



Press Release – 2nd July 2013

MISSION ACCOMPLISHED!

THE SAFERUBBER PROJECT DEVELOPED A SAFER ALTERNATIVE TO THE ACCELERATOR MOLECULE USED IN THE VULCANISATION OF CHLOROPRENE RUBBER.

Since June 2010 the SafeRubber research project, funded by the European Commission, has been working to find a suitable and safer alternative to ETU (Ethylene Thiourea – CAS: 96-45-7), which is used as an accelerator molecule in the vulcanization of chloroprene rubber. However ETU is classed toxic to reproduction, and thereby a CMR 1B within Europe. Therefore its use could be restricted at some time in the future under the REACH regulations.

In a first phase the SafeRubber research consortium designed 12 alternative molecules which by applying QSAR (Quantitative Structure-Activity Relationship) evaluation techniques can be expected to be safer than ETU. These molecules have been synthesized to allow testing of their curing properties with chloroprene compounds. The curing tests resulted in the identification of 2 accelerator molecules with curing characteristics similar to ETU. For one of these molecules, code name SRM102, the production was scaled up to an industrial process. Subsequently the candidate substitute molecule passed a validation testing programme with a number of rubber compounding and moulding companies including those which form part of the research consortium.

The industrial validation confirmed that the new molecule is a suitable candidate for the replacement of ETU in compounding, cable manufacturing, profile extrusion and compression moulding of chloroprene rubber. Crosslinking density, hardness, scorch safety, mechanical properties and, more important, ageing resistance is very close to what can be obtained using ETU. Properties can be optimised further by the addition of secondary accelerators giving a boosting or retarding effect.

In summary chloroprene compounds containing SRM102 have been tested in a wide array of industrial processing techniques in five factories in three different countries. In every case SRM102 has equalled, or shown an improvement on, compound containing ETU. It has proved itself to be a technically and commercially viable replacement for ETU as an accelerator.

Although QSAR modelling already indicated SRM102 to be a safer alternative to ETU, the new accelerator molecule has to undergo further evaluation of its compliance with the European REACH requirements.

By agreement in the SafeRubber consortium the commercialisation of the new accelerator molecule will be undertaken by Robinson Brothers Ltd under the brand name Robac102. Until 31/12/2014, all Robac102 based chloroprene rubber compounds will be exclusively available

- for cable & wire manufacturing from Mixer S.p.A.
- for railway sector uses from MGN Transformaciones del Caucho, S.A.
- for other uses from Clwyd Compounders Ltd

Members of Assocomplast, BRPPA, Federplast.be and ETRMA's member associations will have exclusive access to experimental quantities of the Robac102 /CR compounds until 31/12/2013.

More information about the final results of the three-year research based project and its project partners is available at the www.saferubber.eu 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 AS, Norway
- MaTRI, UK Materials Technology Research Institute

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