in Thailand and has published advisory classifications for around 530 chemicals. A single list of hazardous substances was published in October 2013, which combined eight chemical lists into one.

The Food and Drug Administration and the Department of Agriculture are in the process of GHS implementation over household/public health use chemicals and agricultural chemicals respectively.

The following feedback was received from Piyanan Udomtang, responsible for GHS implementation for the Thailand Food and Drug Administration.

1. Can you please describe for me any key assistance your country/region received from international organizations or other countries/regions on your journey to implement the GHS and how it was helpful to you?

Answer: 1.) UNITAR/ ILO GHS capacity building project ----

- i. The project successfully helped Thailand to conduct Situation and Gap Analysis, Comprehensibility testing, Awareness raising and capacity building for government agencies, business and civil society, Development of National Strategic Map for GHS Implementation, Developing of draft GHS implementing legislation and regulation, GHS Training courses and workshops

2.) APEC Chemical Dialogue--- GHS seminar for government agencies and business sector

3.) Japanese Government / Ministry of Economy, Trade and Industry (METI)- GHS training events for government agencies and business sector.

2. What two or three factors have been most important to you that have enabled your implementation of GHS?

Answer: 1.) Cooperation of government agencies in 4 GHS-related sectors, as follows:

- i. Industrial sector : Department of Industrial Works, Department of Labour Protection and Welfare

- ii. Agriculture sector : Department of Agriculture, Department of Livestock Development

- iii. Consumer product sector: Food and Drug Administration

- iv. Transport sector : Related departments in Ministry of Transport

2.) Involvement of stakeholders, e.g. business associations, civil society organizations, academic sector

3.) International trade concerns.

3. What were/have been the major challenges you faced in implementing the GHS within legislation?

Answer: 1.) Problems regarding SMEs' capacity to implement GHS

- 2.) Problems that countries implement different versions of GHS
4. How did you overcome them and what are the lessons you learned in the process that might benefit other countries/regions that have not yet implemented GHS?
Answer: 1.) Capacity building towards SMEs
2.) International/ regional movement to harmonize the implemented GHS version, at least setting specific version for global implementation
5. What challenges do you continue to face in implementing GHS and how confident are you that you have the knowledge, resources and/or tools to overcome them?
Answer : We believe that factors, e.g. computerized tools, domestic/international experts, trade pressure and international cooperation, will help countries successfully implement GHS, thereby contributing to related Sustainable Development Goals.
6. What other advice can you provide to other countries/regions that have not yet implemented GHS?
Answer : Commitment of all concerned agencies is the key for success of GHS implementation.

Malaysia

Local Contact: Hazlina Yon (hazlina@mohr.gov.my)

Malaysia's Department of Occupational Safety and Health maintains [a useful website in English](#) which contains useful links to its implementation of GHS.

Prior to 1997, there was no comprehensive system for chemical classification and labelling in Malaysia. In 1997 Malaysia promulgated the Occupational Safety and Health (Classification, Packaging and Labelling of Hazardous Chemicals) Regulations 1997 (CPL Regulations). The CPL 1997 defined 'hazardous chemical' as any chemical that possesses any of the hazardous properties: explosive, oxidizing, extremely flammable, highly flammable, flammable, very toxic, toxic, corrosive, harmful, irritant or any relevant information existed to indicate that the chemical is hazardous. Although CPL 1997 was largely based on the EU Directive 67/548/EEC classification criteria, some differences in the labelling requirements between the two systems resulted in different chemical labels in the EU and Malaysia.

Following the publication of the GHS Purple Book in 2003, Malaysia initiated numerous seminars and training workshops on the GHS. On 3rd August 2006, the Malaysian Ministry of International Trade and Industry hosted the first National Coordinating Committee for the Implementation of the GHS (NCCGHS). Focal agencies for the GHS implementation were identified with the Department of Occupational Safety and Health (DOSHS) in charge of the GHS implementation in the workplace. The DOSHS also carried out the Comprehensibility Testing in 2007 throughout Malaysia.

The 1997 CPL Regulations were eventually replaced by the Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 (CLASS Regulations) as a step towards the implementation of the Globally Harmonized System of Chemical Classification and Hazard Communication (GHS). It is based on the 3rd revised edition of the GHS. This Regulation became effective in October 2013 and required companies to submit information on hazardous chemicals to an online inventory, Chemical Information Management



System (CIMS). CLASS had a one-year transition period for both substances and mixtures from the date of gazette, and the full enforcement commenced on 17 April 2015. [As noted by Jonai et al, 2016](#), the DOSH of Malaysia took the proactive measure to incorporate environmental hazards in the CLASS Regulations.

Suppliers are responsible for the classification, labelling, preparation of Safety Data Sheet, packaging and chemicals inventory information submission. In the regulations, suppliers are defined as persons who supply hazardous chemicals, and include principal suppliers (that is, suppliers who formulate, manufacture, import, recycle or reformulate hazardous chemicals) and subsidiary suppliers (that is, suppliers who repack, distribute or retail hazardous chemicals).

The Department of Occupational Safety and Health issued in 2014 an “Industry Code of Practice on Chemical Classification and Hazard Communication” (ICOP CHC) to provide guidance to suppliers on self-classification of chemicals as well as on preparation of labels and Safety Data Sheets according to the CLASS Regulations. The Code of Practice also provides in its Part 1, a list of 229 chemicals classified in accordance with the GHS. However, on 12 December 2019, the amendment of Part 1 list has been gazetted which comprises of:

- Amendment of mandatory requirement to minimum classification for the chemicals. If the principal supplier has data or other information that lead to classification of additional hazard class or more severe category compared to the minimum classification, the principal supplier may classify accordingly
- Revised classification/chemical name/ hazard statement of 40 chemicals (noted as ^{R1})
- Addition of 393 new chemicals
- Addition of substantial notes ^{(e),(f),(g),(h)}

The ICOP CHC is a legally binding document based on the 3rd revised edition of the GHS purple book published in 2009. Both CLASS Regulations and ICOP CHC are essential for the GHS compliance in Malaysia.

ICOP CHC was promulgated as a guidance to help the industry comply with CLASS Regulations. It sets out detailed requirements on chemical classifications, labelling and safety data sheets (SDS).

ICOP CHC consists of four parts:

- Part I: List of Classified Chemicals
- Part II: Chemicals Classification
- Part III: Hazard Communication: Labelling and Safety Data Sheet
- Part IV: Confidential Business Information

ICOP CHC 2014 can be downloaded [here](#).

ICOP CHC (Amendment) 2019 Part I can be downloaded [here](#).

For substances not on the list of Part I, companies should use classification criteria given in Part II to classify their chemicals. The following building blocks are not adopted by Malaysia.

- Flammable Liquids Cate. 4;
- Acute Toxicity Cate. 5;
- Skin corrosion/irritation Cate. 3;
- Aspiration Hazard Cate. 2;
- Acute Aquatic Hazards Cate. 2 & 3;

CBI is also addressed in CLASS Regulations and ICOP CHC. According to the CBI stipulated in CLASS Regulations, the supplier can omit the information required in SDS or the inventory of hazardous chemicals, if the information on the name of a hazardous chemical or the composition and ingredients of a hazardous chemical constitutes CBI. The omitted information shall be replaced with generic name of the hazardous chemical or allowable concentration range of the ingredients of the hazardous chemical that stated in ICOP CHC. However, the Director General of DOSH, occupational health doctor, or person who uses and handles a hazardous chemical may request in writing from the principal supplier for the disclosure of CBI for the purpose of protection of the safety and health of employees. A person who use the information obtained under the CLASS Regulations other than the purposes specified above commits an offence, and shall be liable to a fine not exceeding ten thousand Ringgit Malaysia or to imprisonment for a term not exceeding one year, or to both.

[Omar et al, 2019 have published a paper](#) that compared the 1997 CPL Regulations and CLASS 2013. Although both have similar frameworks, the legal requirements outlined in both regulations differ significantly particularly in chemical classification, labelling and safety data sheet requirements, and inventory submission. The most important step forward is that the CLASS Regulations' requirement for chemicals to be classified with proper documented evidence and comprehensive hazard communication makes the chemical suppliers take greater responsibility for the chemicals they supply.

An undated (but presumably between 2008 and 2010) presentation by Ms. Habibah Supoh, Department of Occupational Safety & Health, Ministry of Human Resource, Malaysia highlighted some of the challenges they faced in implementing GHS, namely:

- overlapping jurisdictions on some chemicals;
- limited availability of translators who were sufficiently knowledgeable about chemical safety terminology and could translate documents into Bahasa Malaysia;
- proper labelling of small sized containers (i.e., minimum label size larger than the container);
- questionable validity SDS information, especially for mixtures (e.g., inconsistencies, and suspected “cut and paste” from irrelevant documents);
- inadequate hazard information to be able to classify some chemicals, particularly those which were domestically produced;
- lack of local qualified testing facilities to generate the hazard information on domestically produced chemicals;
- lack of public awareness of chemical safety; and
- attitudes of local small and medium sized enterprises toward the costs and benefits of GHS implementation.

The following feedback was received from Hazlina Yon, the local GHS contact.

1. Can you please describe for me any key assistance your country/region received from international organizations or other countries/regions on your journey to implement the GHS and how it was helpful to you?

Answer:

Malaysia was largely assisted by Japan through JICA and AOTS in implementation of GHS for workplace sector. Apart from Japan, Malaysia has also received funding from UNITAR to conduct awareness and training programs related to the implementation of GHS to key players in the chemical industry in Malaysia. The assistance received has helped to enhanced capacity building and understanding especially in the aspects of hazard classification, labelling and SDS as a foundation of GHS implementation at the workplace in Malaysia.

2. What two or three factors have been most important to you that have enabled your implementation of GHS?

Answer:

- a) Legal framework
- b) Capacity building – expertise in legal drafting, enforcement and roles of chemical suppliers.
- c) Collaboration from the industries
- d) Continuous support from the top management on the implementation of GHS at the workplace.
- e) Low compliance based on the previous regulations that warrant the need to enhance the method of classification and hazard communication.

3. What were/have been the major challenges you faced in implementing the GHS within legislation?

Answer:

- a) A complete change of classification system that caused the industries difficulty in complying.
- b) Significant changes of system of classification/classification method, labelling from the previous CPL Regulations 1997 with limited expertise on GHS.
- c) Low commitment from the industries at large.

4. How did you overcome them and what are the lessons you learned in the process that might benefit other countries/regions that have not yet implemented GHS?

Answer:

- a) Extensive seminars and workshops related to GHS had been organized together with the industries and associations during the drafting until the regulations was gazetted. The main

objectives from these seminars and workshops were to gather inputs and feedbacks from various stakeholders.

- b) Engagement and dialog sessions with the industries and suppliers to gain feedback-from their experience in handling GHS in other countries.
 - c) Road shows to enforcement officers as well as industries throughout the country to ensure the state officers were equipped with the knowledge on GHS.
5. What challenges do you continue to face in implementing GHS and how confident are you that you have the knowledge, resources and/or tools to overcome them?

Answer:

No.	Challenges	Resolutions
1.	Availability of qualified testing facilities and cost of testing	Addition of chemical to Part 1 to reduce the needs of testing and to ease the classification process for substances as well as mixtures. In fact, the Department has gazetted the amendment of Part 1 on 12 December 2019 resulting in 662 chemicals in total.
2	Lack of compliance effort from the industry	<p>a) Strategic enforcement operations to ensure the compliance from the industry. The enforcement operations are set twice per year throughout Malaysia. Notwithstanding that, routine inspection is executed continuously by the state office.</p> <p>b) CATCH. An online system developed by joint collaboration of government agency and university to assist in classification of mixtures which can be accessed by public at large at no cost to the industry.</p>
3	Lack of knowledge on classification method by GHS	The department had recognized 4 training centres that qualified to

		provide training until advance level on classification procedure until preparing labelling and safety data sheet
4	Lack of information provided to the local importer	Requirement to provide relevant information on the imported chemicals to the authority
5	Misinterpretation of CBI element	Giving awareness and engagement to suppliers.

6. What other advice can you provide to other countries/regions that have not yet implemented GHS?

Answer: Benchmarking the implementation by other countries/regions and apply the common practices or implementation as per others but still consider the scenario in one's country.

Eurasian Economic Union (EAEU) – Consisting of Armenia, Kazakhstan, Belarus, Kyrgyz Republic and the Russian Federation.

Local Contact: Natalia Druzhinina (n.druzhinina@ciscenter.org).

On 3 March 2017 by Decision No. 19 of the Council of the Eurasian Economic Commission the technical regulation “On the safety of chemical products” was adopted as TR EAEU 041/2017. This technical regulation is scheduled to enter into force after 2 June 2021 thereby allowing industry to go through 4-year transition period. Also according to item 2 of this Decision, the technical regulation will enter into force on June 2, 2021 provided that the deadlines of second-tier documents are met. In particular, by December 1, 2018 two subordinated regulations should be elaborated, approved and implemented: One of them describes the procedure for formation and maintenance of the register of substances and mixtures of the Union, and the other one specifies the notification procedure of new substances. Another milestone is March 1, 2021 which marks the deadline for the formation of the national parts of the Union Register. Without these intermediate steps, the technical regulation cannot be implemented in practice, and thus the date of entry into force on June 2, 2021 would have to be postponed.

Key elements of technical regulation includes: hazard classification and hazard communication (labeling and SDSs); identification; new substances notification; register of substances and mixtures of the EAEU; conformity assessment within the state registration.

This regulation implements the mandatory application of GHS in the Eurasian Economic Union within the framework of the system of interstate standards (GOSTs) on test methods, criteria for



classification and elements of hazard communication, which currently are applied on a voluntary basis. At the moment all the interstate standards are undergoing a revision procedure in accordance with the 7th edition of the GHS Recommendations.

The list of standards implementing the GHS includes the following interstate (GOST) and national (GOST R, R) standards:

GOST 32419-2013 Classification of chemicals. General requirements (based on 4th rev. edition of the GHS)

GOST 32423-2013 Mixtures classification of hazard for health (based on 4th rev. edition of the GHS)

GOST 32424-2013 Classification of chemicals for environmental hazards. General principles (based on 4th rev. edition of the GHS)

GOST 32425-2013 Mixtures classification of hazard for environmental (based on 4th rev. edition of the GHS)

GOST 32421-2013 Classification of chemicals which hazard is caused by physical and chemical properties. Test methods of explosives (based on 4th rev. edition of the GHS)

GOST 30333-2007 Chemical production safety passport. General requirements (based on 1st rev. edition of the GHS)

GOST 31340-2013 Labelling of chemicals. General requirements (based on 4th rev. edition of the GHS)

R 50.1.102-2014 Compilation and execution of safety data sheet of chemical products

R 50.1.101-2014 Guidance on the selection of precautionary statements for the labelling in accordance with GOST 31340-2013

In order to support the industry with the application of classification criteria the following national Russian standards were developed:

GOST R 56957-2016 Guidance on the application of the criteria of chemicals classification for health hazard. Acute oral toxicity

GOST R 56932-2016 Guidance on the application of the criteria of chemicals classification for health hazard. Acute dermal toxicity

GOST R 56930-2016 Guidance on the application of the criteria of chemicals classification for health hazard. Acute inhalation toxicity

GOST R 56958-2016 Guidance on the application of the criteria of chemicals classification for health hazard. Skin corrosion/irritation

GOST R 56959-2016 Guidance on the application of the criteria of chemicals classification for health hazard. Serious eye damage/eye irritation

GOST R 57452-2017 Guidance on the application of the criteria of chemicals classification for health hazard. Reproductive toxicity

GOST R 57453-2017 Guidance on the application of the criteria of chemicals classification for health hazard. Mutagenicity

GOST R 57454-2017 Guidance on the application of the criteria of chemicals classification for health hazard. Carcinogenicity



GOST R 57455-2017 Guidance on the application of the criteria of chemicals classification for environment. Acute aquatic toxicity

GOST R 57456-2017 Guidance on the application of the criteria of chemicals classification for environment. Chronic aquatic toxicity

The following national standards will be valid from 01/06/2020:

GOST R 58476-2019 Guidance on the application of the criteria of chemicals classification for health hazard. Sensitization

GOST R 58479-2019 Guidance on the application of the criteria of chemicals classification for health hazard. Specific target organ toxicity at single exposure

GOST R 58477-2019 Guidance on the application of the criteria of chemicals classification for health hazard. Specific target organ toxicity at repeated exposure

GOST R 58478-2019 Guidance on the application of the criteria of chemicals classification for health hazard. Aspiration hazard

In the Russian Federation the practice to provide a safety data sheet for chemicals has been in place since 1993. Since January 1, 2009 with adoption of GOST 30333 the structure and content of the Russian SDS has to be in full accordance with the GHS recommendations. While Russian SDS fully meets the GHS recommendation it has some features which are not present in other countries.

The main feature of the Russian SDS is that it passes the procedure of expertise and registration in the relevant expert organization. The successful registration is confirmed on the title page of the Russian SDS document by a unique registration number along with the stamp and signature.

Besides the title page, another feature of Russian SDS is associated with 16 standard GHS sections, which shall include the references to the information sources. The list of all reference links shall be provided in section 16 named “Additional information”, and usually it includes more than 20 links to different scientific and regulatory sources like hygienic regulations, GOSTs, technical documentation of the company and others.

There are two hazard classifications of chemicals in Russian SDS: the first one follows the standards implementing the GHS which were mentioned above and the second one is the national classification upon GOST 12.1.007-76 “Occupational safety standards system. Noxious substances. Classification and general safety requirements”. The validity period of Russian SDS is currently limited to 3 or 5 years depending on the hazard class of the substance derived from GOST 12.1.007-76. It classifies all substances into 4 hazard classes depending on the impact on human health: if the substance is classified as extremely or highly hazardous, the Russian SDS is valid for 3 years; for substances of moderate or low hazard, the Russian SDS is valid for 5 years. After this period, the Russian SDS should be registered again.

Upon completion of the expertise and registration of the Russian SDS, the copy of its title page is recorded into the Register of Russian SDS for tracking purposes. Despite the fact that currently Russian SDS is not an obligatory document yet, the Register as of February 1, 2020, includes more than 60,000 documents registered under interstate standard GOST 30333-2007. The registration process is considered an expert approval of provided information, and it guarantees a high quality of this document. And it has become a common practice that customs authorities check the



registration number of Russian SDS. Moreover, having a registered Russian SDS is the best way for companies to show their responsibility and care of customers, employees and the environment.

When TR EAEU 041/2017 comes into force, the procedure of SDS expertise will be performed within the procedure of state registration of the chemical products. The validity period of SDS will be unlimited.

The following information was obtained from Natalia Druzhinina, the local GHS contact.

1. Can you please describe for me any key assistance your country/region received from international organizations or other countries/regions on your journey to implement the GHS and how it was helpful to you?

Answer: The Russian Federation has undertaken to implement the GHS by 2008 as the input to sustainable development. This work was performed within the system of intergovernmental standards (GOSTs):

GOST 30333-2007 Chemical production safety passport. General requirements

GOST 31340-2007 Labelling of chemicals. General requirements

The GOST for labelling requirements includes the criteria for hazard classification. These standards were valid from January 1, 2009.

2. What two or three factors have been most important to you that have enabled your implementation of GHS?

Answer: GHS provides an internationally harmonized approach to hazard classification and communication. The most important benefits of such an approach are:

- reduction of technical barriers to trade
- human health and environment protection

3. What were/have been the major challenges you faced in implementing the GHS within legislation?

Answer: As far as GOST is a cross-country form of standardization document, the challenge was the process of consideration and agreement among member countries, which is not easy and takes some time.

The other challenge in the early stages of GHS implementation was the lack of knowledge of industry representatives about the application of the GHS criteria and the poor document (SDS and labelling) quality as a result.

4. How did you overcome them and what are the lessons you learned in the process that might benefit other countries/regions that have not yet implemented GHS?

Answer: It is very important to ensure the transparency and awareness of GHS implementation procedure with sufficient time for public comments and feedback on the comments provided.

Additional guidance on the application of the GHS criteria with case-studies and guidance on SDS and label compilation are very helpful to raise awareness and level of qualification.

In the Russian Federation, we have the procedure of expertise and registration of SDS in the expert organization on a voluntary basis. This helps companies be sure that they have a good quality document.

5. What challenges do you continue to face in implementing GHS and how confident are you that you have the knowledge, resources and/or tools to overcome them?

Answer: Currently we have no mechanism to facilitate the adoption of newer revisions of GHS as soon as they are published by the UN and that is the main challenge. The revision procedure for the adoption of newer revisions of GHS can be initiated through inclusion into the national standardization plan for the nearest two years. The process of revision usually takes at least 1.5 years.

6. What other advice can you provide to other countries/regions that have not yet implemented GHS?

Answer: We believe that for effective GHS implementation the strong governmental support is a key element. Thus, it is very important to deliver the message about the benefits of GHS implementation to the authority. It is also important to raise awareness capacity and form an expert community. The participation in the meetings of Sub-Committee of Experts on the GHS (if possible) is very helpful.