

Norway prepared a restriction report on

PHENYLMERCURY SUBSTANCES

SUMMARY

Norway prepared a restriction report proposing a ban on five phenylmercury substances. These substances are mainly used in the production of polyurethane coatings, adhesives, sealants and elastomers. There is a widely recognised need to further reduce mercury emissions at EU and global level. The life-cycle of the phenylmercury compounds leads to a release of mercury to the environment corresponding to around 4% of the total European mercury emissions. ECHA invites interested parties to comment on the restriction report by 24 December 2010.

PROPOSED RESTRICTION

Norway has prepared a report (a so called Annex XV report) proposing to restrict five phenylmercury substances (Phenylmercury acetate, Phenylmercury propionate, Phenylmercury 2-ethylhexanoate, Phenylmercuric octanoate and Phenylmercury neodecanoate). Norway suggests that these substances should not be manufactured, placed on the market or used as a substance or in mixtures in a concentration above 0.01 % weight by weight (w/w). The same concentration limit would apply for the substances in articles or homogenous parts of articles.

In order to give time for the replacement of the substance with alternatives Norway suggests the restriction to take effect after 5 years of the entry into force of the restriction. In practise, it could then take effect in 2017.

THE USE OF PHENYLMERCURY COMPOUNDS IN POLYURETHANE PRODUCTION

Phenylmercury compounds are used as catalysts in the production of polyurethane. Only one of the five phenylmercury compounds, phenylmercury neodecanoate, is used in significant amounts in the EU today.

There are a number of applications for phenylmercury-catalysed polyurethanes, for example in gaskets and seals, as encapsulant for electronic assemblies, in film and television props, in vibration dampers, for clear polyurethane on labels, water resistant coatings and concrete sealants, for boat repair and repair on conveyor belts, in rollers on swivel chairs and roller skates and in shoe soles. They have also been used in flooring, but current use has not been confirmed.

The mercury catalysts are incorporated into the polymer structure and remain in the final article in concentrations in the order of 0.1-0.6 %. The mercury-based products are used both for the professional market and for consumer products.

In the EU, some 75 – 150 tonnes per year of phenylmercury compounds are manufactured for use in the production of phenylmercury catalysts. Of this, 55 – 110 tonnes per year are exported. About 36 – 70 tonnes per year are used in the EU.¹

REASONS FOR ACTION

Phenylmercury compounds are degraded in the environment to give hazardous degradation products, i.e. inorganic mercury and elemental mercury, which can be transformed to methylmercury. Mercury and its compounds are highly toxic to humans, ecosystems and wildlife, with amongst others serious chronic irreversible adverse neurotoxic and neurodevelopmental effects. In their report, Norway is concluding that methylmercury is a PBT-like substance.

The justification for action is in the context of a widely recognised need to further reduce mercury emissions at an EU and global level. The life-cycle of the phenylmercury substances used in the EU is estimated to lead to releases to the environment standing for around 4% (about 7 tonnes) of the total European mercury emissions in 2005.

Action at EU level is necessary for a global persistent pollutant like mercury because it causes cross-boundary problems to human health and the environment.

CONSEQUENCES OF THE ACTION

If the proposed restriction would enter into force, it will reduce the pool of mercury in the EU to the benefit of both environment and human health. Producers of polyurethane products would need to replace phenylmercury substances as a catalyst with mercury-free alternatives. Importers of articles would need to ensure that the products do not contain phenylmercury catalysts.

According to Norway's report, stakeholder consultations indicated that substitution would be feasible in all applications within 5 years after adoption. Substituting all uses in a shorter timeframe could cause substantial technical difficulties, leading to greater costs and also potentially to unforeseen consequences associated with the end uses in which the polyurethane systems are applied.

¹ Including the European Economic Area (EEA) and Switzerland

COMMENTS PREFERABLY BY 24 DECEMBER

The opinion forming process of the ECHA Committees for Risk Assessment (RAC) and Socio-Economic Analysis (SEAC) starts with a public consultation on 24 September 2010. Interested parties can comment on the proposal and the restriction report on the ECHA website. Although the public consultation concludes on 24 March 2011, the Rapporteurs of RAC and SEAC would appreciate receiving comments by 24 December 2010 to assist them in the detailed discussion of the restriction proposal in January 2011.

The final opinions of both committees are scheduled to be available by 24 September 2011. ECHA will send these two opinions to the European Commission which will take the decision whether to include new restrictions in Annex XVII of the REACH Regulation.

Submit comments on the restriction report

http://echa.europa.eu/consultations/restrictions/ongoing_consultations_en.asp

To the restriction report

http://echa.europa.eu/doc/restrictions/annex_xv_restriction_report_phenylmercury_compounds_en.pdf

To press release

http://echa.europa.eu/doc/press/pr_10_18_restrictions_mercury_20100924_en.pdf

More information on Restriction process

http://echa.europa.eu/reach/restriction_en.asp