

REACH & CLP Hub: GHS – the status quo

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The declared objective of the Globally Harmonized System of classification and labelling of chemicals (GHS) is the protection of human health and the environment by way of an internationally harmonised approach.

Nearly two decades have passed since the World Summit on Sustainable Development encouraged countries upon adoption of the first edition of GHS in 2002 to implement the system as soon as possible. However, according to the UN's Global Chemicals Outlook II, which was published earlier this year, more than 120 countries had not implemented the GHS as of 2018.

In May 2018 the OECD Council adopted its Act on Co-operative Investigation and Risk Reduction of Chemicals which made it mandatory for its members and accession countries to implement the GHS. The Act had little impact on most OECD member countries since they had already implemented the GHS but it did on those member countries that have not yet completed their GHS implementation, such as Chile and Israel, and certainly on all countries that are prospective members of the OECD.

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During the last two years there has been a considerable increase in the number of countries pursuing GHS implementation - possibly because of the requirements set by the OECD Council. Such countries include Guatemala, Honduras, Congo, and Madagascar.

Israel has been a member of the OECD since 2010 and as such, it has been forced to speed up its GHS implementation. Israel notified the World Trade Organization on 3 December 2013 of a draft revision of standard SI 2302 which was supposed to implement GHS in Israel. Public consultation was closed in 2014. However, Israel then reopened consultation on a new draft standard in 2018. In May 2019 Israel finally announced its GHS implementation (Standard SI 2302 Parts 1 and 2) in its official Gazette. Standard SI 2302 is expected to come into force before the end of this year, followed by a three-year transition period. Based on the draft documents Israel has adopted the 4th revised edition.

In addition, there are regional activities towards GHS implementation. The Eurasian Economic Union, consisting of Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russia, adopted the New Technical Regulation on Safety of Chemical Products in 2017. This is expected to enter into force in 2021, making GHS mandatory in the trade bloc's member countries.

Likewise, the Gulf Cooperation Council (GCC) has begun to implement GHS among its member states (Saudi Arabia, Kuwait, the United Arab Emirates (UAE), Qatar, Bahrain,

and Oman) after the Gulf Standardization Organization, in partnership with the Gulf Petrochemical and Chemicals Association's Responsible Care Committee, published a Code of Practice (2017) relating to chemical hazard communication. A draft standard (2018) was compiled based on UN GHS Rev. 7 (2017), the EU CLP Regulation, as amended, and a standard produced by the council's standards body the GCC Standardisation Organisation, GSO ISO 11014:2013.

In Africa, the 16 countries of the Southern African Development Community (SADC) have agreed to the SADC GHS Policy on the implementation of GHS based technical regulations, even though not all of them have concrete plans. Due to its chemical trade relations with OECD countries, South Africa took a role as front-runner for GHS-related activities in the SADC region and published national standards SANS 10234:2008 and SANS 10234-A (2008) which implemented the GHS on a voluntary basis. Last year it was announced that South Africa took the next step towards full mandatory implementation as a draft Regulation was published for public consultation and is expected to be finalised in 2020. This regulation will be in alignment with the 6th Revision of UN GHS. In the meantime, Zambia and Mauritius also moved ahead and finalised their mandatory GHS implementation. Other SADC members, such as Botswana, the Democratic Republic of the Congo, Kenya, and Madagascar, are still in the process of GHS implementation.

Steps towards harmonisation

Earlier this year the Asia-Pacific Economic Cooperation (Apec) forum conducted a survey on GHS implementation and convergence among member economies which found that different GHS revisions, different building blocks and different generic cut-off values for building blocks were being adopted, and this leads to divergent implementation. These findings led to several recommendations by Apec, including that countries should adopt the seventh revision of GHS by 2021 and have automatic or legislated review processes to continually update to the newer revisions of GHS.

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Both of these requirements are fulfilled by EU legislation. In the EU a system of regular updates of the legal text has been implemented through "adaptations to technical progress", or "ATPs" that are regularly adopted. On 27 March 2019 the 12th ATP (Commission Regulation (EU) 2019/521) was published in the EU Official Journal, amending the CLP Regulation which was the vehicle for

adopting the GHS in the EU. The 12th ATP entered into force 20 days after its publication and the transition period ends on 17 October 2020. By means of the 12th ATP all changes introduced by the sixth and seventh revised editions of UN GHS will be adopted in the EU.

Other countries which are updating their GHS implementation system to the seventh revised edition are Switzerland and Serbia, which have their legislation aligned to the EU legislation. Norway and Iceland are expected to follow soon. The US (currently applying the third revised edition), Australia (third), Canada (fifth) and Brazil (fourth) are all planning an update to the seventh.

Additionally, there are several countries that will directly implement the seventh revised edition, namely Kenya and all the GCC member states of the GCC - the UAE, Saudi Arabia, Qatar, Oman, Kuwait and Bahrain.

Countries that will directly implement the sixth revision are South Africa, Costa Rica and Columbia.

In Japan, GHS was implemented originally in 2009 and updated to the fourth revised edition in 2014, and earlier this year to the sixth revised edition by the standards JIS Z 7252:2019 (Classification of chemicals) and JIS Z 7253:2019 (Hazard communication of chemicals - labelling and safety data sheets). Japan set a three-year transitional period until 24 May 2022 for companies to comply with the new standards.

The GHS World map

The GHS world map is a visualisation of the progress that has been made towards a worldwide GHS implementation, even though there are still considerable gaps. In our GHS world map, which was first published by Chemical Watch in 2016, the following four categories for the implementation status are used:

- GHS implemented: legislation published and mandatory date for implementation set;
- GHS in progress: legislation in progress but not yet published;
- GHS voluntary: legislation published without a mandatory date for implementation; and
- GHS not yet started: GHS implementation not yet started.

It is noteworthy that for purposes of simplification no distinction was made between countries that have implemented GHS in all sectors (workplace, agriculture, and consumer) or only in one or two of these. This distinguishes this map from the GHS map published by Persson et al [Sustainability 2017, 9, 2176].

The GHS is now on revision 8

Even as many countries are now in the process of implementing or updating to the seventh revised edition of UN GHS, the next revision has already been published. On 18 June this year, the eighth revised edition was released. Changes compared to the previous revision include a new section under Chapter 2.3 on aerosols entitled "chemicals under pressure". These are defined as liquids or solids (such as pastes or powders), pressurised with a gas at a pressure of 200 kPa (gauge) or more at 20°C in pressure receptacles other than aerosol dispensers and which are not classified as gases under pressure. Chemicals under pressure will be classified in one of three categories of this hazard class and labelled with Flame (GHS02) and Gas cylinder (GHS04) (categories 1 and 2) and Gas cylinder (GHS04) only (category 3), respectively. The new hazard phrases will be H282, H283 and H284. Additionally, a new table comprising the classification criteria for aerosols was inserted.

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Also, the classification criteria for skin corrosion and irritation based on in vitro or ex vivo methods were thoroughly updated and expanded by the inclusion of several new decision trees covering OECD test guidelines 430, 431, 435 and 439. The first three OECD guidelines can be applied for the assessment of the skin corrosion hazard class while OECD guideline 439 can be used for the assessment of skin irritation. A tiered approach

organising the available information into tiers provides for decision-making in a structured and sequential manner. However, it is important to realise that there are no in vitro or ex vivo tests that can address both skin corrosion and irritation. This hazard class can only be assessed using the described tiered approach involving a weight-of-evidence assessment of at least two in vitro or ex vivo tests.

Regarding labelling elements, new precautionary pictograms for 'Keep out of Reach of Children' were introduced as well as a new labelling example for sets or kits (Annex 7).

A new Annex 11 providing guidance on other hazards not resulting in classification" was added. Here, a new section on 'dust explosions', comprising definitions, a decision tree, hazard prevention, risk assessment and mitigation guidance, was included.

A look ahead

Over the past few years the number of countries that have already or are in the process of implementing GHS, has increased considerably. This process has been fuelled by the activities of the OECD. It can be expected that within the next decade a greater number of countries will follow suit further reducing the gaps in global GHS implementation.

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The opinions contained in this article are those of the expert author and are not necessarily shared by Chemical Watch.

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