Chemical Watch

Chemicals in electronics:

Regulatory developments from around the world

Introduction: Navigating uncertain times

Public and private organisations have their attention firmly fixed on helping fight the coronavirus Covid-19 pandemic.

The electronics sector is no exception. European trade association DigitalEurope says in a statement on its website, that the sector is at the forefront of international efforts to detect, track and treat the coronavirus, and also mitigate its effect on the wider economy.

The pandemic is causing severe problems across all sectors and markets, with the electronics industry suffering its own turmoil. International electronics trade association IPC – which develops and publishes industry standards – recently found that manufacturers in the sector are anticipating a five-week product shipment delay from suppliers, at the very least. Shipping delays from China in particular are already having a negative impact.

"The delays will likely have ripple effects for the rest of the year," says John Mitchell, IPC's president and CEO. "The longer China is affected by the epidemic, and the more it spreads to other parts of the world, the supply chain will experience more and varied strains and disruptions."

This uncertainty is extremely problematic for business and it's hard to tell how companies will cushion the blow. The issues that arise along the supply chain in the coming months could impact regulatory compliance, and how chemical regulations are implemented and enforced.

It is too early to tell, for example, if shipment delays pose a risk to chemical and material reporting requirements in many jurisdictions. What we can be sure of, is that, despite the pandemic, the momentum of regulatory activity covering electronics and electricals – something that has increased substantially over the last decade – will continue.

In the EU, the European Commission plans to hold further consultations and meetings as part of its ongoing review of RoHS2, the recast of the EU Directive on the restriction of hazardous substances in electrical and electronic equipment.

Launched in 2018, this review consists of three parts, with results of the evaluation reported to the European Parliament and Council of Ministers by July 2021. The current phase – the third – is an update of the substance inventory, including the assessment of seven substances, or groups of substances, for possible future restriction.

The research institute overseeing the substance assessments on behalf of the Commission, Germany's Öko-Institut, has recommended that no restrictions are needed for four of these:

- indium phosphide;
- beryllium and its compounds;
- cobalt dichloride and cobalt sulphate; and
- nickel sulfate and nickel sulfamate.

But for two others – tetrabromobispenol-A (TBBP-A) and medium-chain chlorinated paraffins (MCCPs) – it has recommended restrictions.

Both are used as flame retardants in plastics and MCCPs are also used as plasticisers. For the remaining substance – the flame retardant diantimony trioxide – the Öko-Institut has recommended an urgent assessment of its uses.

And companies should keep an eye out for RoHS-style restrictions appearing in regulations across the world. In fact, to date, RoHS-type laws have been proposed, introduced or are being introduced in more than 45 jurisdictions outside the European Economic Area (EEA).

These include major economic markets such as China, Japan, India, the Gulf Cooperation Council (GCC), Brazil and the Eurasian Economic Union (EEU). In Asia, South Korea's environment ministry may propose copying the changes made to the EU RoHS Directive into its Act on Resource Circulation of Electrical and Electronic Equipment and Vehicles.

This could include adding four phthalates to the list of restricted substances, and expanding the number of product types covered by the legislation. China's standards administration recently published guidance on the conformity assessment rules under its RoHS-style regulations – the Administrative Measures on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Products.

These were implemented by the government on 1 November 2019. The conformity assessment rules apply to products manufactured or imported in China after that date. Last September, China also published the voluntary national standard GB/T 37876-2019 – also known as the conformity guidelines.

These outline the relevant technical regulations and requirements to help upstream and downstream companies to comply. They came into force on 1 March. Meanwhile, in the US, a number of substances used in electronics are either undergoing risk evaluation under TSCA or have been designated as a high priority for risk evaluation.

The final TSCA evaluation of the solvent 1-methyl-2-pyrrolidone (NMP) is due in June, but the EPA has said it might not meet the deadline. Once the evaluation is finalised the agency will

then have two years, with a possible extension, to put in place risk management actions to address any uses that pose an unreasonable risk.

The US EPA has also kicked off evaluations in 2020 for a number of substances used in the electronics and electrical equipment industries that were designated as high priorities, including:
- the solvent 1,2-dichloroethane;
- the halogenated flame retardants TBBPA, TCEP and TPP;
- formaldehyde; and
- the phthalates DBP, DEHP, DIBP, DCHP and BBP.

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Leigh Stringer
Business Editor, Chemical Watch

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RoHS TBBPA restriction would have 'negative effect' on plastic recycling

Not enough known about alternatives, say recycling groups

20 February 2020

Restricting the brominated flame retardant tetrabromobisphenol-A (TBBPA) under the EU's RoHS Directive would negatively affect the sorting of plastics and potentially lead to the use of substances of similar concern, say two European recycling associations.

European trade groups, the Electronics Recyclers Association (Eera) and the Recycling Industries Confederation (Euric) submitted comments to the Commission's review of TBBPA and six other substances, for possible restriction under the EU Directive on the restriction of hazardous substances (RoHS) in electrical and electronic equipment (EEE).

TBBPA is primarily used (~90%) as a reactive flame retardant in the production of brominated epoxy resins for printed wiring boards (PWB) and as an additive in thermoplastic EEE components.

In its assessment, Germany's Öko-Institut (Institute for Applied Ecology), which is the research institute overseeing the substance assessments on behalf of the Commission, concluded that TBBPA should be restricted with a limit value of 0.1% per weight, because of its potential endocrine disrupting properties and persistence in the environment.

However, Euric said that because the adverse effects of phosphorus-based flame retardant alternatives, highlighted in the assessment, are not well known, there is "no guarantee" restrictions will not be set for these substances in the future.

"Recyclers will have to clean material streams of legacy substances if substitutes to TBBPA turn out to also be hazardous," said Euric.

It added that restricting TBBPA might have a negative effect on the "efficient sorting" of plastics containing flame retardants from those that do not.

The association said bromine is used in some recycling techniques to separate flame retardant from non-flame-retardant plastics. However, there is "insufficient knowledge about whether these techniques can properly deal with phosphorus-based flame retardants".

Tatiana Santos, NGO European Environmental Bureau's policy manager for chemicals and nanotechnology, told Chemical Watch that some scientific evidence shows that phosphorus alternatives are "probably not much better" and that using them as alternatives could be a "new saga of regrettable substitution".

However, the availability or not of alternatives is not an argument against restricting substances under RoHS, she added.

"It is the authorities responsibility to protect human health and the environment by restricting harmful chemicals, while it is industry's responsibility to replace such harmful chemicals with safer alternatives," she said.

Eera recommended waiting for Echa's formal assessment of TBBPA before "basing a conclusion on an estimation of health hazards". It added that a RoHS restriction may not be the best option when considering that some phosphoric flame retardants are already listed as SVHCs, such as trixylyl phosphate.

Echa is carrying out a substance evaluation of TBBPA, assessing it for potential persistent, bioaccumulative and toxic (PBT) and endocrine disrupting properties. It has asked registrants of the substance to provide more data by 4 January 2021.

Norway has also notified Echa that it will develop, in cooperation with Denmark, a proposal for classifying TBBPA as a carcinogen 1B, and will submit this by 1 June.

REACH not RoHS

MedTech Europe, the trade association representing the medical technology industries, said that a RoHS restriction on TBBPA would not be the most appropriate regulatory measure because the substance is mainly used in production processes. The RoHS Directive is aimed at restricting chemicals in EEE.

Because production processes are not covered by RoHS restrictions, a REACH restriction would be the "only effective option to protect health," if TBBPA does pose environmental and health risks, says MedTech Europe.

A RoHS restriction would prevent less than 10% of its uses in the EU, it says, while REACH restrictions have the advantage of covering production process uses.

Of the seven substances assessed, the Öko-Institut has recommended that no restrictions are needed for four:
- indium phosphide;
- beryllium and its compounds;
- cobalt dichloride and cobalt sulphate; and
- nickel sulphate and nickel sulfamate.

It has recommended restriction for TBBPA and medium-chain chlorinated paraffins (MCCPs). Both are used as flame retardants in plastics and MCCPs are also used as plasticisers.

For the remaining substance – the flame retardant diantimony trioxide – the Öko-Institut has recommended an urgent assessment of its uses. This is because it is used as a synergist with halogenated flame retardants, which allows smaller amounts of halogenated flame retardants to be used. If antimony trioxide on its own was restricted, says the Commission, there would be a risk that greater amounts of halogenated flame retardants will be used.

The Commission will now await the conclusions of the study, expected in May and will consider further steps based on the results. A final stakeholder workshop is planned for April where final revisions and explanations of any comments considered will be presented to attendees.

The Öko-Institut told Chemical Watch that it is evaluating the comments but could not comment on specific points raised, during the evaluation process.

RoHS2 Review

In 2018, the European Commission launched a review of RoHS2, the recast of the EU Directive on the restriction of hazardous substances in EEE. The review comprises three parts and is due to be completed by July 2021.

The first part is an update of the existing methodology for identifying and assessing substances for possible restriction. The second is an assessment of the methodology for exemption evaluation and requests for new exemptions.

And the third is an update of the substance inventory, including the assessment of the seven substances, or groups of substances, for possible future restriction.

EU RoHS rules now apply in Eurasian states

Restrictions on use of certain hazardous substances in electrical and electronic equipment in play

11 March 2020

Member states within the Eurasian Economic Union have started applying rules based on the EU's Directive on the use of certain hazardous substances in electrical and electronic equipment (RoHS).

The technical regulation of the Eurasian Economic Union On the Limitation of the Use of Hazardous Substances in Electrical and Electronics Products was adopted in October 2016 and entered into force on 1 March 2018.

It set a two-year transition period to allow companies to adjust to the changes.

The regulation has applied since 1 March this year to all member states of the EEU: Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russia.

Last month, Russia's ministry of industry and trade officially extended to May the deadline for companies to submit data to its national inventory of chemicals.

EEU member states are all expected to create inventories as part of their national registers of substances and mixtures. These will feed into the Eurasian technical regulation on the safety of chemical products – also known as TR EAEU 041/2017 and Eurasia-REACH.

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Guest Column: EU RoHS – a global reference point

Lara Visser, DIGITALEUROPE's senior policy manager sustainability, looks at RoHS developments and the global dimension of the Directive.

03 July 2019

The EU's Restriction of Hazardous Substances (RoHS) Directive is the product-specific legislation for evaluating and restricting the use of hazardous substances in electrical and electronic equipment (EEE). While it is very much recognised by the electronics industry as landmark legislation, not only in Europe but globally, it does not always get the recognition and visibility that it deserves.

In the coming two years, the European Commission will be evaluating the Directive with the aim of reviewing its effectiveness, efficiency, relevance, as well as coherence with other EU laws

and policies. This provides an excellent opportunity to reflect and look ahead.

During this review, we can of course expect discussions on the relationship between RoHS and REACH and how to strengthen policy coherence to avoid overlaps, also in the broader context of the analysis of the interface of chemicals, product and waste legislation. A topic that also certainly deserves closer attention is the global dimension of RoHS.

The fact that EU RoHS has in the past decade become a truly global reference point for regulating hazardous

substances in EEE is an important achievement and certainly something that the electronics industry also very much welcomes. Companies with a global footprint tend to design products to comply with the highest standard, hoping to be able to sell them globally.

> "International alignment is clearly beneficial for the environment but also for industry"

International alignment is thus clearly beneficial for the environment but also for industry, especially given its complex global supply chain, since it avoids multiple different designs and associated production chains.

Key principles of RoHS

As everyone may not be familiar with RoHS, it may be worth providing a brief recap of some key elements and principles. These are important to keep in mind, especially when looking later at how RoHS-type laws are being implemented outside of the EU.

RoHS sets out the rules for restrictions on the use of hazardous substances in EEE. It was adopted together with the Waste Electrical and Electronic Equipment Directive (WEEE Directive) in 2002, with a view to contribute to the protection of human health and the environment. This includes the environmentally sound recovery and disposal of waste EEE.

In terms of its scope, RoHS applies to the substances used in the 11 different product categories set out in Annex I. Exclusions are also clearly defined and specified. RoHS Annex II restricts lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) at 0.1% by weight in homogenous materials. Cadmium is restricted at 0.01%.

From 22 July, with the amending Directive 2015/863/EU, the four phthalates DEHP, BBP, DBP and DIBP will be restricted at 0.1% in all electrical and electronic equipment (apart from Category 8 (medical devices) and Category 9 (monitoring and control equipment) which follow in 2021.

Rules are also provided for granting, renewing or revoking exemptions. Exemptions are important because,

for certain specific applications, it may not always be technically or scientifically feasible to eliminate or substitute certain substances. Annex III, and Annex IV (specific to medical devices and monitoring and control instruments), includes the applications that are exempted with a clear numbering and subdivision to facilitate supply chain communication and compliance.

In addition to these core elements, RoHS also includes some important principles. The 'repair as produced' principle means that if a product is placed on the EU market before a substance restriction starts to apply to that particular type of product, it can still be repaired or upgraded with spare parts containing that substance after that date. This is an essential principle to enable the extension of the lifetime of a functional product as it can continue to be reused or resold. It fits well in the circular economy thinking and is both economically and environmentally beneficial.

The conformity assessment and declaration of conformity as foreseen

in the EU RoHS Directive are also fundamental. Manufacturers are required to prepare a Declaration of Conformity which is a self-declaration that the EEE meets the requirements.

It is important to note that by making the declaration, the manufacturer assumes responsibility for compliance. In addition, there is the presumption of conformity which means that unless there is evidence of the contrary, EEE that conforms to a harmonised standard published in the EU Official Journal is presumed to comply. Enforcement by market surveillance authorities is done by means of post-market surveillance.

The global dimension of RoHS

Since its inception in 2002, the RoHS Directive has become a global reference point for regulation of hazardous substances in EEE. This has been effective and given the EU a competitive advantage.

In fact, to date, RoHS-type laws have been introduced or are being introduced in more than 45 jurisdictions outside the
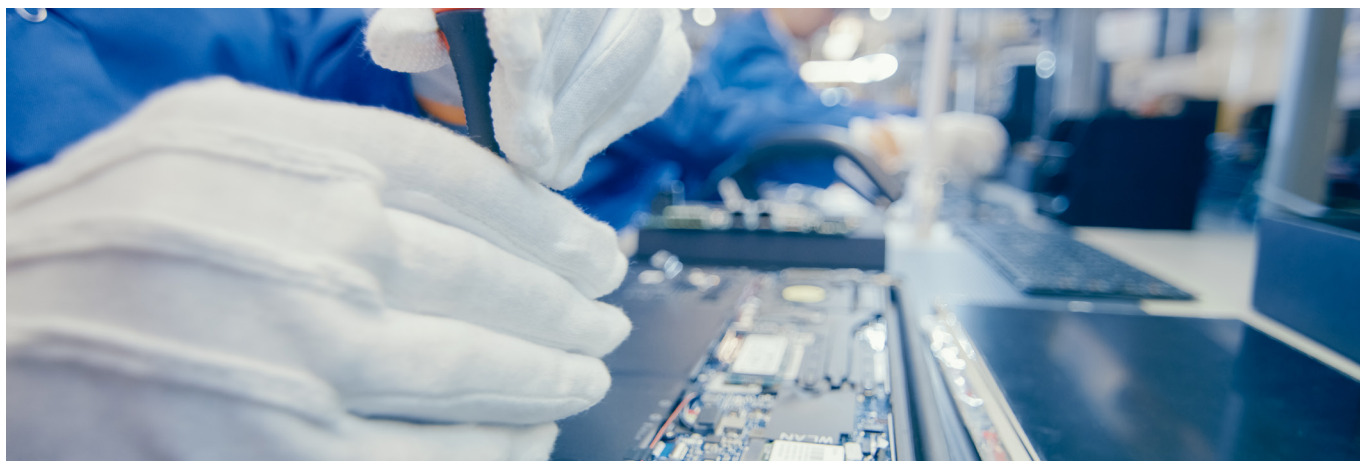
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> "Since its inception in 2002, the RoHS Directive has become a global reference point for regulation of hazardous substances in EEE"

European Economic Area (EEA). These include major economic markets such as China, Japan, India, the Eurasian Economic Union and the Gulf states.

Sometimes EU RoHS is copied exactly. However, often it is not. For example, countries might introduce a completely different approach on the scope (eg, differently defined product categories), exemptions (eg, lack of alignment in terms of substances as well as scope and applicability, deviations in the numbering of exemptions) and declaration of conformity (eg, complex conformity assessment procedures that are burdensome for industry and authorities). As mentioned, these are key principles of EU RoHS and need to be internationally aligned to ensure its effectiveness.

Clear and adequate timelines for implementation, transition and enforcement are crucial to ensure smooth and effective implementation. However, such provisions in draft laws are often not clear or in some cases there is not even a transition period foreseen. Industry recommends, as a minimum, a two-year transition period to allow enough time for manufacturers and importers to adapt.

The European Commission's services use the WTO Technical Barriers to Trade (TBT) system to provide feedback when draft laws have been notified by other jurisdictions. While this is indeed the only mechanism for the EU to do so, and as such certainly important to be respected and supported, it may not always be sufficient to improve the actual knowledge and understanding of RoHS by regulatory stakeholders.

Consequently, each time a new "RoHS" law is proposed, industry establishes bi-lateral dialogues with the relevant local public authorities to explain and share the experience with the European framework legislation in order to facilitate an efficient and effective RoHS implementation. Industry's engagement and sharing of expertise is important and generally rather effective, albeit on a case-by-case basis. However, it is at the same time also costly and perhaps not the most viable long-term approach.

Setting the global agenda

With RoHS, the EU has the potential to continue setting the global agenda and driving international regulatory alignment on the use of substances in EEE. As such, RoHS should be

embraced and invested in for it to continue to function as the tool for regulating substances in EEE and for the EU to continue to lead and gain further competitive advantage.

However, in order to truly grasp this potential, it is important that the European Commission considers the global dimension more thoroughly, in particular, during the general review of the legislation. Showing a vision with the right level of ambition is one thing, but making sure that others understand and are keen to follow will be imperative for the continued success of the framework.

While the evaluation may conclude that there is a need for certain changes to the Directive, we need to bear in mind that any update to the framework legislation will have a domino effect on the rest of the world.

Aside from the legislation, there also needs to be further consideration about dedicating more resources to a targeted outreach programme with third countries. We have seen the Commission doing this on a range of other files, for example in the field of trade policy, and this has been considered successful.

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

China issues RoHS2 conformity assessment rules

Compliance options include self-declaration or third-party certification

22 May 2019
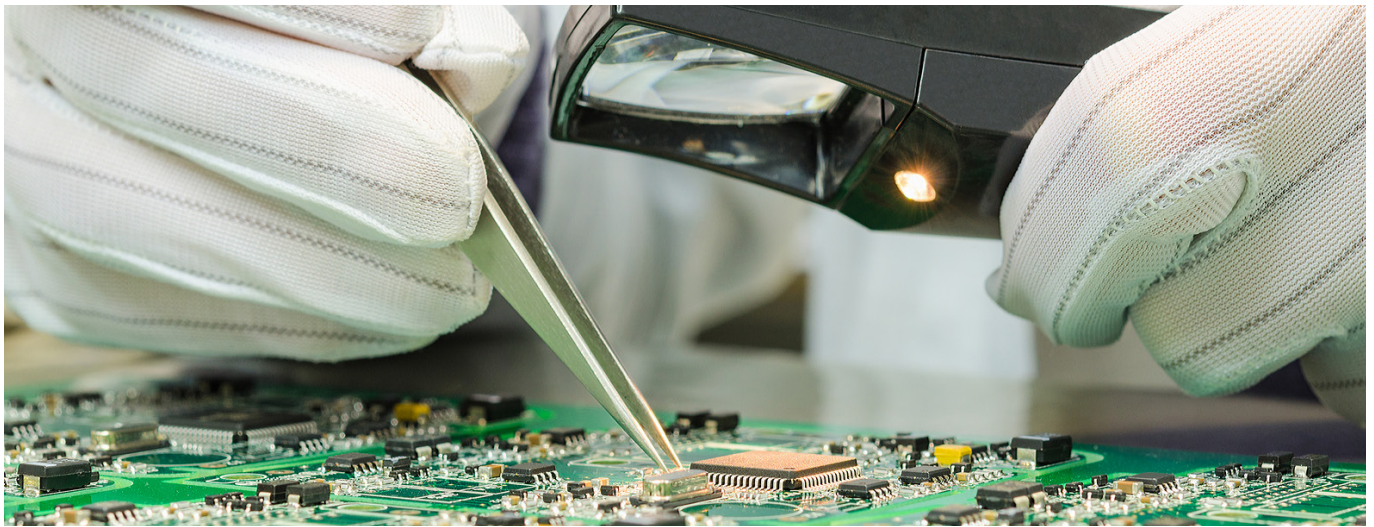
Chinese authorities have published the long-awaited conformity rules for China RoHS2, which introduce a voluntary certification or self-declaration system to demonstrate compliance with hazardous substance restriction limits in electrical and electronic products (EEPs).

The State Administration for Market Regulation (SAMR) and the Ministry of Industry and Information Technology (MIIT) jointly issued the Implementation Measures for Conformity Assessment System for the Restricted Use of Hazardous Chemicals in Electrical and Electronic Products on 16 May.

The system introduces two logos that can be used, depending on the type of conformity assessment manufacturers opt for. These are the China Green Product (CGP) logos, however they do not replace the existing China RoHS logo, which must still be used. The new logos can be used on packages, product manuals and online marketing.

Michael Kirschner, president of Design Chain Associates – an electronics service provider – told Chemical Watch: "We were expecting a self-declaration process and that's what they've announced. What I find surprising is that authorities are going to develop a 'public service platform' that the certification documentation is to be submitted to. The parameters of this are not clear from this announcement, including what information is to be made public. Certainly, plenty of the technical documentation submitted in support of an EEP's compliance would be considered confidential."

According to the announcement, all product compliance information will be uploaded to an online platform that has not yet been launched, but is expected to be announced soon.

An industry insider told Chemical Watch it is thought that the new platform will either be similar to, or a part of, the current Green Product platform.

It is still unclear what information will be made publicly available on the platform, but he thought that it would at least be product name, model and supplier information.

He added that, while the information on what the technical documents must contain has not yet been defined, he expected the RoHS testing report to be "a key document".

Once the platform is up and running, third-party organisations with product certifications should upload the relevant information within five working days.

The approved third-party certifiers are currently not identified under the notification and there is no indication of when they will be announced. China has many testing, inspection and certification companies offering RoHS testing services, which should be able to offer the certification services after they have been approved by the MIIT.

Companies that have chosen to self-declare must submit information, along with relevant supporting technical materials, to the platform within 30 days after their products are placed on the market.

Mr Kirschner added: "I am disappointed that nowhere in Annex I, Annex II, or the announcement itself is IEC 63000 (or its Chinese version GB/T 36560-2018) identified as the basis for conformity. That is the internationalised version of the EU's harmonised standard for demonstrating compliance with EU RoHS. Perhaps further clarifying documentation and guidelines, which are certainly necessary to define the content of the technical support documentation, will specify it."

The deadline for companies to prove compliance of the products listed in the first batch of those listed under China RoHS2 is 1 November.

Background

On 15 March 2018, the Ministry of Industry and Information Technology (MIIT) published the final list of EEPs that must comply with RoHS2 regulations.

It contained a first batch of 12 product types, which must comply with the hazardous substance restriction limits set out in the national standard GB/T 26572 2011. An exemption list, published at the same time, contains details of 39 products or component parts of products that are exempt from the hazardous substance restrictions of RoHS2.

Under China RoHS2, the restricted substances are:
• cadmium and its compounds;
• mercury and its compounds;
• lead and its compounds;
• hexavalent chromium and its compounds;
• polybrominated biphenyls (PBBs); and
• polybrominated diphenyl ethers (PBDEs).

These are the same as those restricted under the EU's 2003 RoHS Directive.

Manufacturers must complete conformity assessments for the 12 product types by 1 November.

Under China RoHS1, and until 1 November under RoHS2, markings and disclosure were required for all EEPs. This was demonstrated via a table on product leaflets and manuals, but it was not necessary to submit compliance to authorities. This is now a requirement under the new conformity assessment system.

Similarity to EU RoHS

At the high level, there are several similarities and differences between China and EU RoHS. Mr Kirschner explained that, fundamentally, the substance restriction requirements are more or less the same in China and the EU, and both identify and allow exemptions. The requirement to have technical documentation that provides evidence of compliance is common to both.

Differences between the two include a narrower scope for China RoHS2, although it is expected to be broadened in the future.

China's new requirement to disclose and declare conformity via a public service platform differs from EU RoHS, where disclosure to enforcement authorities is only required upon request

South Korea considering delay to extended RoHS following industry concerns

Enforcement postponed until at least 2020

16 May 2019

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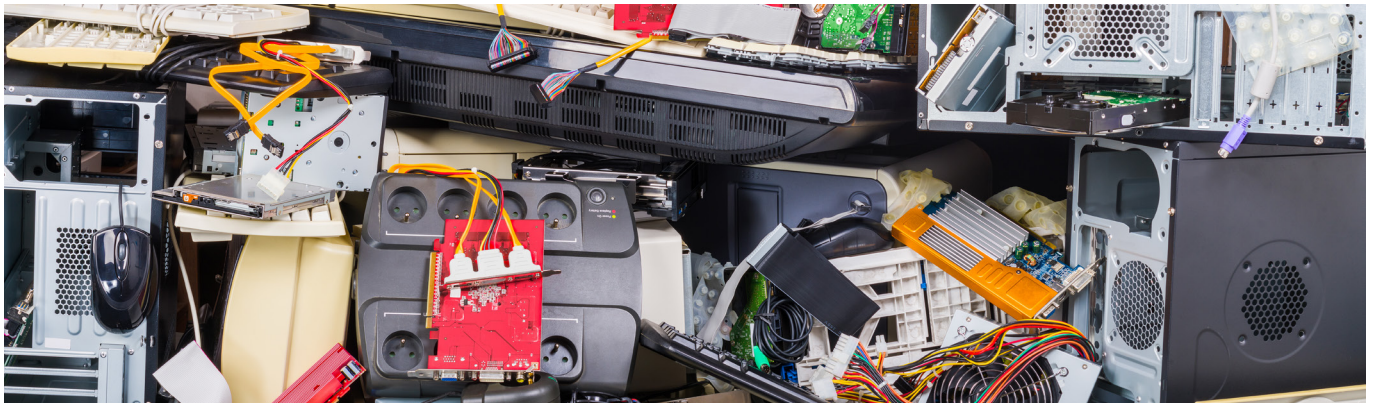
South Korea's Ministry of Environment is redrafting a proposed amendment to the country's RoHS legislation in response to industry concerns, according to the Korea Electronics Association. The amendment would have expanded the scope of the Act, which covers hazardous substances in electrical and electronic products. The KEA says implementation of the amendment will now be delayed.

Last November, the ministry proposed extending the coverage of RoHS by increasing the number of products covered and adding four phthalates to its scope – with implementation expected from July this year.

But Chang-wook Do, manager at the KEA's environment and energy centre, said the ministry is now revising the amendment, which he expects will be published in the first half of the year – although this has not been confirmed by the ministry. The KEA, which represents the country's electrical and electronics industry, has been in regular discussions with the government on the proposed changes.

One revision to the amendment proposes a delay to enforcement of the expanded legislation until at least 2020, Mr Do said. He understands this is because the MoE accepted industry suggestions that enforcement on phthalate restrictions should be postponed from 22 July 2019, as set out in the initial proposed amendment. He believes the new date will be 1 January 2020.

The KEA, among other organisations, argued that many businesses would have to exhaust their existing stocks, and that the process of the revision was not long enough for them to prepare.

However, Mr Do believes that the effective date for the expanded number of product groups covered will remain 1 January 2020, in line with the initial proposed amendment.

The MoE plans to extend the scope of RoHS by:
- increasing the number of product types covered from 26 to 49;
- increasing the number of substances tested from six to ten, by adding four phthalates; and

- modifying the penalties for non-compliance.

The plans – and particularly the timing – met a strong response from industry.

Therefore, said Mr Do, public consultation on the revised regulation was unofficially extended from 14 November 2018 until March this year.

South Korea RoHS

The legislation's full name is the Act on Resource Circulation of Electrical and Electronic Equipment and Vehicles.

If the four phthalates are added, it will cover the same substances as EU RoHS, with the same limit values.

The legislation currently covers a limited number of electronic product types. However, the government plans to extend this to cover all electronic products over time. There is no mandatory certification requirement under the law, but manufacturers and importers failing to comply are subject to fines or imprisonment.

Brazil's RoHS Regulation moves closer to adoption

Environment minister had considered 'shelving' the law

11 April 2019
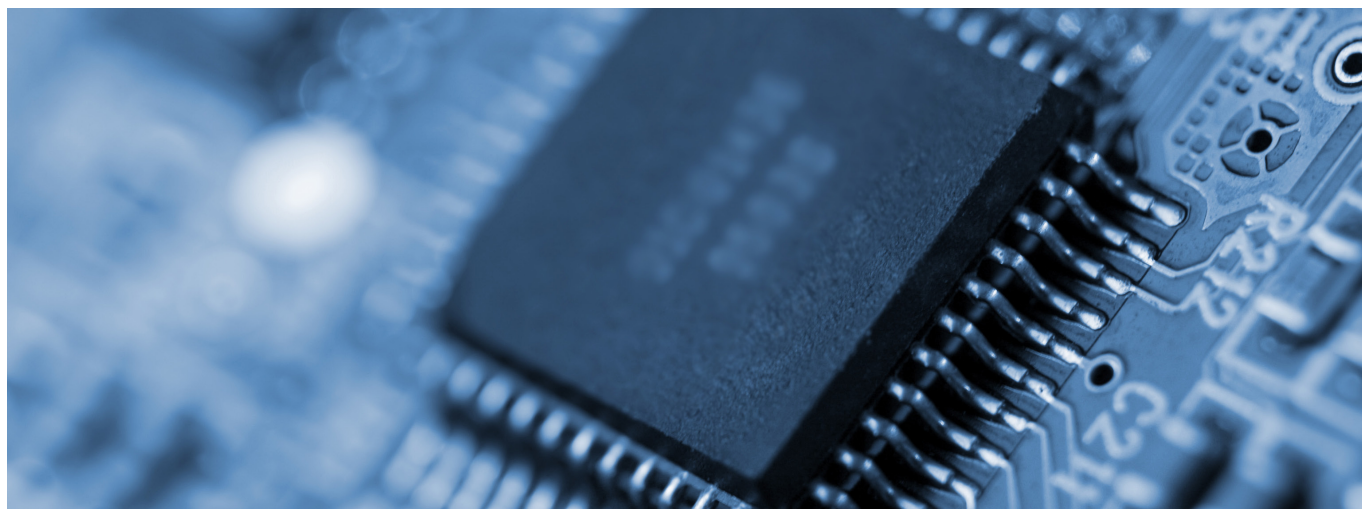
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Brazil's draft Regulation on the control and use of hazardous substances in electrical and electronic equipment (EEE) will be sent to the country's national environment council (Conama) for review "very soon", a government source says.

The fate of the Regulation (see box) was uncertain, after it was confirmed that Brazil's environment minister Ricardo Salles has shelved the country's national chemicals safety bill. According to the source, the draft RoHS-like Regulation was on track for the same treatment.

However, the EEE industry was "more efficient" in encouraging Mr Salles to move forward with the legislation because of its "importance" for the sector's growth.

A 2017 report, Labour conditions at foreign electronics manufacturing companies in Brazil, by non-profit organisation the Centre for Research on Multinational Corporations (SOMO) and research group Reporter Brasil, pointed to the value of the industry to the South American country.

It said that in recent years, many multinational companies in the electronics sector have "found their way to Brazil, where they enter into partnerships with local manufacturing companies or set up manufacturing facilities of their own".

This movement, it said, has been driven by corporate interest in Brazil's large consumer market.

"By manufacturing in Brazil, companies can avoid the country's high import taxes and qualify for attractive tax breaks," it added.

Following Conama's review, a final version of the Regulation is expected to be published in the second half of the year.

Brazil's RoHS

Aiming to align with the EU's Directive on the restriction of hazardous substances (RoHS) in EEE, the draft Regulation would see restrictions on the same chemicals, which are:
- lead;
- cadmium;
- mercury;
- hexavalent chromium;
- polybrominated biphenyls (PBBs);
- polybrominated diphenyl ethers (PBDEs); and
- four phthalates – DEHP, BBP, DBP and DIBP.

One likely difference is that cars may be in scope because Brazil does not, and has never had, a regulation covering hazardous substances in vehicles. The EU's End-of-Life Vehicles (ELV) Directive restricts many of the chemicals covered under RoHS.

Arab states notify WTO of RoHS-like regulation

Forty-five page regulation lists prohibited substances in materials

04 April 2018

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A number of Arab states have notified the WTO of a draft technical Regulation to restrict the use of certain hazardous substances in electrical and electronic equipment.

Once in force, the regulation would establish the requirements for products placed on the market within Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates and Yemen. They are with a view to contributing to the protection of human health and the environment, including the environmentally sound recovery and disposal of waste.

The 45-page regulation includes a list of prohibited substances in materials. These include, with a maximum permissible concentrations (in weight) of 0.1%:
- lead;
- mercury;
- hexavalent chromium;
- polybrominated biphenyls (PBB);
- polybrominated diphenyl ethers (PBDE);
- bis(2-ethylhexyl) phthalate (DEHP);
- butyl benzyl phthalate (BBP);
- dibutyl phthalate (DBP); and
- diisobutyl phthalate (DIBP).

It also lists cadmium with a maximum permissible concentration of 0.01%.

The restriction on DEHP, BBP, DBP and DIBP will apply to medical devices, including in vitro, and monitoring and control instruments, including those for industry, from 22 July 2021.

It will not apply to those substances in cables or spare parts for the repair, reuse, updating of functionalities or upgrading of capacity of EEE, placed on the market before 22 July 2019. Nor will it apply to medical devices placed on the market before 22 July 2021.

There is currently no proposed date of adoption. The regulation will enter into force 180 days after publication in the official gazettes of the states.

The states all belong to the Gulf Cooperation Council's (GCC) standardisation organisation (GSO).

The UAE already has a regulation that is similar to the European Restriction of Hazardous Substances (RoHS) in electronics. It enacted this back in April last year and it came into effect on 1 January 2018. However, in February Chemical Watch reported that the state was struggling to implement the regulation and a bottleneck had emerged in the process of issuing declarations of compliance.

Washington state tentatively names first priority products

Safer Products for Washington zeroes in on targets for possible regulatory action

20 January 2020

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Washington's Department of Ecology has provisionally identified its first set of priority consumer products under its newly launched Safer Products for Washington programme.

Under the scheme, the state department (ECY) must identify priority products and then determine what regulatory steps are needed, if any, to increase the transparency or reduce the use of substances of concern in them.

The inaugural list of products, announced in a 17 January draft report, comprises:

- carpet and aftermarket carpet treatments containing per- and polyfluoroalkyl substances (PFASs);
- vinyl flooring and cosmetic fragrances containing phthalates;
- laundry detergent, thermal paper and food cans containing phenolic compounds;

- printing inks containing polychlorinated biphenyls (PCBs);
- electric and electronic equipment containing organohalogen flame retardants and flame retardants identified under the state's children's products reporting rule.

According to the draft report, the state chose to focus on these products after looking at reports from its Health and Ecology departments, and considered peer-reviewed literature and research from ECY's product testing programme and product chemical reports.

The list largely conforms to a September 2019 draft version, with the exception of narrowed flame retardant-containing categories – that priority product listing no longer includes building insulation or foams used in furniture and children's products.

The final list of products is due in June and the agency has said it is "working backwards" from that date to identify its priorities. After that, the state has two years to firm up its regulatory responses, such as requiring reporting or imposing restrictions.

ECY is accepting comments on the draft report until 2 March. It will share further details on the priority product identification process during a 19 February webinar. And the department has also published its draft report to the Washington legislature, which lays out its evidence for the inclusion of each chemical-product pair.

ECY says it strives to have an open process and to "welcome public input, show our work, and find the best available opportunities to keep toxic chemicals out of products"

TSCA NMP assessment should address semiconductor applications as 'standalone' use

US industry group presses Sacc peer review panel on solvent's risk evaluation

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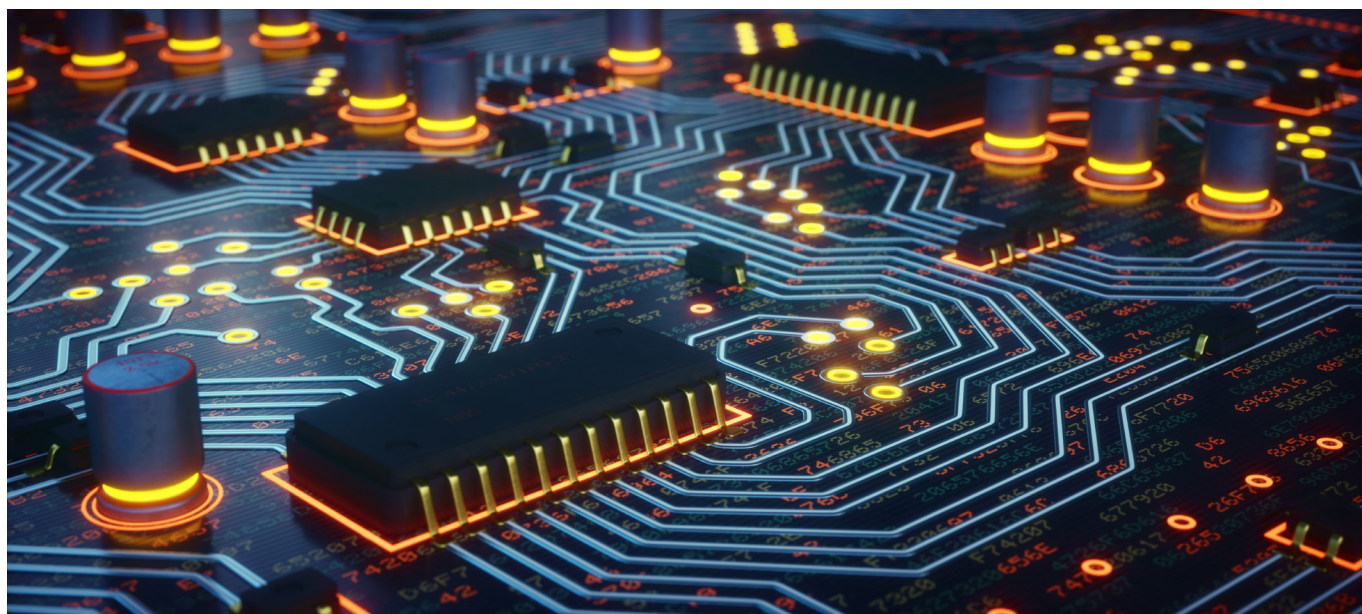
An industry trade association has called on a US EPA advisory panel to recognise the uniqueness of operations occurring in semiconductor fabrication facilities, in relation to the TSCA review of the solvent N-methylpyrrolidone (NMP).

The comments from the Semiconductor Industry Association were submitted for consideration by the EPA's Science Advisory Committee on Chemicals (Sacc) – the agency's independent scientific advisory committee, charged with offering advice on the technical aspects of risk assessments for chemicals regulated under TSCA. – which met last week to conduct a peer review of the draft NMP risk evaluation.

The solvent is a key cleaning component in the manufacture of printed circuit boards and semiconductors used in electronics.

But the SIA took issue that the draft risk evaluation explicitly includes the use of NMP for semiconductor manufacturing within its 'electronic parts manufacturing' exposure scenario – a condition of use that the agency has tentatively determined poses an unreasonable risk, and therefore would be subject to risk management action.

In comments submitted ahead of the Sacc's 5-6 December meeting in Washington, DC, the SIA said it is "inappropriate and unnecessary" to group the use of NMP in the semiconductor industry with other industrial activities.

And the committee, it said, should advise the EPA to consider semiconductor manufacturing as a "standalone" condition of use.

To assume that practices in the industry are representative of electronics manufacturing generally is not accurate, the association said: "Semiconductor manufacturing involves the fabrication of circuits that are typically less than 100 nanometers in dimension and requires exceptionally precise and controlled manufacturing equipment and processes." The equipment isolates both the manufacturing process and the chemicals involved from workers "by design", it added.

Modern equipment for semiconductor manufacturing is typically designed to meet the requirements of two key standards:
• SEMI S2, on the environmental, health, and safety guideline for semiconductor manufacturing equipment; and
• SEMI S6, on the environmental, health, and safety guideline for exhaust ventilation of semiconductor manufacturing equipment.

The SIA said that these guidelines contain provisions to ensure that hazardous gases, fumes and vapours are controlled. Such emissions should

be kept below 1% of the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLV) or permissible exposure limit (PEL) during normal equipment operation

The SIA was also critical of the evaluation's approach to personal protective equipment, particularly gloves, saying the safety factor of ten used is too low. The safety factor should be at least, if not greater than, 20, the association said.

Other stakeholders

Comments to the Sacc from other stakeholders were wide ranging, but tread ground that has become familiar within the context of previous draft TSCA risk evaluations.

NGOs, for example, said that the systematic review is faulty, vulnerable subpopulations are not properly considered and vital conditions of use are ignored.

Meanwhile, industry associations said there are problems with the cancer mode of action and the evaluation should make better use of mechanistic data.

Next steps

The Sacc also met on 3-4 December to peer review the EPA's draft TSCA risk evaluation of methylene chloride, also known as dichloromethane (DCM).

The peer review panel will have approximately 90 days to prepare a

report for the EPA's consideration on the substances.

Previous reports issued by the committee for pigment violet 29, 1,4-dioxane and the flame retardant HBCD have highlighted a variety of concerns with the agency's early risk evaluations under the amended TSCA.

The agency says it will take into account public comments and feedback from the Sacc before finalising its reviews. The EPA is due to accomplish this by 19 December, but the agency has signalled plans to take advantage of an optional 6-month extension.

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