SOLUTIONS

THE NEWSLETTER OF THE EUROPEAN SOLVENTS INDUSTRY GROUP

SOLVENTS: SIMPLY ESSENTIAL

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EDITORIAL

Having joined ESIG in January 2016, the last six months have been for me a constant learning curve. This is an exciting moment to join a dynamic sector and I have had the chance to get involved in most of the sector's challenges, and see how active we are.

On the regulatory front, we are ready and willing to play our part in discussions with the EU institutions on the current revision of proposals for key laws affecting the solvents industry. The National Emissions Ceiling (NEC) Directive is one such proposal, and we want to ensure that it reflects a balance between the impact of air quality and the competitiveness of industry.

There is a lot happening in the area of circular economy, sustainability, and REACH, and we are also following with interest the ongoing work on the Regulatory Fitness and Performance programme (REFIT), which aims to make EU law simpler and reduce regulatory costs.

One of my main objectives as ESIG's Director General is to give people the facts about the role of solvents in Volatile Organic Compound (VOC) emissions, and tell them how we help downstream users work safely with solvents. As a newcomer to the solvent sector, I found it fascinating to discover the number of processes that use solvents. Unfortunately, there is still a low level of knowledge about solvents, and many myths to be dispelled.

While the product stewardship work we have done so far is impressive, we can even do more. We need to focus on two goals: providing better information to regulators, downstream users and people who simply want to know more about solvents; and improving international cooperation, specifically with the United States, Asia and South America, to tackle common issues and share best practice.

No matter where you look, something is happening: our EGRET webinar, our role as a partner in the new EU-OSHA 'Healthy Workplaces for All Ages' campaign, and our well-attended training courses on how to handle solvents safely. ESIG has also led the way in ensuring that the implementation of bio-based solvent standards is based on sound science and is in line with the key principles of technological neutrality. And last but not least we are also working hard to give ESIG a new image and develop a sustainability action plan for the solvents sector.

In the long run I believe we can have the biggest impact on technical matters - in Europe with REACH, and globally in terms of air quality. We can do this by speaking with one voice, by sharing information, and by collaborating with our umbrella organisation Cefic. We must also continue our work with downstream users through ESVOCCG – our cross-industry European Solvents Volatile Organic Compounds Co-ordination Group.

I wish all Solutions readers a relaxing summer and look forward to continuing our mission to improve dialogue with regulators and increase collaboration with our counterparts elsewhere in the world.

Alessandra Costigliola

LET'S CELEBRATE 20 YEARS OF ESIG

ESIG turns 20 this year — a notable landmark and an excellent opportunity to celebrate ESIG's achievements over the past two decades.

Since 1996 we have operated at EU-level to raise awareness of the many benefits of solvents, and in promoting their sustainable, safe and responsible use. ESIG's history is captured in our 2016 calendar. We also invite you to watch our video "Solvents. Simply Essential." to get the full picture of our achievements https://youtu.be/vS0059-vOT0 and to scroll through our library: http://www.esig.org/en/library

> **"At ESIG, we are proud of our past, focused on today and excited about the future. Our goal is to make a positive contribution to a future worth living through improving safety, health and environmental protection and fostering awareness for these issues along the value chain. We are proud of being recognized as such an active and significant association for 20 years, and we look forward to future challenges."**
>
> *ESIG Chairman Robert Oades*

SUMMER 2016

ASSESSING 'REAL-LIFE' EXPOSURE TO SOLVENTS

In April we organised a very successful webinar and showed over 70 REACH Consortia members, consultants preparing Chemical Safety Assessments, and formulators of consumer products, how our newly updated Generic Exposure Scenario (GES) Risk and Exposure Tool - or 'EGRET 2' - works.

The webinar was followed by a Q&A session which was rated as very useful by the participants who also indicated they would be interested to receive updates on new developments on EGRET in the future.

ESIG pioneered and developed EGRET to facilitate the safety assessment of solvents for consumer uses. The tool estimates exposures to typical consumer products containing solvents such as cleaning agents, paints or adhesives, assessing the risks to check for safe use. It was launched in 2010 and is a refinement of the ECETOC Targeted Risk Assessment (TRA) tool for assessing consumer uses of chemicals.

We have recently improved EGRET to offer greater functionality and more flexibility in its application. EGRET 2 is supported by a more extensive user manual together with eight individual consumer GES.

If you have missed the webinar or would like to refresh your knowledge, the full recording and related materials as well as more information on EGRET 2 is available on our website:

http://www.esig.org/en/regulatory-information/reach/ges-library/consumer-gess

CHARACTERISING HYDROCARBON SOLVENTS - CRACKING THE CODE

REACH is the buzzword when it comes to regulating chemicals. But what would REACH be without toxicology?

Rick McKee's recent publication *"Characterization of the toxicological hazards of hydrocarbon solvents"* looks at the properties of hydrocarbon solvents, and describes the overall hazards.

Just like REACH benefits from toxicological data, McKee's book benefited from the valuable contribution provided by the Hydrocarbon Solvents Producers Association (HSPA). Their scientific input proofed that it is in fact possible to characterise the toxicity of a complex hydrocarbon solvent.

Those data are vital for fulfilling the registration requirements of REACH. The same data is also used for occupational exposure limit recommendations, and to meet the needs of the High Production Volume (HPV) initiative by the Organisation for Economic Co-operation and Development (OECD).

But the work carried out by HSPA does not just stop there. The results of their scientific studies also played a key role in the development of the OECD *Guidance For Characterising Hydrocarbon Solvents For Assessment Purposes*.

HSPA previously developed together with the European Chemicals Agency (ECHA), the hydrocarbon solvents naming convention on which the OECD guidance is based.

The guidance helps explain how hydrocarbon solvent substances can be characterised in such a way that their composition is accurately and consistently reflected.

As a result of HSPA's work on the hydrocarbon solvents naming convention, substances that have the same chemical composition but are manufactured in different countries will finally be able to have the same descriptions for their hazard and exposure assessments.

For more information on HSPA's contribution towards Rick McKee's book, please visit our website:

http://www.esig.org/uploads/HSPA%20RCP%20background%20document.pdf

The OECD guidance is available here:

http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/JM/MONO(2015)52&docLanguage=En

HOW WELL CAN SOLVENT VAPOUR EMISSIONS BE CONTROLLED?

Have you ever wondered how well solvent vapour emissions in the workplace can be controlled - perhaps using local exhaust ventilation or a drum pump?

As part of ESIG's commitment to the safe use of solvents, and in support of our REACH Chemical Safety Assessments, we asked the Fraunhofer Institute for Toxicology and Experimental Medicine to put these control measures to the test.

So what was the outcome? The study confirmed that drum pumps are an effective alternative to local exhaust ventilation for solvent transfer tasks. It also highlights the importance of regularly 'draining and flushing' when undertaking tasks involving potential exposure to solvents, such as equipment maintenance.

We are very pleased that the results confirm that the advice already given by ESIG on the effectiveness of recommended exposure controls is reasonable – when these controls are correctly applied and maintained.

The Institute's study began in 2014, involving a literature review, interviews and a series of controlled laboratory experiments.

The experiments evaluated the effectiveness of various levels of containment, ventilation, use of drum pumps, and equipment draining and flushing techniques. The concentration of solvent vapour emissions for each exposure control technology was compared against a worst case scenario - such as transferring solvents from one container to another with no dedicated equipment, no enclosure, local exhaust or room ventilation.

The study also looked at various combinations of workplace controls, with supporting Risk Management Measure (RMM) phrases. These phrases have been used to describe the required engineering controls for safe use in the Exposure Scenarios of Solvent Safety Data Sheets.

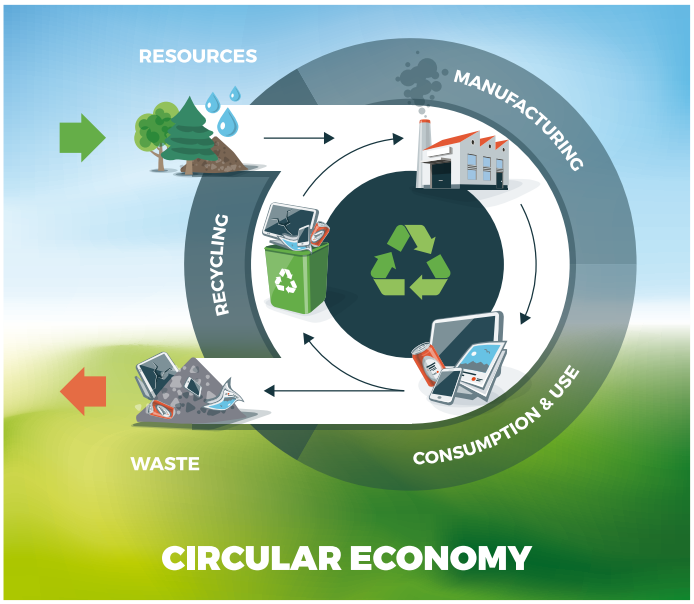
An overview of the results and the full report are available on our website: www.esig.org

TOWARDS A CIRCULAR ECONOMY – THE IMPORTANCE OF SUSTAINABILITY

Our economy is based on take, make, and throw away, but in the circular economy the lifecycle of products is extended. The European Commission has placed the promotion of environmental sustainability of products throughout their lifecycle high on its political agenda. This was emphasised in the Circular Economy package published in December 2015, which aims to make the European economy more sustainable and competitive.

Over the past decades our industry has made significant investments in improving the sustainability profile of our products. As a result, our products have become highly efficient, allowing us to reduce the amount of solvent in finished object compared to 1980. We have also made progress in managing solvent emissions under the existing legislative framework, and have distributed best practices in close cooperation with our downstream users.

With this in mind we have stepped up our efforts to become an active partner in the debate about EU sustainability policy. We have set up a dedicated working group that will lead ESIG's activities, focusing on the sustainability of solvents. The group is currently assessing methodologies for measuring the sustainability profile of solvents throughout their lifecycle in the context of EU policy initiatives. Those initiatives include on a broader level the Circular Economy, and on a more specific level, the EU Ecolabel, Ecodesign and the Product Environmental Footprint (PEF).



Through the continued open dialogue between our sustainability group and regulators we will contribute towards the discussions on measures to secure sustainability as well as the competitiveness of our industry.

We will provide you with further updates on our work in one of the next Solutions newsletter.

THE AIR QUALITY CHALLENGE

What is at stake?

Air quality impacts upon our welfare, health and the climate on our planet. The subject is complex considering the emissions from many natural and man-made sources, the atmospheric chemical reactions of these emissions and the trans-boundary air pollution.

There are two main challenges: Firstly, **Ozone**, formed by photochemical reaction between nitrogen oxides (NOx) and volatile organic compounds (VOCs) in sunlight. Secondly, **fine particles** (PM2.5), emitted in diesel engine exhaust, and formed by chemical reactions in the atmosphere.

European industry, both solvent producers and motor manufacturers, have played their part in substantially reducing man-made VOC emissions since the 1990s.

Europe is now predominately NOx limited – in that Ozone reduction responds more to NOx reductions. As the reduction in NOx will reduce European ozone the clear challenge in improving our air quality is a further reduction in NOx in all member states. This puts the pressure on vehicle exhaust emissions - particularly the diesel engine with much higher levels of NOx than petrol engines.

However, Ozone and fine particles know no international boundary, therefore all countries have to work together to tackle the 'Air Quality Challenge'.

What does the legislator do?

The review of the EU air quality legislation has now started its final stages. The European Parliament and Council have entered negotiations to reach an agreement on the European Commission proposal on the National Emissions Ceiling (NEC) Directive, which sets emission reduction limits for VOCs.

What does ESIG do?

ESIG has developed an inventory on VOCs emissions which helps EU member states to meet their national targets. Through this we have been able to show that VOC emissions from solvents in the EU have been substantially overestimated in the past.

ESIG has continuously contributed to the debate on setting EU targets for emissions from solvents to ensure that new measures take into account the competitiveness of our industry, and that the positive impact we have made on improving air quality is acknowledged.

In a next step we will aim to better define trans-boundary air pollution of solvents so that the data available to legislators is as accurate as possible. The end result will be improved air quality and quality of life.

More information on the solvent VOC emissions inventory here: www.esig.org

INTRODUCING THE FASCINATING WORLD OF SOLVENTS

Responding to the great demand following our very-well attended course in Rotterdam in April, we will hold our next training course "An Introduction to the Solvents Industry" on 23 November 2016 in Brussels.

In cooperation with the Solvents Industry Association (SIA) from the UK we will teach you everything there is to know about the history of solvents, their safe use and handling, end uses and applications as well as legislation and product stewardship. Whether you are a newcomer to the industry or would simply like to acquire a greater understanding of solvents, our one-day course helps you build a foundation of knowledge.

As part of our commitment to responsible care and product stewardship we offer training courses on a regular basis.

To reserve places or for more information, check our website: www.esig.org

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