



IN THE SPOTLIGHT

Sustainable chemicals: Minimising risks – maximising benefits

Chemicals are found in many of the products and processes that we encounter in our daily lives. Fully in line with sustainable development principles, chemicals can help us to make more efficient and sparing use of resources and energy. However, many of their applications are damaging to human health and the environment, even though less harmful substitutes or alternative processes are now available in many instances. The purpose of sustainable chemicals management is to ensure that no risk is posed by the manufacture, use and disposal of chemical products.

Chemicals need to be assessed against sustainability objectives, with a focus on occupational health and safety, environmental quality and consumer protection. In all cases, the aim is to avoid the risks that chemicals may pose and to optimise their properties so that they can be utilised successfully for the benefit of the environment, the economy and society at large.

Businesses also stand to benefit if they substitute less problematical chemicals for hazardous or high-risk substances. Chemical safety actively contributes to labour protection and environmental performance and thus has the potential to reduce companies' risk management costs while minimising water, soil and air pollution.

REACH – the European Regulation on Chemicals

The registration, evaluation, authorisation and restriction of chemicals across all the European Union member states are governed by the REACH Regulation, which entered into force in 2007. REACH focuses particularly on extremely hazardous chemicals, known as substances of very high concern (SVHCs).

The European Chemicals Agency (ECHA) publishes a Candidate List of SVHCs, with new substances generally added twice a year. The updated list produced in early 2019 includes 197 entries. Most are individual substances but some groups of substances are also included. Under the REACH Regulation, manufacturers, importers and distributors of products that contain one or more of these SVHCs must ensure that information about the product content is provided all along the supply chain.

Companies are obliged to provide the information necessary to guarantee safe use of their products; as a minimum, they must state the name of the SVHC concerned. REACH also grants private users a right to information, albeit on request. Non-compliance with the information requirement may result in a 50,000 euro fine being imposed.

SAICM – international chemicals management

One of the targets set for the Sustainable Development Goals is to minimise the adverse impacts of chemicals on human health and the environment by 2020. The Strategic Approach to International Chemicals Management (SAICM), adopted in 2006, supports the achievement of this target. This multi-stakeholder, multi-sectoral, voluntary initiative covers chemicals throughout their life cycle.

SAICM's objectives are risk reduction; knowledge and information; governance; capacity-building and technical cooperation; and combating illegal international traffic. The International Conference on Chemicals Management (ICCM) is held within the SAICM framework every three to five years.

In Germany, the German Environment Agency (UBA) acts as the National Focal Point for SAICM implementation. The UBA coordinates and shares information on SAICM-related activities and is responsible for reporting to the UN.

Challenges posed by REACH and SAICM

The European Union's REACH Regulation on chemicals poses new challenges to chemicals manufacturers and processing industry users. The Oeko-Institut is therefore working with policy-makers, businesses and consumer organisations to establish and develop an appropriate regulatory framework. This work extends beyond the European level as well.

In 2020, during the German Presidency of SAICM, a decision will be taken on the form that the follow-up process should take in future years. This is another area where the Oeko-Institut is sharing its experience. The same applies to the Stockholm Convention on Persistent Organic Pollutants (POPs) – a further example of a global regime that forms part of the Oeko-Institut's work.

REACH Radar and REACH Radar Plus

REACH Radar is a tool developed by the Oeko-Institut to help companies comply with the information requirements under the REACH Regulation. First of all, companies must ascertain whether they utilise any substances of very high concern (SVHCs). REACH Radar provides them with a solution: inputting the specific CAS numbers of the substances used into an Excel-based tool automatically generates a notification for any that appear on the Candidate List.

The Oeko-Institut is continuously updating the substance lists so that companies always have easy access to the latest information online. Through its collaboration with project partners Hansgrohe, Furtwangen University, Kunststofftechnik Buzzi and UNIWELL Rohrsysteme, the Oeko-Institut has been able to develop REACH Radar to its current optimised state. The project is funded by the German Federal Foundation for the Environment (DBU).

Nevertheless, REACH Radar is being expanded further – into REACH Radar Plus, whose main purpose is to help small and medium-sized businesses identify and find substitutes for problem substances. REACH Radar Plus also includes non-European lists of problem substances and is working to establish greater clarity in information provision for chemicals experts and non-experts alike.

[The REACH Radar Excel Tool](#)

Making the chemicals sector sustainable – in practice!

Assessment of chemical substances in terms of both the risks and the opportunities they present for a sustainable economy will become increasingly important in future. In the medium term, substitutes will have to be found for all hazardous substances, chemicals will have to be manufactured sustainably and their interactions with other materials will need to be researched. The Oeko-Institut has worked hard to establish the basic methodologies for this purpose.

The task now is to translate this knowledge into practice within the sector. The researchers are therefore assisting companies to take action on using chemicals in a sustainable manner and implementing REACH effectively. On behalf of the German Environment Agency (UBA) and in cooperation with Ökopol GmbH, the Oeko-Institut has produced a Guide to Sustainable Chemicals that sets out the following “golden rules” for users:

- avoid substances that cause problems or health hazards
- analyse chemicals in admixtures with other substances
- opt for renewable resources
- research risks relating to the use of substances
- ensure compliance with ambitious environmental and social standards in manufacturing
- avoid long-distance transport
- be vigilant on energy and water consumption and waste generation.

These and other guidelines will help to make the chemical industry more sustainable in future.

[Brochure: *Leitfaden nachhaltige Chemikalien* \(Guide to Sustainable Chemicals\) by the German Environment Agency \(UBA\) and the Oeko-Institut](#)

Further information

[Study: *Chemikalienmanagement nachhaltig gestalten* \(Sustainable Chemicals Management\) by the Oeko-Institut and BiPRO on behalf of the German Environment Agency \(UBA\)](#)

Contact

Prof. Dr. Dirk Bunke

Senior Researcher
Sustainable Products & Material Flows
(Freiburg)

Oeko-Institut e.V., Office Freiburg

Phone: +49 761 45295-246

Mail: d.bunke@oeko.de

Yifaat Baron

Senior Researcher
Sustainable Products & Material Flows
(Freiburg)

Oeko-Institut e.V., Office Freiburg

Phone: +49 761 45295-266

Mail: y.baron@oeko.de

Oeko-Institut is a leading independent European research and consultancy institute working for a sustainable future. Founded in 1977, the institute develops principles and strategies for realising the vision of sustainable development globally, nationally and locally. Oeko-Institut is represented at three locations in Germany – Freiburg, Darmstadt and Berlin.