

Guidelines for Recovered Rubber

REACH, 1907/2006/EC

Introduction

The European Tyre and Rubber Manufacturers Association (ETRMA) is fully involved in the implementation phase of REACH (1907/2006/EC) by supporting with several activities its members and helping them to fulfil the requirements and meet the deadlines laid down in the Regulation.

Given the fact that REACH requires European **chemicals manufacturers/importers** to (pre)register the recovered substances placed on the market¹, some questions have been raised by EU **rubber recovery operators and importers of recovered rubber**. In particular, a debate has occurred in the last months on the application of REACH (pre)registration requirements for substances present in recovered rubber. Therefore ETRMA considers helpful to contribute in clarifying the topic, based on member companies' expertise and available literature, certain information pertinent to tyre products.

The information reported in this document was developed based on:

- Guidance document "Waste and Recovered Substances" as published by the European chemical Agency on 29 October 2008;
- Chemical ingredients of new European tyres;
- Available information on recovered rubber applications.

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¹ Art. 6 (General obligation to register substances on their own or in preparations), Art. 23 (Specific provisions for phase-in substances), Art. 28 (Duty to pre-register for phase-in substances)

The European Tyre & Rubber Manufacturers' Association members include companies that manufacture tyres and various rubber products, including hoses, belts, seals, moulded goods, and other finished rubber products. ETRMA members employ over 360,000 workers and account for more than €49 billion in annual sales.

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1. Exemption from registration but not from pre-registration

Rubber recovery installations are exempted from the obligation to register the monomer(s) or any other substance(s) in the recovered material provided that:

- The recovered substances have been registered in EU (also by actors in different supply chains);
- Information required by article 31-32 (Safety data sheet) is available to the establishment undertaking the recovery.

Since the exemption refers only to registration and not to pre-registration, **ETRMA suggests to pre-register recovered substances before the deadline (1 December 2008). Pre-registration provides legal security that manufacturing, placing on the market and using the substance can continue until the relevant registration deadline.**

If the recovery process corresponds to the direct recovery of articles, any polymer substance present in the recovered articles is, in any case, exempted from the registration requirements under REACH.

2. Imported recovered rubber not exempted from registration

When recovered rubber (shreds, granulate, powder) is imported, the exemption from registration does not apply because the recovery does not occur in the Community, according to Article 2(7)(d). Therefore, imported recovered substances are required to be registered (not only pre-registered).

3. Mixture of substances or UVCB?

When dealing with rubber two possible registration scenarios are available, depending on whether recovered rubber is considered to be:

- a mixture of various substances, or
- a substance of unknown/variable composition (UVCB²)

The second option does not seem to be feasible since UVCBs are not phase-in substances. Therefore UVCBs cannot benefit from the pre-registration and a complete registration would be required to be submitted before end of 2008.

ETRMA recommends to consider recovered rubber as a mixture of various substances because this option gives to the recycler operators the opportunity to pre-register the substances and to benefit from the exemption and/or extended registration deadline. The pre-registration has to be done for each substance (see Chapter 5) and not for the recovered material.

²According to Recital 45 of REACH, UVCB substances are defined as “substances of unknown or variable composition, complex reaction products or biological materials”

4. Can recovered rubber in the form of granulates and shreds be considered as “article”?

Given the big range of applications in which recovered rubber shreds and granulates are used, it is not possible to provide a unique answer. Based on the definition of “article” (REACH, Art.3.3) and on the criteria provided by ECHA in the *Guidance on requirements for substances in articles*³, recovery operators and importers of recovered rubber should assess on a case by case basis, whether the material should be considered as article or preparation, depending on the final application.

Articles are subjected to the notification/communication requirements listed in Articles 7, 33 and 34.

In case of doubts, in particular for some borderline cases, ETRMA suggests to follow the preparation approach and, therefore, to pre-register substances according to Chapter 5. Pre-registration, which is free and not binding, may avoid risks associated to a wrong interpretation of the legal requirements, in particular:

- For EU recovery operators pre-registration will be the only required action.
- Importers are not exempted from registration since the recovery operation does not occur within the Community (Art.7.b). After the pre-registration they may further discuss about registration requirements with other EU importers/operators in order to reach a well-justified common position.

5. Substances to be (pre)registered: 20% threshold or intended function

Independently on whether the recovery occurs in or outside the Community, when the **presence of chemicals**, which are derived from substances originally present in the recovered polymeric material, **is not intentional**, these chemicals can be regarded as **impurities** of the recovered polymer substance, unless the chemical constituent is present in **quantities above 20%** (in this case, the constituent should be seen as a substance in a preparation, even if its presence is non-intentional).

In case of recovered rubber, the relation between chemicals present in the recovered material and their function in the final application needs to be analysed on a case by case basis. In general, substances that may be considered as impurities because do not have an **intended function in the recovered material** could be for instance pigments, residual vulcanisation accelerators/retarders, cross-linking agents and odour agents. On the other end, (pre)registration is required for the monomers of the recovered polymers, fillers and any other substances which still play an intended role in the final application.

Any substances exceeding the 20% concentration⁴ cannot be considered as impurities and therefore they are subjected to (pre)registration. This could be the case of oils.

³ http://reach.jrc.it/guidance_en.htm

⁴ to be calculated not on the total weight of the recovered material but on the weight of the substance which they refer to.

Annex I contains an indicative list of substances that, according to our best available knowledge, could be subject to (pre)registration requirements, because either their recovery is intentional or they exceed the necessary (but not sufficient) 20% threshold condition for being considered as impurities.

6. Tyre composition

When submitting a (pre)registration (Art. 28, 1907/2006/EC), information regarding the annual amount of substance placed on the market is required, according to the tonnage band specified in Art. 23 (1 – 100 – 1000 ton/year).

In order to estimate the amount of recovered substances, the following publically available documents could be used:

- TGD – OECD Emission Scenario Document – Additives in the Rubber Industry
- Life Cycle Assessment of an average European car tyre⁵
- Basel convention – Technical guidelines on hazardous wastes: Identification and management of used tyres

7. How to obtain SDS information

The recovery installation must have the safety information required by Article 31 or 32 on the recovered material. For that purpose, all available information on the components of the recovered material needs to be taken into consideration.

REACH does not give direct access to SDS to actors in the supply chain after the substance has been integrated in articles and/or the substance has become waste. Rules on access to information held by the Agency are specified in Articles 118 (Access to information) and 119 (Electronic public access) of REACH. However, according to the clarification provided by the EU Commission, the recovery installation also must have legitimate access to the information contained in SDSs by other actors. For this, an agreement between the recovery installation and the owner of the SDS is necessary. Recovery associations could play a useful role in providing standard SDSs to their members.

⁵ Document available on request. Please contact ETRMA: info@etrma.org

Annex I: Indicative list of substances to be (pre)registered⁶

Substance name	CAS #	EINECS #
Monomers		
Isoprene	78-79-5	201-143-3
Buta-1,3-diene	106-99-0	203-450-8
Styrene	100-42-5	202-851-5
Isobutylene	115-11-7	204-066-3
Ethylene	74-85-1	200-815-3
Propylene	115-07-1	204-062-1
1,4-hexadiene	592-45-0	209-756-8
Ethylene norbornene	16219-75-3	240-347-7
Dicyclopentadiene	77-73-6	201-052-9
Fillers		
Carbon black	1333-86-4	215-609-9
Silica	7631-86-9	231-545-4
Calcium carbonate	471-34-1	207-439-9
Oils		
Residual oils (petroleum), solvent-refined	64742-01-4	265-101-6
Residues (petroleum), vacuum	64741-56-6	265-057-8
Residual oils (petroleum), solvent-dewaxed	64742-62-7	265-166-0
Distillates (petroleum), light naphthenic	64741-52-2	265-053-6
Distillates (petroleum), heavy naphthenic	64741-53-3	265-054-1
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	265-155-0
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	265-156-6
Distillates (petroleum), hydrotreated middle naphthenic	64742-46-7	265-148-2
Distillates (petroleum), solvent-refined heavy naphthenic	64741-96-4	265-097-6
Distillates (petroleum), light paraffinic	64741-50-0	265-051-5
Distillates (petroleum), heavy paraffinic	64741-51-1	265-052-0
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	265-169-7
Distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4	265-090-8
Distillates (petroleum), solvent-refined light paraffinic	64741-89-5	265-091-3
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	265-157-1
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	265-158-7
Distillates (petroleum), heavy aromatic	67891-79-6	267-563-4
Distillates (petroleum), light aromatic	67891-80-9	267-565-5
Extracts (petroleum), heavy naphthenic distillate solvent	64742-11-6	265-111-0
Extracts (petroleum), heavy paraffinic distillate solvent	64742-04-7	265-103-7
Extracts (petroleum), solvent-refined heavy paraffinic distillate solvent	68783-04-0	272-180-0
Extracts (petroleum), light paraffinic distillate solvent	64742-05-8	265-104-2
Extracts (petroleum), residual oil solvent	64742-10-5	265-110-5
Extracts (petroleum), vacuum residue solvent	91995-70-9	295-332-8
Asphalt, oxidized	64742-93-4	265-196-4
Other		
Sulphur	7704-34-9	231-722-6

⁶ **Disclaimer**

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