

**Report  
2012**

**ECSA**

# **Sustainability Programme Progress Report 2007-2012**



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## ECSA Sustainability Programme: Progress Report 2007-2012

One of the most well-researched categories of chemicals, chlorinated solvents are used in a variety of applications, which are mainly industrial. The properties and the health and environmental characteristics of these products have become better known over the years; as a result, the chlorinated solvents industry has engaged in active risk management and risk reduction programmes, including, for example, the development of solvents management services. During the course of implementing measures under the ECSA Sustainability Programme, the REACH legislation was introduced in Europe and ECSA integrated REACH aspects into the existing Sustainability Programme. All in all, the ECSA Sustainability Programme allows ECSA to review consistently and in depth the sustainability of chlorinated solvents, and to set itself challenging though achievable long-term objectives ensuring the sustainable use and end-of-life management of chlorinated solvents.

### ECSA Sustainability Vision

#### Vision

Recognised as a sustainable industry, delivering beneficial product & services, whilst meeting and anticipating societal, environmental and health needs

#### Mission

ECSA actively drives a sustainability programme ensuring responsible production, use and end-of-life management of its products along the value chain; it works together with key stakeholders and communicates progress

#### Vision element

Sustainability by product & application

#### Vision element

Value Chain engagement

#### Vision element

Stakeholder engagement and communication

The ECSA Vision Elements identify the three key areas in which the chlorinated solvents industry is taking concrete steps to ensure its sustainability. The objectives assigned under each key Element are not only a matter for ECSA members; they require direct and concrete engagement with third parties such as value chain actors and other external stakeholders.

#### The Vision has 3 identified key Elements:

1. Sustainability by product and application
2. Value chain engagement
3. Stakeholder engagement and communication

These three Elements are the building blocks of ECSA's Vision. They set out the long-term objectives required to achieve the Vision, they identify Key Performance Indicators (KPIs) that will help ECSA determine where it stands relative to these objectives, resulting in nine concrete objectives.

The following sections outline the rationale for each Vision Element, highlights the specific objectives attached to each Element, and the performance indicators against which their implementation will be judged.

## **Executive Summary**

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ECSA started its sustainability programme in 2007 with the ambitious aim to cover the whole chlorinated solvents value chain. The programme was prepared by an independent consultancy with the mission to ensure responsible production, distribution, use and end-of-life management of chlorinated solvents. Nine objectives were set under the three vision elements: Sustainability by product and application; Value chain engagement; Stakeholder engagement and communication.

ECSA reviewed the progress in 2011. The sheer number of results is already impressive: for example, ECSA analyzed 60 applications and summarized recommendations for a safe & sustainable use of the chlorinated solvents in an online toolbox. This Product & Application Toolbox contains recommendations for more than 350 individual activities.

Not only the sheer quantity but also the quality of the results in the sustainability programme is worthy of mention: for example, one of the six awareness programmes with the value chain has led to an Excellence Award for ECSA's contribution.

European Chlorinated Solvents Producers can be proud of the substantial progress that has been made under their ECSA Sustainability Programme between 2007 and 2011. ECSA will continue its efforts in proactive communication towards stakeholders, such as the revamped website which delivers comprehensive information about chlorinated solvents and adds tools for a further dialogue with the downstream users of chlorinated solvents.

### **Progress Report 2012:**

ECSA reviewed the progress in 2012 and did further improve on four sustainability objectives. ECSA included 5 new awareness programmes which were implemented for as well as with the value chain of Chlorinated Solvents.

The recent development has been added and highlighted in blue in this ECSA Sustainability Programme: Progress Report 2007-2012.

## **1. Sustainability by product and application**

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In order to gain a greater understanding of what sustainability means for chlorinated solvents, ECSA consulted widely with key stakeholders. The consultation revealed that emissions of chlorinated solvents are the cause of most of the pressure being brought to bear against chlorinated solvents products. By reducing emissions we can achieve better efficiency of use, more value from each molecule of solvent and reduced potential for exposure. This Vision Element should achieve the benefits of:

- Driving industry and product sustainability by identifying challenges or opportunities for each emissive application
- Ensure safety for human health and environment
- Demonstrating continual improvement of sustainability in emissive applications
- Resolve issues over impact of energy and raw materials

## 1.1. ECSA will analyse emissive applications, prioritise them, and define sustainability improvement actions.

### Key Performance Indicators:

Number of applications reviewed

Documentation of each application review

**ECSA Product & Application Toolbox**  
Guidance on Safe & Sustainable Use of Chlorinated Solvents

The European Chlorinated Solvent Association (ECSA) has developed this online toolbox to provide users of chlorinated solvents with information about the safe & sustainable use of the products.

The toolbox is built as a self-explanatory guide based on a simple decision tree of product applications to lead the interested user ready to the proper information on safe use, environmental protection as well as legislative requirements. The applications are color-coded with following ECSA recommendation:

- Green application: uses are REACH assessed and/or permitted and recommended under certain conditions as described.
- Red application: uses are not REACH assessed and/or prohibited.

The recommendations take into account REACH (1907/2006/EC on the Registration, Evaluation, Authorisation and Restriction of Chemicals) as well as other European legislation or voluntary industry commitments. The content of the Toolbox is based on the REACH Chemical Safety Assessment (CSA) of the substances. However, the Toolbox does include recommendations based on experience of ECSA members that go beyond the given legal framework of the CSA under REACH.

Specific national legislation on marketing or use restrictions beyond European legislation has not been considered and recommendations in this toolbox are not intended as a substitute for relevant national or international regulations which the user shall always consult and respect.

Help and Guidance  
Need assistance? Find out the answers to your questions [here](#)

Evaluation  
Is the toolbox useful for you? What can be improved? [Let us know](#)

Get started - Choose a substance and area of use:

Dichloromethane (Methylene Chloride)	Perchloroethylene (Tetrachloroethylene)	Trichloroethylene	Chloroform (Trichloromethane)	Carbon Tetrachloride (Tetrachloromethane)
Industrial Use	Industrial Use	Industrial Use	Industrial Use	Industrial Use
Professional Use	Professional Use	Professional Use	Professional Use	Professional Use
Consumer Use	Consumer Use	Consumer Use	Consumer Use	Consumer Use

### Progress Report:

– ECSA has so far reviewed an impressive number of in total 60 applications

– **ECSA Product&Application Toolbox:** ECSA has developed an online toolbox freely accessible via the ECSA website to provide users of chlorinated solvents with information about the safe & sustainable use of the products.

The toolbox is built up as a self-explaining guide based on a simple decision tree of product applications to lead the user readily to the proper information on safe use, environmental protection as well as legislative requirements.

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However, the Toolbox does include recommendations based on experience of ECSA members that go beyond the given legal framework of the CSA under REACH.

**ECSA Product&Application Toolbox is online accessible:** <http://www.eurochlor.org/ecsa/toolbox>

### Progress Report 2012:

**Extended ECSA Product&Application Toolbox:** ECSA has released an extended version of its online toolbox freely accessible via the ECSA website. The extended version of the toolbox has become even more user friendly, accurate, and includes applications of the following five substances:

- Dichloromethane
- Perchloroethylene
- Trichloroethylene
- Chloroform



- Carbon tetrachloride

## 1.2 Raw material, energy & production aspects will be coordinated with upstream organisations.

### Key Performance Indicators:

- Existence/frequency of dialogue with upstream producers
- “Gap”-filling (Identify “gaps” between ECSA’s vision of sustainability and that of upstream producers)

### Progress Report:

- **ECSA is in constant dialogue with Euro Chlor** and is sharing events; e.g. a joint yearly General Assembly with reports on activities in the different committees
- ECSA liaise with Euro Chlor on its **new Sustainability Programme 2011-2020**. ECSA contributed to the Euro Chlor Kick-off meeting for the new Sustainability Programme 2011-2020. ECSA will help to identify “gaps” when appropriate.

## 2. Value chain engagement

The buy-in and active involvement of the value chain will be essential to the overall success of the programme. Collaboration with distributors and downstream users is the only way to ensure sustainability goals are met, as there are limits to what ECSA members can achieve in their own right.

### 2.1. All ECSA members will adhere to ESAD/SQAS or a similar distributor assessment scheme.

Key Performance Indicators: Number of companies that adhere to the programme(s)



### Progress Report:

ESAD (European Single Assessment Document) is part of the SQAS (Safety & Quality Assessment System) that is a system to evaluate the quality, safety, security and environmental performance of Logistics Service Providers and Chemical Distributors. ESAD enables chemical producing companies to have the quality and safety management systems of their distributors assessed in a uniform manner thus avoiding multiple assessments by each individual chemical company. Assessment results, established by an independent body, can be evaluated by the individual chemical producing company and can be used in the process of

evaluating the safety, health and environmental performance of distributors and in defining areas for improvement with each of them (source: [www.sqas.org](http://www.sqas.org)). Currently over 280 active assessment reports of distributors and their sites are listed in the ESAD database. **All ECSA members have committed themselves to the ESAD/SQAS programme.**

### 2.2 All distributors which are part of ESAD/SQAS or a similar programme will comply positively with a high score on the chlorinated solvents section of the questionnaire

Key Performance Indicators: Number of positive answers to the chlorinated solvent questions

## Progress Report:

The ESAD assessment questionnaire consists of 4 parts: Distributor Standard Activities, Site Assessment, Chlorinated Solvents, and Food, Cosmetic and/or Pharma. The total number of questions for assessing distributors is 721. The questions on chlorinated solvents emphasize on the specific needs associated with chlorinated solvents and are provided together with guidelines for consideration by chlorinated solvent producers and distributors as a way to implement Responsible Care® continuous improvement initiatives (source: [www.sqas.org](http://www.sqas.org)).

SQAS Distributor / ESAD Chlorinated Solvents		SH	E	Q
1.	<b>Introduction</b> For distributors handling chlorinated solvents, this originally called "Appendix C" assessment form shall apply in addition to the assessment form for "Distributor Standard Activities" and the relevant parts of the "Site Assessment" form.			
2.	<b>Product Stewardship</b> <b>SUPPLY CHAIN</b>			
2.1.	Does the distributor undertake maximum efforts to ensure compliance with Product Stewardship principles along the entire supply chain?			
Cs	2.1.1a Is a system / procedure in place to identify the customer product applications? (Applications not disclosed by customer should be recorded as such.)	I		
Cs	2.1.1b Is relevant application information (especially volume and proper description of the end use) recorded in this system for each chlorinated solvents account?	I		
Cs	2.1.1c Is this information available to support specific Product Stewardship initiatives of the	I		

Since 2007, a continuous yearly increase of positive answers of distributors under the chlorinated solvent part has been recognized in the ESAD program, leading to consistently high scores of distributors in the ESAD assessment.

ECSA has actively participated in a revision of the ESAD questionnaire for chlorinated solvents (see below **Chlorinated Solvents: Revised Safety & Quality Assessment System for Distributors of Chlorinated Solvents**).

## 2.3 ECSA will put together, in partnership with trade associations representing end-users, awareness programmes to help ensure the sustainable use of chlorinated solvents

Key Performance Indicators: Number of joint ECSA/end-users associations awareness programmes

## Progress Report:

- ECSA has put already six different awareness programmes in place:

**2.3.1 Chlorinated Solvents: Awareness Questionnaire to the Value Chain:** ECSA has distributed an 'awareness questionnaire' on the safe use of chlorinated solvents in 2009. The findings were shared with the participants in the Value Chain with particularly one surprising result:

90 % of all participants receive their up-to-date information on safe handling, use and disposal of chlorinated solvents via the SDS technical data sheet. However, no participant was aware of the ECSA storage and handling guidance being freely available in the internet. This result lead ECSA to immediately take action with a revision and update on the ECSA Guidance of Storage and Handling of Chlorinated Solvents and a wide communication: **see next point**.

## 2.3.2 Chlorinated Solvents: Revised Guidance on Storage and Handling of Chlorinated Solvents:

The ECSA Guidance on Storage and Handling exists since the Eighties of the last century and was updated several times. This guidance is intended to help distributors and users of chlorinated solvents to handle those products safely and with care, thus protecting human health and environment against possible negative impact.

## Progress Report 2012:

**Translation of the Guidance on Storage and Handling of Chlorinated Solvents:** The ECSA Guidance was translated in several languages to support distributors and users of Chlorinated Solvents in their local language.

The following languages are now available:

• English - French - German - Italian - Russian - Spanish - Turkish

**2.3.3 Chlorinated Solvents: Revised Safety & Quality Assessment Questionnaire for Distributors of Chlorinated Solvents (ESAD);** With an updated Safety & Quality Assessment questionnaire in 2011, ECSA aims to enhance the overall safety and quality level in the chlorinated solvents distribution chain.

The Safety & Quality Assessment System SQAS has been designed by the European Chemical Industry Council Cefic. The system analyses the quality, safety, security and environmental performance of Logistics Service Providers and Chemical Distributors. This is done in a uniform manner by single standardized assessments carried out by independent assessors using standard questionnaires.

ECSA has now gone through a strategic and operational review of the ESAD/SQAS questionnaire that is applicable for the distributors of the chlorinated solvents perchloroethylene (PER), trichloroethylene (TRI) and dichloromethane (DCM). The chemical distributors' part of SQAS is also well-known as European Single Assessment Document (ESAD, see above). Based on ECSA's sustainability objectives, all ECSA member companies are actively supporting ESAD/SQAS for chemicals distributors. The aim is to ensure the safe transport, storage and distribution of their products along the supply chain.

The recently launched **SQAS 2011 programme** has been titled "**SQAS: Driving excellence in safe and sustainable chemical logistics**". The use of the revised questionnaires leads to a state-of-the-art and user-friendly data base on chlorinated solvents distributors. All revised questionnaires and further details are available on the SQAS web-site [www.sqas.org](http://www.sqas.org). A SQAS assessment does not lead to a certificate but offers a detailed factual report which allows each chemical company to evaluate and adapt its quality and Safety standards if required.



**2.3.4 Dichloromethane: OECD HPV SIDS Commitment:**

In 1998 the Chemical Industry set itself the goal of delivering assessments to the OECD by providing data and initial hazard assessments for approximately 1,000 HPV chemicals, representing more than 90% of global chemicals production. The gathered information consists of a Screening Information Data Set (SIDS) Dossier, which is a basic set of health and environment data required for making an initial hazard assessment of HPV chemicals by the member countries of the OECD. SIDS data are used to "screen" the chemicals and set priorities for further testing or risk assessment and risk management activities. ECSA members are committed to improving the management and knowledge of its chemicals through voluntary initiatives such as the ICCA HPV (High Production Volume) Initiative. ECSA actively supports the Swiss authorities in preparing the SIDS Dossier for Dichloromethane and its submission to OECD in 2011.

#### Progress Report 2012:



First two REACH substances passed OECD Chemicals Assessment: An international agreement has been reached by the OECD Cooperative Chemicals Assessment Programme on the hazard assessment of dichloromethane and carbon tetrachloride.

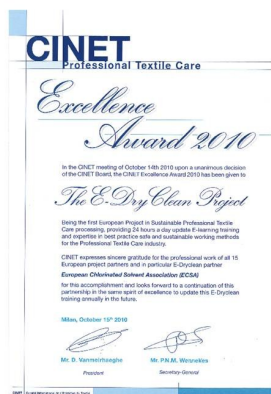
The Organisation for Economic Co-operation and Development (OECD) works with member countries and other stakeholders to cooperatively assess the hazards of industrial chemicals. The focus of the OECD Cooperative Chemicals Assessment Programme is to derive OECD-wide agreed hazard assessments of chemicals. These are available to the public and can be used for risk assessment and other activities within national or regional programmes.



Further, this cooperative work allows member countries and the chemical industry to share the burden of evaluating chemicals and avoid duplication, which in turn increases efficiencies, decreases costs and minimizes the need for animal testing.

The substances dichloromethane and carbon tetrachloride were jointly registered by ECSA members under REACH by the end of 2010. The chlorinated solvents producers, in collaboration with Switzerland, have reused the work done for REACH and attained international agreement by the OECD Cooperative Chemicals Assessment Programme. The conclusions are now publicly available from the OECD eChemPortal ([www.echemportal.org](http://www.echemportal.org)).

### 2.3.5 Perchloroethylene: E-DryClean Sustainable dry cleaning processing: E-DryClean is an international initiative to create practical and easily accessible education material especially for the



European Dry-Cleaning industry. The didactical concept is based on e-learning and/or blended learning. E-learning is a complete digital self-study form of training, presented through a website. E-DryClean offers six different training modules (best practices and working methods) including a module on Perchloroethylene.

The objective of E-DryClean is to improve and adapt the educational level of entrepreneurs and employees working in dry cleaning sectors across the European Union. Dry cleaning staff and dry cleaning service enterprises (1-250 employees) will be provided with a new opportunity of informal learning by the creation of an interactive web platform (e-learning and blended learning). The training modules will enable the European Dry Cleaning Industry to comply with the existing and coming directives while keeping up with customer demands.

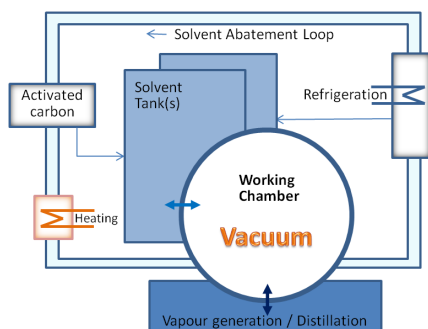
The training course is available on two levels (employees and employers in the dry cleaning sector). After this course the employees are able: to implement the European and national environmental legislation in dry cleaning practice; to implement good housekeeping practices, according to the state of the art, in the dry-cleaning practice for present-day dry cleaning systems and solvents; to set-up and implement working methods and procedures to minimise solvent emission and soil and water contamination; to set-up and implement working methods and procedures for processing and maintaining a dry-cleaning machine in a proper way and to minimize environmental risks; to implement a solvent management system; and to set-up procedures and working methods to prevent the risk of soil contamination (source: [www.cinet-online.net/edryclean/](http://www.cinet-online.net/edryclean/)).

The professional textile care industry has recognised ECSA and its partners through its **Excellence Award 2010** for this awareness programme of sustainable professional textile care.

The E-DryClean Project groups **15 partners from eight European countries**. Over a two year period they developed an E-learning package that gives a comprehensive and detailed overview of best practices and working procedures in sustainable dry-cleaning. It also assures that the cleaning processes meet all legal requirements. **ECSA was leading partner on the module Perchloroethylene.**

**E-DryClean is online accessible:** [www.cinet-online.net/edryclean/](http://www.cinet-online.net/edryclean/)

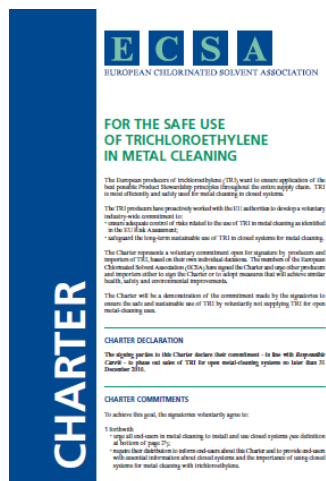
Additional care has been taken to **illustrate modern equipment in surface and dry cleaning** for a



safe & sustainable use of chlorinated solvents. An own chapter has been dedicated to these cleaning machines including the ECSA nomenclature on machine types/generations in the revised 4th edition 2011. In this guidance, ECSA strongly recommends the use of modern closed equipment of Best Available Technology (BAT). The use of modern equipment could increase the cleaning efficiency of a solvent molecule by a factor of 20 and more. The cleaning efficiency of chlorinated solvents used in modern equipment is currently unmatched because of the unique recycling properties of chlorinated

solvents. This heavily increases the **eco-efficiency of the chlorinated solvents**. The **ECSA Guidance on Storage and Handling** is online accessible: [www.chlorinated-solvents.eu](http://www.chlorinated-solvents.eu)

**2.3.6 Trichloroethylene: Charter for the safe use of Trichloroethylene;** ECSA and the producers of Trichloroethylene (TRI) have worked proactively with the EU authorities to develop a voluntary industry-wide commitment – the “TRI CHARTER”. The charter is deemed to ensure adequate control

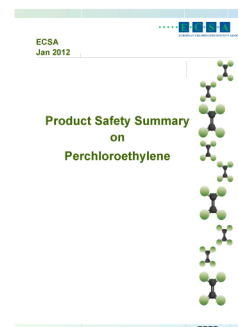


of risks identified in the EU Risk Assessment related to the use of trichloroethylene in surface cleaning by use of closed systems also for installations not covered by the VOC directive (now IED, not covering installations consuming less than one metric ton of Trichloroethylene annually). The initiative is complementary to the implementation of the VOC directive and has the support of the European Commission and the European Member States.

The charter – signed by all European Trichloroethylene producers and an importer – requests that latest by end 2010, trichloroethylene will only be supplied for metal cleaning or degreasing if the user has an enclosed cleaning system and has confirmed that trichloroethylene will only and exclusively be used in enclosed cleaning equipment.

The charter will help ensure best possible Product Stewardship along the supply chain. Additionally, it places users in the position to demonstrate proper risk control, a key factor in the authorization process of REACH. **ECSA TRI Charter is online accessible:** [www.chlorinated-solvents.eu](http://www.chlorinated-solvents.eu)

**2.3.7 Chlorinated Solvents: Product Safety Summaries:** ECSA finalized the “Product Safety Summaries” for the three solvents as part of the Global Product Strategy (GPS). The GPS is the industry contribution to the Strategic Approach to International Chemicals Management (SAICM) made in Dubai 2006. After a risk assessment, GPS product safety summaries will be published by industry for all chemicals in commerce. ECSA is supporting this initiative by preparing draft product safety summaries, which member companies can then apply their own corporate branding. Companies could then load the finished product safety summary on to the GPS Chemicals Portal. The “Product Safety Summaries” for the three solvents are used as well as Facts&Figures on these three products in an own ECSA logo, available on the ECSA website.



**2.3.8 Chlorinated Solvents: Health Profiles:** The ECSA “Health Profiles” on Chlorinated Solvents provide further up-to-date scientific information on occupational and environmental health effects of the three products. The documents can be found under the Facts&Figures section of the ECSA website.



**2.3.9 Dichloromethane: Safe use of DCM in paint stripping:** ECSA supports the preparation of a web-based training tool for the safe use of dichloromethane in professional paint stripping. Paint strippers containing dichloromethane in a concentration equal to or greater than 0.1 % by weight shall not be used by professionals after 6 June 2012 unless derogations are in place (EU 276/2010). By way of derogation, Member States may allow on their territories and for certain activities the use, by specifically trained professionals.

These professionals shall demonstrate proper training and competence to safely use paint strippers containing dichloromethane. The training shall cover:

(a) awareness, evaluation and management of risks to health, including information on existing substitutes or processes, which under their conditions of use are less hazardous to the health and safety of workers;

(b) use of adequate ventilation;

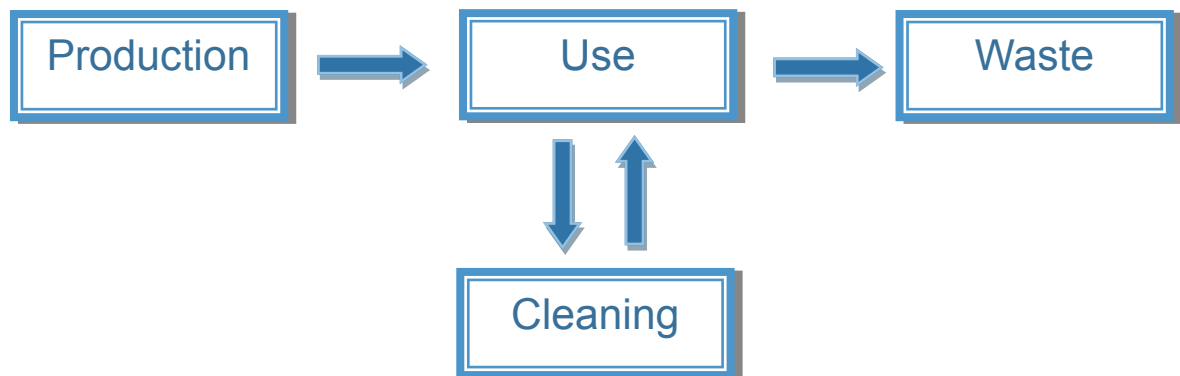
(c) use of appropriate personal protective equipment that complies with Directive 89/686/EEC.

ECSA actively supports the initiative to prepare a web-based training tool for the safe use of DCM in professional paint stripping to guarantee European-wide safety standards for professionals in Member States that allow derogations.

**2.3.10 Perchloroethylene: Support CINET Sustainability Programme:** ECSA supports the Sustainability Programme of the International Dry-Cleaner Association CINET. Textile cleaners do not have a positive image where sustainability is concerned, mainly based on heritage from the past. The CINET Sustainability Programme aims to show that these days, the opposite is actually true. Professional textile cleaning, with its current state of technology, is a very sustainable and quality conscious sector of industry. What is it that makes professional textile cleaning an especially sustainable activity? This is shown by the life cycle of a user article:



This cycle is applicable to all sorts of articles, varying from a computer to a piece of paper. The interesting aspect of textile cleaning is that it has the ability to create a completely different arrangement of this cycle. After use by the customer, the article is brought back to a professional textile cleaning company which makes sure that the textile is delivered back to the customer again entirely suitable to be re-used. This makes it possible for the article to be reinstated in the user phase, again and again. By using the professional textile cleaning sector, a life cycle as displayed below becomes possible. The clothing can be continuously recycled after it has been used. On top of that, an important difference with traditional recycling is that with professional textile cleaning, functional and esthetical characteristics do not or almost not decrease! There is no matter of quality loss or downgrading.



The number of life cycles can be quite high, for garment up to a hundred times before they must be discarded as a result of wear. From this, the conclusion can be drawn that professional textile cleaning, viewed from textile use, is a highly sustainable activity. Until now, we have only reviewed the textile part of the cleaning process, and not yet the cleaning process itself. It is clear that, in order to create a sustainable textile cleaning process, it should be prevented that solvents are wasted, or end up in the environment. In the past, an important source of solvent emission concerned the drying process. By applying low temperature cooling- and adsorption techniques, with which the solvent is removed from the air used for drying, this emission is these days largely prevented. With this technique and other measures, the emission of Perchloroethylene in the atmosphere has considerably declined in the last decades. The current generation of machinery has no problem meeting the regulations concerning the maximum emission value of 20 g/kg garment, as mentioned in the VOC-directive. Additionally the use of safety systems for the safe supply and take-back of Perchloroethylene contributes significantly to the safe use of the solvent and to emission reduction. The dry cleaner can therefore benefit from working with the Best Available Technology (BAT). When the right working methods are applied, in the E-DryClean project (see above), the emission easily stays below 10 grams per kilo garment.

The solvent, in which the textiles are cleaned, becomes more and more filthy because it takes the dirt out of the textiles. Unlike in the washing process, where the filthy washing water is drained, the solvent used in cleaning is itself cleaned and made suitable for re-use in the cleaning process. This cleaning process takes place by means of filters and distillation. The dirt is drained, as strongly concentrated residue, by a specialized company, after which the solvent is used again in the cleaning process. This method can be viewed as internal solvent recovery. The solvent is made suitable for use again after each cleaning cycle. Because not all the pollution can be removed completely, the solvent must still be replaced after some time. It is then collected by a specialized company. In principle, it is possible that this company processes/cleans the collected solvents in such a way that it will be suitable again for re-use in the textile cleaning process. We call this external solvent recovery.

Thus, from a textile as well as a solvent point of view, professional textile cleaning can be considered a classic example of sustainable processing and recycling, in which the cradle 2 cradle principle can be applied to a maximum (source: CINET).

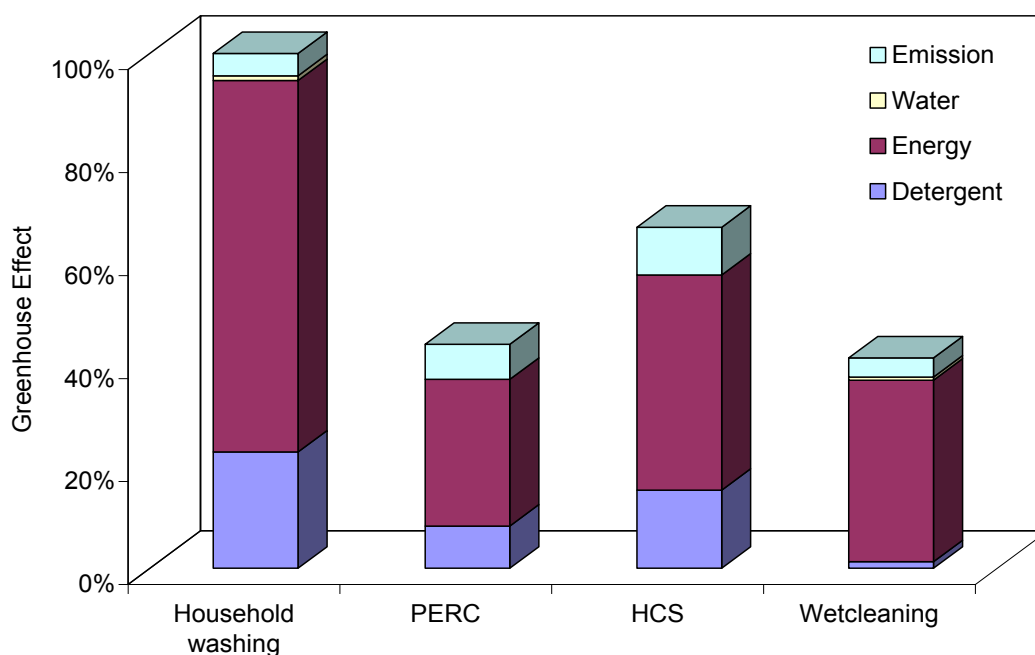
Who still believes that household washing or professional wetcleaning is more environmental friendly than professional textile cleaning with Perchloroethylene should consider the results of a study, executed by the Dutch research organizations TNO and TKT, ordered by the Dutch dry-cleaning association Netex. The environmental impact of household washing has been compared with professional textile cleaning on ten different aspects, amongst which exhaustion of resources, human toxicity, acidification and climate change. In the study, the following processes are compared with one another: Cleaning and drying executed by a household that owns a washing machine and a dryer and professional cleaning and drying with Perchloroethylene (PERC), Hydrocarbons (HCS) and professional wet cleaning. The following results have been found:

The total score, in which all environmental effects per process are added and compared with those of the other processes show the same picture. The **environmental impact of household washing is twice as high as the environmental impact of professional textile cleaning with Perchloroethylene**, when the best practices in professional textile care are applied.

Perchloroethylene scores as good as professional wet cleaning. And taking the quality aspect into account, Perchloroethylene remains to be the benchmark for high quality dry cleaning. Another study researched by TKT (source: project Solvetex) showed that the average shrinkage of garment is three times higher with wet cleaning than with Perchloroethylene. And the stain removal increases by 40% using Perchloroethylene compared with wet cleaning.

**Overall, these results show that textile cleaning with Perchloroethylene is a most sustainable activity, which makes it possible to clean textiles without loss of quality, and return it to the customer for optimal re-use.**

**Comparison impact of the several textile cleaning processes on the greenhouse effect per 4 kg laundry (source: CINET)**



**2.3.11 Trichloroethylene: Support of European Maritime Safety Agency (EMSA) on MAR-CIS:** The European Maritime Safety Agency (EMSA) set its objectives to reduce the risk of maritime accidents and marine pollution from ships. EMSA provides technical assistance and advice to the European Commission and Member States on the environmental issues concerning shipping (source: [www.emsa.europa.eu](http://www.emsa.europa.eu)). EMSA started a pilot project to prepare a Marine Chemical Information Sheet (MAR-CIS) for Trichloroethylene as one of the first of about 200 substances. ECSA provided information on substance properties of Trichloroethylene to EMSA and supports this initiative on maritime emergency response documents.

MAR-CIS documents for chloroform and dichloromethane are on the agenda for June and October 2012, and ECSA is committed to support and provide state-of-the-art safety information also for these products.



Maritime transport codes					
IMDG			IBC		
UN number		1710	Marine pollution category	Y	Category Y-Substances under MARPOL Annex II
Hazard class	6.1	Toxic substances			
Subsidiary risks	-			S/P	Safety and pollution hazards
Packing group	III	Slight hazard	Ship type	2	Chemical tanker for products with appreciably severe environmental and safety hazards (significant preventive measures)



## 2.4. ECSA will have put together, in partnership with other trade associations representing recyclers, awareness programmes to help promote the sustainable recovery of chlorinated solvents

Key Performance Indicators: Effective setting-up & operation of a joint awareness programme with recyclers

### Progress Report:

ECSA is in contact with European Solvent Recyclers Group (ESRG) which aims to promote the safe and economic management of post-use solvents ([www.esrg-online.eu](http://www.esrg-online.eu)). ECSA is regularly in dialogue with ESRG on latest information about chlorinated solvents.



## 3. Stakeholder engagement and communication

This Vision Element will be critical to ensure that ECSA and its members receive worthwhile and operational feedback and proper recognition from external stakeholders for the sustainability initiative.

Ultimately, this should also lead to a degree of co-determination of the sustainability of the chlorinated solvents industry, as several stakeholder groups will contribute to shaping its future.

### 3.1. ECSA will have completed a detailed mapping of the activities, drivers and concerns of its priority stakeholders

Key Performance Indicators: Mapping effectively in place and maintained

### Progress Report:

A Chlorinated Solvent Stakeholder & End-user Perceptions Survey by IAL came to the result, that 75% of the **stakeholders are interested in more information on Chlorinated Solvents**. Thus, ECSA has completely renovated the content and structure of the ECSA website in 2010 and 2011.

The **renewed website** delivers comprehensive information about chlorinated solvents. The website was re-structured and the website content was filled with new information on Facts & Figures. High importance has been given to the Sustainability section and the current programmes ([www.chlorinated-solvents.eu](http://www.chlorinated-solvents.eu)).

### Progress Report 2012:

**Extended website has become even more user friendly and allows mapping of activities:** The new ECSA website provides comprehensive information for priority stakeholders and allows an active dialogue with them. Using modern analytical tools to evaluate the page visits of the website will allow a mapping of the topics of concern of the priority stakeholders in the near future.

### 3.2. ECSA will translate its Sustainability strategy into a set of key messages and will have developed tools to support their delivery and report progress

Key Performance Indicators: Integration of ECSA sustainability progress in Euro Chlor sustainable development progress report

### Progress Report:

Euro Chlor, representing the European Chlor-Alkali industry, issues the **Chlorine Industry Review**

at the occasion of its Annual General Meeting. It gives an overview of the most important dossiers the federation has been working on and presents the progress achieved in the sectoral sustainability program. ECSA extends its reporting on all nine sustainability objectives and includes its progress report 2007-2011 into the widely spread Euro Chlor Annual Review as part of the Chlorine Industry value chain.

### 3.3. ECSA will be in active dialogue with its priority stakeholders around its Sustainability Action Plan, and reflect stakeholder concerns in the ongoing implementation of the Action Plan

Key Performance Indicators: Feedback - sizeable positive difference of perception of ECSA Sustainable Development activities by key stakeholders

#### **Progress Report:**

A Chlorinated Solvent Stakeholder & End-user Perceptions Survey by IAL came to the result, that 75% of the stakeholders are interested in more information on Chlorinated Solvents. Thus, ECSA has completely renovated the content and structure of the ECSA website tools for active dialogue:

**Additional communication tools** have been included to increase the dialogue with other stakeholders towards a pro-active communication: SME support, News & Innovation and Ask an Expert:

The **SME support** is aiming on Small and Medium Sized Enterprises. As part of its continuous effort to encourage responsible and safe handling of chlorinated solvents, ECSA has developed several information and guidance documents designed to help using chlorinated solvents not only in the most effective but also in the safest and most responsible manner by following best industry practices.

The **News & Innovation** section is highlighting some quite challenging innovations with chlorinated solvents which led e.g. to a Nobel Prize Award in Physics.

The **Ask an Expert** tool will help to answer questions going beyond the information on the website. Further questions about chlorinated solvents and their multiple applications will be submitted to an expert in ECSA to provide an adequate answer and to share the knowledge with other visitors of this site ([www.chlorinated-solvents.eu](http://www.chlorinated-solvents.eu)).

In addition, ECSA introduced several awareness programmes together with its stakeholders (see above). ECSA is currently working on how to further develop these improvements in active dialogue with its priority stakeholders.

**ECSA will continuously report on the progress of the Sustainability Programme and is keen to receive feedback from all stakeholders. Is the ECSA Progress Report useful for you?**

**What can be improved in the ECSA Sustainability Programme? Please contact us in order to provide your feedback via: [ecsa@cefic.be](mailto:ecsa@cefic.be)**

#### **Progress Report 2012:**

**New ECSA long term communication strategy:** ECSA currently sets up a long term communication strategy to highlight unknown benefits of Chlorinated Solvents under the different sustainability criteria PEOPLE, PROSPERITY, and PLANET. The communication will be tailored for different groups of priority stakeholders to better reflect their individual concerns.



## **ECSA – The European Chlorinated Solvent Association**

ECSA represents the interests of the producers of chlorinated solvents in the EU that are organized under Euro Chlor.

Euro Chlor is the Brussels based business association representing chlor-alkali producers in the EU and EFTA regions, employing 39,000 people at nearly 70 manufacturing sites. Almost 2,000,000 jobs in Europe are related to chlorine and its co-product caustic soda. These two key chemical building blocks underpin 55% of the European chemical industry turnover. More than 90% of the European drinking water is made safe with chlorine and about 85 % of all medicines are synthesized using chlorine chemistry.

Euro Chlor is an affiliate of Cefic – the European Chemical Industry Council.

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