

The Newsletter of the European Solvents Industry Group

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HEALTH SAFETY AND ENVIRONMENT – THE EU SOLVENTS INDUSTRY BACKS UP ITS COMMITMENT WITH RESULTS

THE 5TH SOLVENTS STEWARDSHIP AWARDS

In 1999, ESIG launched the first of its groundbreaking Solvents Stewardship Awards, designed to promote and share best practice in the use of solvents. The Awards were granted to those companies that had been able to best demonstrate significant and cost-effective health, safety or environmental improvements in their use of solvents.



As part of its Responsible Care® commitment, one of ESIG's main objectives is to communicate best practices about the safe use of solvent products in a clear and concise way. Solvent users continue to seek ways to further improve their health, safety and environmental (HSE) performance. Regulations are often a useful framework, but many companies find that protecting man and the environment makes economic sense too. This is why solvent users, helped by their suppliers, have voluntarily and continuously strived to reduce emissions and improve working habits. And it is why case studies, and practical examples from the supply chain, are an essential part of this improvement

The concept of the Awards was, from the outset, to recognise companies that were undertaking innovative ways to minimise the impact of solvent use on the environment and on health, and more importantly, to share this information, so that other solvent users and handlers could also implement similar improvements.

The 5th Solvents Stewardship Awards

The 5th ESIG Solvent Stewardship Awards ceremony was held on 16 November at the annual Responsible Care Conference of Cefic (European Chemical Industry Council) in Rome. Awards were presented in three categories: **workplace improvement**, **environmental improvement** and **best submission from an applicant based in one of the new EU Member States**. The jury, which consisted of representatives of the European

Commission (DG Enterprise), European Chemical News, the European Association of Small and Medium Enterprises (UEAPME), the European Aerosol Producers Federation (FEA) as well as the Cefic Responsible Care Director, chose the winners from submissions received from 9 countries.

Winner - workplace improvement

Kartoflex, which represents the Dutch cartons and flexible packaging producers, was recognized for its excellent initiative, "How to deal with solvents for cleaning in flexography and packaging gravure". [> Continued on p.2](#)

ESIG ANNOUNCES NEW CHAIRPERSON

ESIG is pleased to announce the appointment of Sylvie Lemoine as its new chairperson. Sylvie succeeds Bert Fokkema, who has held this position since June 2001.

Sylvie is Product Stewardship and Regulatory Affairs Advisor with ExxonMobil Chemical, and brings with her a breadth and depth of knowledge and experience of the industry. In addition to her work over the past two years as a member of the ESIG Steering Committee, Sylvie has been active on both a technical and advocacy level to support solvents use for many years. Most noteworthy was her involvement on behalf of ESIG in the EU Deco-Coat Paints Directive. Sylvie is also chair of the Hydrocarbon Solvents Producers Association (HSPA).

An integral part of Sylvie's role will be to lead the ESIG Steering group and its vibrant and pro-active advocacy and communications programme.

"I look forward to building upon the foundation that Bert and previous chairs have carried out to support the sustainable and responsible long-term future of solvents," commented Sylvie Lemoine. *"It is important that we continue to foster dialogue, information sharing and solutions for the future. To this end, I encourage further dialogue and engagement between all parties - regulators, downstream users, and producers, to deliver the solutions for the future."*

"We wish Bert all the best in his new position at Shell," said Pierre de Kettenis, Secretary General, ESIG Secretariat. *"We also welcome Sylvie who joins a list of distinguished chairs of ESIG, not least Bert who has been an inspiring chairman."*



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Within the framework of a negotiated agreement on occupational health and safety with the Dutch Ministry of Social Affairs and Employment, both Kartoflex and KVGO (the Dutch Trade Association for the Printing Industry) agreed to reduce the level of worker exposure to solvent vapours in flexography and packaging gravure. The key focus of the programme was to reduce exposure from cleaning flexo and packaging gravure presses and machine parts in flexible packaging companies. The goal was no exposure above Occupational Exposure Limits in the printing industry. The program was specifically designed to assist SMEs in managing exposure in a simple way.

An extensive programme was put in place which included the development of a comprehensive yet user-friendly checklist and guidelines which enable companies to easily identify the location and the levels of exposure to solvents and, where appropriate, implement improvements. Two workshops were also organized to provide participants with additional information and advice on how to get the most from the new tools. During the workshops, practical examples were used to demonstrate the differences in worker exposure that could occur as a result of different cleaning practices and cleaning activities. These practices were simulated to visually demonstrate the influence of different factors on solvent evaporation and exposure. Nearly all Dutch SMEs from the flexible packaging sector attended the workshops.

Winner - environmental improvement

The experience of **Cognis (Ireland) Ltd**, based in Cork, Irish Republic, successfully illustrates how its efforts towards HSE management improvement also make perfect economic sense.



Cognis Ireland manufactures LIX® Reagents which are designed to extract non-ferrous metals at very high purity levels from ores by solvent extraction. The company is well known for its positive environmental record, receiving the National Better Environment Award for Irish Industry on three occasions, in 1996, 1998, and 2003, as well as a European Award for commitment to sustainability in 1996 and an EU runner-up award for Cleaner Technology in 2004. The company believes that the steps it has taken can be applied by many solvent users.

In the manufacture of its line of reagents, Cognis has to use toluene as the reaction solvent. During the process methanol and methyl formate are generated as impurities, which have to be removed from toluene before recycling the toluene. To do so more effectively, Cognis Ireland built a new high performance continuous distillation unit to replace the former cumbersome and costly toluene wash system. The new technology allows all products to be separated and recovered with a high purity. Solvent distillation is not in itself unique, but one main breakthrough comes from the ability to re-use the light undesirable by-products as clean fuels for the site's combined heat/power plant, reducing fuel purchases of about 3% / year. The great benefit of this new design is the reduction in sludge quantities by about 30%, which saves more than €4000 k / year to the site. In addition, other benefits include: reduction in water use, odour elimination, improved toluene quality, and de-bottlenecking of the process.

In terms of applicability, Cognis Ireland says "Distillation is a process which is widely used throughout the chemical industry as a whole, and also is extensively employed in other industries such as the food, beverage and electronics sectors. The potential for transferability (of our new process) both within the chemical sector and across sectoral lines is quite high."

Winner - best submission from an applicant based in one of the new EU Member States.

Due to the high quality of applications, the jury decided to nominate **two** companies as joint winners for this category.

PENTA a 15-year old company with 40 employees from the Czech Republic gained special recognition for its marked reduction in VOC emissions as well as in improving safety for its workforce.

PENTA, a producer and supplier of high quality pharmaceutical and specialty chemicals for laboratories and other special uses, established a new state-of-the-art production line in 2003 for the tanking, storage and refilling of volatile solvents. This line is designed to pump a range of volatile solvents from railway tanks to storage tanks and re-pumping to trucks, containers and different types of barrels. The line is equipped with a system for extracting and capturing volatile organic vapours during solvent handling operations, which practically eliminates all VOC emissions. The system also includes protection against anti-static discharges via new safety valves. Apart from the evident benefits to worker safety and the environment, the company has a reduced cost due to lower environmental taxes as well as minimised solvent losses.

PENTA says: "The system we used for elimination of VOC emissions can be applied to all volatile and combustible solvents," again demonstrating the universality of protective measures across industries.

The other winner, the Czech paints and varnish producer Balakom, won an award for the second time. **Balakom** is one of the oldest producers of paints in central Europe and has a broad product range that includes synthetic paints for indoor and outdoor applications. The ESIG award that Balakom received in 2004 recognises the company's achievements in developing and implementing technological solutions to reduce emissions in the workplace. From 1996 onwards, ahead of regulatory requirements, Balakom started implementing a step-by-step programme to replace all open pearl mills for the production of paints with closed mills. The initial investment required was high for the size of the company but brought with it numerous health and environmental advantages such as improved working conditions for employees, lower noise levels, reduced VOC emissions and a decrease in the need for compulsory ventilation.

For more information and case studies on the winners of the 5th Solvents Stewardship Awards, please visit the ESIG website: www.esig.org

SOLVENT USING INDUSTRY PROMOTING HSE - Worldwide Coatings Care® initiative

Health, safety and environmental practices (HSE) in the solvent industry is not only promoted and encouraged by ESIG but also by the solvent using industries themselves. A good example is Coatings Care®, a worldwide initiative by the inks and coatings industry to integrate permanent HSE management procedures into a company's everyday activities. The purpose of the initiative is to establish a consistent set of management practices to help further improve performance of all participating companies. CEPE, the European trade association that represents this major solvent using sector has strongly endorsed the initiative.

For more information, please contact CEPE: secretariat@cepe.org.

ESIG AWARDS – CREDIT WHERE CREDIT IS DUE!

Five years and multiple ESIG Award submissions later, ESIG can look back at the Solvent Stewardship Awards and be pleased with the outcome. Indeed numerous solvent using companies, distributors and trade associations have been recognised for developing and applying product stewardship principles and promoting best practice in the use of solvents throughout the supply chain. Some highlights from the past 5 years include:



Balakom (Czech Republic), substituted aromatic hydrocarbons in its decorative solvent based paints products with de-aromatised solvents. This involved the replacement of sulphur-containing heavy naphtha, with a 17% aromatic content, by de-aromatised solvents, which are not classified as toxic nor are they harmful to aquatic organisms. In general, de-aromatised solvents do not have long-term adverse effects and have a three-time higher occupational exposure limit. These changes were made ahead of legislation and at the forefront of the market, which is particularly commendable for a small medium enterprise (SME).

Brenntag (Germany), a leading European chemical distributor, won the 2000 Solvent Stewardship Award for its professionalism in addressing responsible solvent distribution. By centralising its solvents distribution in a purpose built plant in France, the company was able to fully integrate all aspects of health, safety and environmental protection. The solvents are stored underground in double-walled stainless steel tanks, and any vapours released during loading and unloading operations are captured and recycled, reducing the emission of VOCs to the atmosphere.

British Coatings Federation (United Kingdom), won an Award in 2002 because of its broad-based support of the coatings industry in all aspects of solvents management. BCF's Coatings Care continuous improvement programme includes: the Environmental Management Code and Guidance process which enables benchmarking and solvent reduction planning; the Community Liaison Code and Guidance documents which address neighbourhood and local issues; and the BCF's Guidance on Housekeeping and Spills package, which gives advice on prevention and control of spills and also measures to take if accidents should happen. The BCF also produces a CD-ROM-based SafetyNet program that addresses safety in the workplace, including flammable liquid handling and solvent categorisation and risk assessment.

Campi y Jové (Spain), a solvents distributor and winner of the 2002 award for Site Improvement. In 1997, the company started a process to achieve the highest possible development level within the solvents market and to handle and distribute solvents more safely. The plan included building facilities that went far beyond current regular standards with respect to environment and health and creating a team responsible for updating the

entire supply chain on the best ways to handle solvents safely. It also included regular visits to advise customers on the latest safety regulations regarding solvents handling, and providing regular training courses to their main suppliers.

Dow Corning (Belgium), a speciality chemicals producer, which uses toluene and aliphatic hydrocarbons in its production of silicone-based paper coatings and defoamers. The company improved production schedules and implemented novel cleaning procedures to sharply reduce solvent waste originating from the cleaning operations required between the manufacture of different types of end product.

Englender (United Kingdom), a furniture manufacturer that invited external experts to review their procedures in the use of adhesives, before commissioning trials with seven spray-gun manufacturers and selecting the design or equipment which had the best transfer efficiency and the lowest waste. Spray-gun cleaning fluid can now be recycled up to three times before removal from the site for distillation and recovery.

Intergraf (pan-European), the European Printing Federation, in conjunction with the European Graphical Federation (EGF), published an outstanding set of guidelines on printing, the environment and Best Available Techniques (BATs). Intergraf brought together an international network of experts to share their knowledge, thereby providing a highly comprehensive set of guidelines.

Irotec (Ireland), the overall winner of the first Solvents Stewardship Awards (1999) is a pharmaceuticals ingredients manufacturer whose factory improvements, including the installation of abatement equipment, led to reduced solvent handling and fugitive emissions, and significant reduction in the on-site storage of drums.

Jowat (Germany), produces solvent-based adhesives for applications in the upholstery and foam mattress industry. Jowat identified the risk that, during the application of adhesives, sparks resulting from static discharges could cause the upholstery and the foam on which they were being used to catch fire. To eliminate this risk, Jowat formulated an adhesive with increased solids content. The required viscosity was maintained, allowing the glue to be applied with precision as a spray and thus keeping emissions to a minimum. Jowat therefore ensured that the risk of flammability in the industrial application could be reduced to a level comparable with water-based adhesives with no compromise to the superior quality afforded by solvent-based adhesives.

SOPPEC (France), designed and constructed a new production site for the formulation, manufacture and packaging of special aerosol paints. The plant was designed to ensure minimum impact on the environment and on the health and safety of employees and the local community. Solvents are recycled and cleaned, with emissions kept to a minimum. Amongst other safety considerations, SOPPEC has installed fire and gas detection systems, video surveillance equipment and specially designed safety caps for aerosols.

Sun Chemical (United Kingdom), an inks manufacturer, which developed new testing procedures and cost-effective solutions to monitor and reduce VOC emissions. Their efforts brought about a seven-fold decrease in emissions.

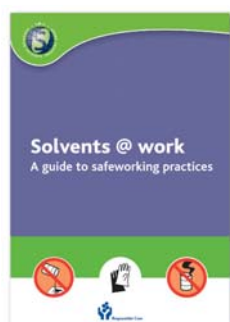
Victor (Italy), a producer of adhesives for shoes, leather and furniture, which developed new cryogenic condensation techniques to collect spent solvent vapours for reuse in polychloroprene adhesive formulations. The process enables recovery of nearly 100% of emitted VOCs.

For more information on any of these initiatives, please contact the ESIG secretariat (jst@cefic.be) who can provide you with direct company contact details.

SOLVENTS@WORK PILOT PROJECT:

PROMOTING RESPONSIBLE SOLVENTS MANAGEMENT AMONG SMES

Excellence in the responsible management of solvents neither begins nor ends with the ESIG Solvent Stewardship Awards. Another successful example was the recent ESIG **Solvents @ Work** pilot project, which was initiated in mid-2004. As a key part of its continuous effort to encourage responsible and safe handling of solvents, ESIG developed an information pack consisting of a brochure and a poster with recommendations and tips on how to use solvents safely in the workplace. Working with solvents distributor Univar during this pilot phase, over 6000 small-medium sized enterprises (or SMEs) using solvents located across Belgium, France, Italy, and the UK received the Solvents@Work information pack.



Feedback from participating companies was extremely positive:

- ■ ■ → 80% were companies with 250 or less employees
- ■ ■ → 90% found the poster helpful and instructive (80% for the brochure)
- ■ ■ → 98% will display the poster in the workplace
- ■ ■ → 95% recommended to extend the project to all solvent using companies



ESIG wishes all Solutions readers a **Merry Christmas** and **Happy New Year**

The initiative has provided impetus to expand the campaign to other countries.

ESIG would like to congratulate the following winners, selected from survey respondents, who will each receive a digital camera:

BELGIUM: *Frédéric Pignon (TDM)*

FRANCE: *D. Schmidt (International Lacquers)*

ITALY: *Sandro Venturelli (Colorificio Bresciano SAS)*

UNITED KINGDOM: *Trevor Davis (Charles F. Stead & Co ltd)*

Your digital cameras are in the post and we look forward to hearing additional feedback from all participants.

DISTRIBUTOR HEALTH, SAFETY AND ENVIRONMENTAL ASSESSMENT SCHEME AGREED

Industry continually seeks ways to operate chemical sites safely and responsibly, with due regard to the protection of employees, the public and the environment.

In October 2004, Cefic, the European Chemical Industry Council, and FECC, the Federation of Chemical Distributors, agreed on a European Single Assessment Document (ESAD II). ESAD II is a standardised assessment system of voluntary nature used by distributors for assessing the health, safety and environmental standards of distributors' operations. Thanks to this agreement, distributors will no longer have to undergo multiple assessments by different chemical manufacturers, but rather will be audited in a uniform way by an independent third party. This should further reduce the risk of accidents and incidents as well as stimulate the continuous improvement of HSE performance of industry. For more information, please contact pdk@cefic.be

CALENDAR

January – June

Luxemburg Presidency of the European Union

January – June

National Emission Ceilings (NEC) revision – review of data and modelling

January 19

European Parliament: Public Hearing on REACH

January 20-21

Workshop of the UN/ECE Task Force on Integrated Assessment Modelling (Austria)

January 23

The first International Conference on Environmental Science and Technology (EEA)

January 25-27

International Conference on Occupational Health Services (Helsinki)

May 10-11

Adoption the CAFÉ (Clean Air for Europe) Thematic Strategy

If you would like to submit an event for the next newsletter, please contact us at: cohres@mpeurope.be

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