

SafeRubber project on track to find a safer alternative to ETU

ETU (ethylene thiourea) is the accelerator molecule most commonly used for more than 80 years in the vulcanisation of polychloroprene rubber as it facilitates the rubber cure system by speeding up the creation of molecular crosslinks, decreasing process duration and increasing physical properties. However ETU is classed toxic to reproduction, and thereby a CMR 1B within Europe. Therefore its use could be forbidden or restricted at some time in the future under the REACH regulations.

In particular, the European Commission has recently contracted a consultant to collect relevant information on the presence in articles of a list of CMR 1A and CMR 1B substances, which include ETU, and on the availability of alternatives.

Since June 2010, the SafeRubber research project, funded by the European Commission, has been working on a suitable and safer alternative to ETU. The initial work concentrated on research into the chemical mechanism of the vulcanisation of polychloroprene. This enabled the SafeRubber research consortium to design 12 alternative molecules which by applying QSAR evaluation techniques can be expected to be safer than ETU. These molecules have been synthesised at a 20 g scale to allow testing of their curing properties with polychloroprene compounds. The curing tests resulted in the identification of two suitable accelerator molecules with curing characteristics similar to ETU. One of the molecules has been selected for being scaled up to an industrial process. At this very moment the candidate substitute molecule is undergoing a validation testing programme with the SME rubber compounding and moulding companies which form part of the research consortium.

The final results of the three-year research based project are expected to become available at the end of May 2013 on the project's website: www.saferubber.eu, and through dissemination activities by the consortium's partners.

The preliminary results have been presented by ETRMA, the European Tyre and Rubber Manufacturers' Association, at the International Rubber Congress in Paris on 22 March 2013. Similarly the project results will be communicated by MaTRI, the UK Materials Technology Research Institute, on 13 May 2013 at the Institute of Materials Rubber Seminar in Manchester and at an event of BPRI, the Belgian Plastics and Rubber Institute, also in May 2013.

Raw materials suppliers, distributors, compounders, converters and users of polychloroprene rubber who wish to stay informed of the progress and final results of the research project can register on the SafeRubber website.

The partners in the SafeRubber research consortium are:

- Assocomplast, Italian Plastics and Rubber Processing Machinery and Molds Manufacturers' Association
- Federplast.be, Belgian Plastic and Rubber Products Association
- BRPPA, British Rubber and Polyurethane Products Association
- ETRMA, European Tyre and Rubber Manufacturers' Association
- Clwyd Compounders Ltd, UK
- Robinson Brothers Ltd, UK
- MGN Transformaciones del Caucho, S.A., Spain
- Mixer S.p.A , Italy
- Grand Synthesis Latvia Ltd
- UNIMIB, University of Milano-Bicocca, Italy
- Norner Innovation AS, Norway
- MaTRI, UK Materials Technology Research Institute

Adresse:

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