

SOLUTIONS

Winter 2019



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Editorial



Dear Reader,

It is my pleasure as recently re-elected ESIG Chair to introduce our Winter 2019 Solutions Newsletter.

Our first piece of news concerns our relaunched Product Stewardship Award which has been renamed to ESIG Solvents Award in order to broaden its scope. We are proud to announce that the winner is ... Packwise GmbH with its 'Smart IBC industrial containers'. The award ceremony was organised during our General Assemblies, I would like once again to personally thank all the applicants. The next edition of the ESIG Solvents Award is already being prepared.

We also had a successful launch of our campaign on the UN Sustainable Development Goals (SDGs). It shows how solvents contribute to achieving the goals with short films, flip cards and visuals.

Our ESIG solvents volatile organic compounds (VOC) inventories are now consolidated and are finally published for 2016 and 2017. The work on the 2018 emission numbers is ongoing.

ESIG is continuing its work on the practical side of its Generic Exposure Scenarios. We have completed our review of Specific Environmental Release Categories (SPERC) factsheets and have finalised background documents for environmental exposure assessments. And a new project has just been kicked off, aiming at reviewing and improving our solvents human exposure database from 2008 – we will report on this in the next newsletter in much more details.

I wish you all a successful end of the year and a wonderful 2020.

Merry Christmas and a Happy New Year!

Dr Rob Oades, **ESIG Chair**

ESIG AWARD

Solvents Award showcases innovation in digitalization and sustainability



Cefic Director General, Marco Mensink, congratulates the winners: Gesche Weger and Sophia Becker on his right handside. ESIG Secretary General, Cornelia Tietz, stands on the left.

The ESIG Solvents Award ceremony took place in Brussels on 6 November during the General Assemblies of the Oxygenated Solvents Producers Association (OSPA) and the Hydrocarbon Solvents Producers Association (HSPA). The prize, presented by Petrochemicals Europe Executive Director, Charles-Henri Robert, went to Packwise with its digitalisation innovation project 'Smart IBC industrial containers'.

The winner was selected this summer by a jury made of representatives from European institutions, trade press and associations among the five shortlisted candidates. Packwise, a start-up from Dresden, Germany, developed smart Intermediate Bulk Containers (IBCs) with automated circuits. It creates a digital twin of the container, which improves follow-up of the consignment and also provides new insights into the supply chain. The Packwise industrial internet of things (IIoT) device includes track, trace and sense functionalities. It helps identify and localise containers, detect filling levels, measure temperature, and control shocks. Packwise's innovation improves time and cost efficiency, ensures that solvents are transported safely, helps save resources and creates a new approach to customer relationship management.

Packwise CEO, Gesche Weger, said: "We are very honoured to have won the ESIG Solvents Award. As a start-up, it is even more important for us since it increases our visibility in the chemical industry. As a result, we have received several customer requests and even interview requests from trade media."

The four other finalists and their projects were by:

- **ANNO Chemicals**, which brings to life the concept of 'reduce, reuse, recycle' by recovering solvents that would otherwise be thrown away due to handling deviations or contaminations.
- **Azelis**, which developed biodegradable, non-hazardous and sustainable solvents for different cleaning and degreasing activities.
- **Brenntag**, whose 'ConnectingChemistry' campaign aims to extend the life of solvents by promoting their safe use and managing the transition from traditional to new products.
- **Honeywell Aerospace**, whose project replaces a cleaning process based on a solvent blend with a safer and more reliable solvent while also simplifying overall operations.

ESIG Secretary General, Cornelia Tietz summed up the event by explaining how it created a new interest in solvents. “By relaunching the Solvents Award this year, our goal was to promote innovative and responsible best practice initiatives for health, safety and environmental excellence. These are initiatives that can improve product performance, cooperate closer with the value chain, and reach out to society. I am delighted to see that the winner and the shortlisted projects really show how downstream users of solvents innovate to ensure solvents are used in a safe, sustainable and forward-looking manner,” she said.

The next edition of the ESIG Solvents Award will be launched in 2021.

www.esig.org/solventsaward2019

SOLVENTS' CONTRIBUTION TO UN SDGs

ESIG has just launched a campaign highlighting the contribution of solvents to the UN Sustainable Development Goals (SDGs). The campaign includes videos, flip cards and visuals that are posted on social media and the ESIG website, as well as a leaflet. A short article and the videos also feature within Cefic's ChemistryCan campaign: www.chemistrycan.com/case-study/solvents-a-key-ingredient-of-durable-and-sustainable-materials.

Solvents play an important role in making our world more sustainable. For instance, did you know that marine dispersants containing solvents help to break oil slicks down into tiny droplets? This facilitates oil dilution and speeds up its biodegradation. And did you know that solvents are used in the glue that sticks solar panels together, and in the fluids that clean them?

7 AFFORDABLE AND CLEAN ENERGY



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Solvents help harvest clean energy from the sun. Solvents are used to make high performance, thin-film solar panels, which are more efficient than most current ones.



A sector group of Cefic

You can also share the content on social media through **Twitter** and **LinkedIn**.

Discover all these stories and more on the ESIG Sustainability page:

www.esig.org/sustainability

SAFE HANDLING OF SOLVENTS FILM



ESIG has worked with the UK Solvents Industry Association (SIA) to revise and re-issue its film 'Safe handling of solvents', replacing the original version from 2006. The film addresses fundamental safety guidance for anyone working with solvents. It completes a series of five films that includes:

- 'Safe loading and transportation of bulk solvents by road' identifies best practices for hauliers, drivers and site operators in the transportation of solvents and bulk transfer between vehicles and storage vessels.
- 'Solvents and the safe use of gloves' explains how to select the appropriate gloves for a particular solvent, and how to use gloves for maximum protection.
- 'Solvents and IBCs' offers valuable guidance on Intermediate Bulk Container (IBC) selection, with best practices for storage and handling, as well as information about relevant legislation.
- 'Solvents and static electricity' shows users of solvent-based materials how to identify potential sources of static electricity in the workplace and how to prevent static discharge.

All five films are available on ESIG website:

www.esig.org/product-stewardship/solventswork

SOLVENTS TRAINING COURSES: WHAT PARTICIPANTS SAY

In November, the UK-based Solvents Industry Association (SIA) in cooperation with ESIG held another of its one-day training courses: 'Introduction to the Solvents Industry' and 'Solvents and their applications'. 'Introduction to the Solvents Industry' provides basic information about solvents – what they are, where they come from etc – while 'Solvents and their applications' provides an insight into the many uses of solvents in our everyday lives. The courses were again both quickly fully booked, showing that they are highly appreciated by our industry members.

But let's hear from the participants themselves what they learned and to what extent the training will be useful in their daily work:

Jasmijn de Haan, Sales Representative- Europe, METHYL_ attended the training course "Introduction to the Solvents Industry":



"We have a lot of customers with whom we share the safety data sheet. However, sometimes they want to know more about how the product should be handled or which kind of packaging should be used. The training gave me more insight into the product knowledge to be able to answer their questions. I will definitely sign in for the second training course as it is very important for me who has only been working in the industry for three months to learn from people who have over 30 years of experience."

Dr. Vanessa Manz, Chemical Compliance Manager, DHC Solvent Chemie _ attended both training courses:



"I decided to attend the training courses to get a better overview of the whole solvents industry. As a Chemical Compliance Manager, I work with legislation every day but I do not focus on the end-users and on what customers might need. The training courses met my expectations and what I've learned will enable me to provide more information to the sales people. I will also encourage them to attend the trainings next time."

Richard Hawtrey, Branch Manager Sub Sahara, EASTMAN _ attended both training courses:



"I've been working for the industry for many years, but not so much on the solvents side. So for me it was good to get more insight into the solvents side of the business and to refresh my knowledge about things that I already knew. I did find the training courses very valuable and it gave me an opportunity to better understand what my customers are doing. It will also enable me to look at other applications that I was not aware of before the trainings to expand our customer base."

Register for the next training courses at:

www.esig.org/product-stewardship/training

DU BOX: STS BREF

Surface treatment using organic solvents' reference document

The European Solvents Downstream User Coordination Group (ESVOC) industrial application sub-team has been working for four years to provide input for the revision of the Best Available Technique (BAT) reference document (BREF) for surface treatment using organic solvents (STS BREF). This BREF relates to installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating with a consumption capacity of more than 150 kg per hour or more than 200 tonnes per year.

The STS BREF determines the best available techniques that companies must apply to obtain a permit under the EU Industrial Emissions Directive (IED). It provides information for relevant decision-makers about what is technically and economically available to the industry to help improve their performance and protect the environment. The Article 13 Forum, which is the Expert Group on the exchange of information on BAT related to industrial emissions, has now concluded that the technical work provided for in the Directive is ready for adoption. The IED Art. 75 Committee still needs to adopt the decisions on the BAT conclusions.

Then the final document will be published in the Official Journal of the European Union in 2020. EU Member States and companies will then have four years to implement best techniques to comply with the revision.

We are highlighting the STS BREF with the ESIG's 2020 calendar: it will focus on surface treatment applications, with a different one for each month, and you will all receive a copy of the calendar in December.



CEFIC BOX: DOSSIER QUALITY

In June, Cefic launched an action plan to help its members proactively and systematically review and update the data in REACH registration dossiers. The campaign comes in response to the recent announcement by the European Chemicals Agency (ECHA) that many REACH registration dossiers require additional information.

Cefic's action plan has two main elements:

- **A Declaration of Intent** signed by individual companies where they express their intent to re-evaluate dossiers and provide further information, where appropriate, in line with the Action Plan. Companies also commit to sending their KPIs so Cefic can report on progress on an annual basis.
- **A Cooperation Agreement** between Cefic and ECHA will guide the implementation of the action plan and help registrants understand how to meet the requirements of REACH's Article 41 ('Compliance Check').

The Action Plan will run until 2026, with one year of planning and seven years of actual updates. All Cefic member companies and national association members are encouraged to sign the Declaration of Intent, which over 150 have done so far.

Cefic does not have access to registration dossiers, and all updates will be done by individual companies. However, Cefic will facilitate the development of tools and solutions for cross-cutting, unresolved key issues related to registration dossiers.



For more information, please consult the website of Cefic: www.cefic.org/media-corner/newsroom/almost-60-chemical-manufacturers-commit-to-re-evaluating-the-safety-data-in-their-reach-registration-dossiers.

ESIG VOC SOLVENTS INVENTORIES



ESIG has just published its Solvent Volatile Organic Compounds (VOC) inventories 2016 and 2017 with consolidated methodology: www.esig.org/regulatory/air-quality.

The data for 2018 has already been collected and will be shared with EU Member States in due time so they can be used either directly or as a comparison for their inventories.

We cannot include import and export data amongst Member States as the numbers are simply not available. However, as ESIG VOC inventories are based on true data from solvent manufacturers, they still represent a valuable resource for the monitoring community. They are part of the [EMEP/EEA air pollutant emission inventory guidebook 2016](#), a technical manual to prepare national emission inventories.

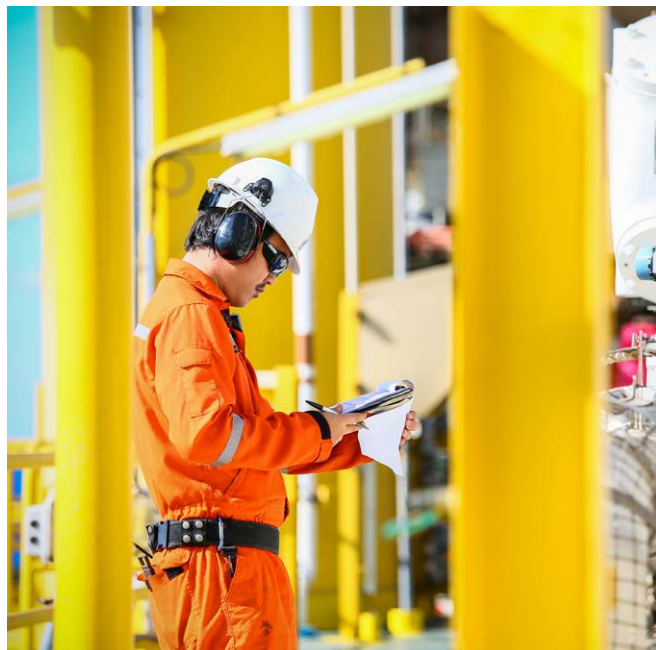
ESIG would like to thank its longstanding consultant, John Pearson, for his valuable work and the smooth handover. The inventories are now being compiled with the help of TNO, an independent research organization based in the Netherlands.

GENERIC EXPOSURE SCENARIOS

ESIG's Generic Exposure Scenarios (GES) were initially developed to provide a harmonised format for manufacturers and importers (registrants) to perform exposure assessments for relevant solvent uses as required under REACH. Over 20 GES are available, covering the majority of today's solvent uses such as cleaning, or coatings. The results of the assessments are documented in Exposure Scenarios which are attached to the Safety Data Sheet of a specific solvent to communicate safe use information down the value chain to solvents formulators and users. GES development was done in consultation with downstream user associations to ensure effective and realistic mapping of the various solvent uses. GES have been successfully used by many solvent registrants and other industry sectors.

In the meantime, downstream user associations started to develop use maps or Sector-specific Worker Exposure Descriptions (SWED) to help registrants and formulators generate exposure scenarios. The basis of the use map concept is to structure and harmonise the information on use and conditions of use ("operating conditions" and "risk management practices") for specific uses at sector level.

Under the leadership of Cefic and the Downstream Users of Chemicals Co-ordination group (DUCC) and with ECHA's support,



a project was recently carried out in collaboration with registrants and formulators to test GES and sector use maps that are used to generate exposure scenarios in Chesar to explore the possibility to align both approaches.

The results were compared and presented during three events: the DUCC/CEFIC Workshop (3 & 4 September in Brussels), the Workshop on REACH Review Action 3 (25 & 26 September in Helsinki, www.echa.europa.eu/-/workshop-on-the-workability-and-quality-of-safety-data-sheets) and ENES 12 (21 November in Brussels) (www.echa.europa.eu/-/twelfth-meeting-of-the-exchange-network-on-exposure-scenarios-enes12-).

When it comes to sector-specific worker exposure description (SWED) versus Generic Exposure Scenarios (GES), formulators clearly prefer the SWEDs. They provide identical information as all parameters except “safe concentration” are fixed and therefore are considered to be homogenous. The GES are much more heterogenous, because besides “safe use concentration” the registrant can also vary parameters such as “operating conditions” and “risk management measures”. It can be very time consuming for a formulator to use the GES due to the many variables from all ingredients in the recipe used to derive one Safe Use of Mixtures Information (SUMI).

ESIG GES experts are now working on aligning the GES approach with a “highest safe use concentration” or SUMI approach. An internal pilot project for several low hazardous solvents has just been kicked off.

UPDATE OF THE HUMAN EXPOSURE DATABASE FOR SOLVENTS

Exposure assessments in chemical safety reports are underpinned by real human exposure data. This data can also be used for higher tier assessments for key solvent uses, to show that they are safe under real-life conditions. This is what the Oxygenated Solvents Producers Association (OSPA) and the Hydrocarbon Solvents Producers Association (HSPA) did a decade ago: they initiated a project to set up a human exposure database.

The aim was to use the database to update our understanding of human exposure related to solvent products. A review of publicly available literature was carried out between 2006 and 2008 to identify any relevant exposure data published between 1998 and 2006. The data sources were evaluated using quality criteria set by OSPA/HSPA and entered into an Access database. Today, the database is still the largest single source of solvent exposure data in the industry. But while the project was completed in 2008, there has been no additional work on the database.

The Edinburgh-based Institute of Occupational Medicine (IOM) has just been commissioned a project to update the database using an identical methodology (i.e. assessment of publicly available exposure data on relevant products and key uses of oxygenated and hydrocarbon solvents). The database will be publicly available in a user-friendly and modern interface that incorporates the existing data.

SEASON'S GREETINGS

Merry Christmas and Happy New Year to all our readers!



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