

Questions & answers on toxic chemical mixtures

Why is the Commission putting forward this Communication now?

In the European Union, as in other parts of the world, chemicals legislation tends to look at chemical substances one by one. Substances are assessed to see if they can be allowed on the market or if they can be used in products such as pesticides, pharmaceuticals, cosmetics and toys, and under which conditions. This approach is very systematic and has ensured a high level of protection for man and the environment. However, EU legislation does not routinely assess and control unintentional chemical mixtures.

Media interest in this question has been very high, reflecting the concerns of citizens and governments. Scientific understanding of the assessment of mixture effects has advanced considerably in recent years, and it became clear to the Commission that the time was ripe for the situation to be reassessed. Moreover, in 2009 the Council, reflecting concerns in Member States, invited the Commission to submit a report on chemical mixtures in 2012, and this is the Commission's response to that request.

Who is affected by chemical mixtures?

The short answer to that question is – everyone. Chemical mixtures are in the air, particularly indoors, in dust, in walls and floor coverings. They are also in food and drink, clothing, personal care products and detergents, and many other articles such as car seats, newspapers, receipts, tables, chairs, pens, pencils, keyboards, toys and electronic equipment. There are thousands of different chemicals reaching the body by many different routes, sometimes in very small quantities. These combinations may affect us in ways that small concentrations of the individual substances do not. The important question is whether or not this cocktail of minute concentrations of different chemicals can have an effect on our health.

How did the Commission prepare its communication?

The Commission asked its three Scientific Advisory Committees for their opinion, and ordered a major study to review all available scientific information on what was known about the toxicity of chemical cocktails. The Commission wanted to find out whether the trace amounts of the many chemicals we are exposed to could be a potential risk to human health (and also whether there were any problems for the environment). It also wanted to know if methods existed to make a proper assessment of the potential risks and whether existing EU Legislation allowed these risks to be properly identified and dealt with.

What did the assessment of potential risks of chemical mixtures show?

The analysis shows that existing EU legislation delivers a high level of protection for human health and the environment. However, there may be some cases, where we need to take a closer look at some specific chemical combinations. We may not have enough data or scientific understanding to be able to assess the risk of some mixtures and we certainly do not have enough information about the cocktail of chemicals that people are really exposed to during their lives.

The analysis also showed that one of the obstacles to carrying out effective assessments of the mixtures of substances we are really exposed to is the fact that EU chemicals legislation is quite compartmentalised. Different pieces of legislation deal with pesticides, with cosmetics, with food and feed, with pharmaceuticals, with drinking water and so forth. One consequence of this compartmentalisation is that we have highly trained and experienced experts and officials who are specialised in assessing the risks of certain types of substances or products. However, these constituencies of experts and regulators rarely step outside their specialised areas of competence to look at what might happen when very small amounts of substances coming from a range of different sources end-up in the same place or the same body at the same time or repeatedly over a certain period of time.

Is there a basis for banning chemicals because of their combined negative effect on health or environment?

If any actions need to be taken to restrict the use of any substances as a result of these assessments the decision would be taken under the individual pieces of legislation and according to the rules and procedures established under the legislation.

Is REACH involved in this process?

REACH is one of the key pieces of EU legislation that will be used to deliver this initiative. The Commission will use information collected under REACH and where appropriate we will use REACH to regulate and control substances if the integrated assessment of a mixture shows that there is a problem.

What is ECHA's role?

ECHA, the European Chemicals Agency, along with the other relevant EU Agencies (EFSA, EMEA, EEA) will be associated with the process. ECHA is expected to provide technical support in collaboration with the other Agencies to assist the Commission to carry out the integrated assessment of priority mixtures. This work will be overseen and managed by the inter-service group that will be established by the Commission as foreseen in the Communication.

What will the Commission do now?

The Commission will bring together all the Commission services and all the related Agencies (Environment, Food, Chemicals, Medicines) dealing with these different chemicals and products, to work on identifying potentially problematic (priority) mixtures/cocktails and to co-ordinate the assessment of these mixtures.

In the context of Horizon 2020, the future EU framework programme for research and innovation the Commission will also put more money and resources into improving our understanding of chemical mixtures and generating/collecting more data. This will include launching an initiative to get better data on real-world exposure to chemical mixtures, by the generation, collection, storage and use of chemical monitoring data in humans and in the environment. The challenge of dealing with chemical mixtures will also be taken-up in the context of preparing the future priorities for environmental policy.

See also [IP/12/541](#)