EU Risk Reduction Strategy
proposed for
OCTYLPHENOL

Brussels, 22nd October 2007

ETRMA

ETRMA represents the European tyre and rubber manufacturers. The sector presence in EU27 is dynamic with around 4.200 plants, employing 360.000 people. Its turnover exceed €49 billion, which accounts for more than 0,5% of the EU GDP.
ETRMA members are tyre corporate members (Bridgestone Europe, Continental, Cooper Tires, Goodyear Dunlop Tires Europe, Marangoni, Michelin, Nokyan Tyres, Pirelli Tyre, Trelleborg Wheel Systems, and Vredestein) and national rubber manufacturers' associations (Belgium, Finland, France, Germany, Italy, Netherlands, Portugal, Spain, Sweden and UK).

Background on Octylphenol

In the 2003 the Marketing and Use Directive (2003/53/EC) regulated certain uses of nonylphenol (NP). Even if the applications of this substance were in many cases different from those of Octylphenol (OP), there was the concern that OP could be widely adopted as replacement. Indeed, the UK decided to voluntary assess environmental and human health risks associated to OP exposure.

The recently finalised OP Risk Assessment (RA) revealed that OP is associated with potential risks to freshwater and marine aquatic and terrestrial compartments. The UK proposed to take over at EU level the proposed Risk Reduction Strategy, which was presented at the 13th Risk Reduction Strategy Meeting. The national environmental risk assessment process has therefore by-passed the established EU process for risk assessment in the EU as octylphenol is not a priority substance and has not been thoroughly discussed at EU TCNES level.

Importance of octylphenol in rubber industry

The main use of octylphenol (80% of the total quantity) is in the production of Para-Tert-Octylphenol (PTOP) based resins, which are used as tackifiers in tyre manufacture. Additionally, these resins are also used for metals to rubber bonding applications in the technical rubber goods manufacture.

With particular reference to tyres, because the purpose of these resins is to promote adhesion between various tyre components, they are an essential element effecting product performance and safety. Tyres are high tech products and are extensively tested to make sure that they fulfil the required

safety standards. As a worst-case scenario, severe failure can happen upon end-use in cars if separation effects occur in the finished tyre. Accordingly, any changes to tyre formulations are treated very cautiously and require extensive research and development work to assure products' safety performance.

Discrepancy between UK RA and situation in the rubber industry

The UK Environmental Risk Evaluation Report clearly states that for the use of "Resins in rubber formulation" the predicted risks for the terrestrial and aquatic compartments (1.49 and 4.05 respectively) are **based on exposure estimates that have many uncertainties** and that they are valid for the rubber formulation process, and not for tyre manufacture, use and/or disposal (§ 3.2.1);

The assessment of the "actual exposure" is specifically necessary for the rubber sector (and especially for the tyre process) because of the particular physical and chemical status of the substances involved in the production process. Reduced exposure to the ingredients of rubber compounds occurs immediately after mixing with rubber polymers. The **bioavailability of the ingredients from this stage on is strongly reduced** as a result of:

- ✓ high capacity of the polymeric matrix to entangle substances, due to the physico-chemical interactions established between the polymeric network and the individual substances; and
- ✓ compact characteristics of the compound, which lead to the incorporation of the majority of the ingredients and make them unavailable to the environment and humans.

As illustrated in the Annex A (Process flowchart for the tyre production), the production of a tyre and rubber products in general is a rather complex process. The process as correctly reflected is mainly a dry (no water) process, where water is used in the process, either for the cooling in the process equipment or for the production of high-pressure hot water and/or steam for the vulcanisation process. However, when water may come into direct contact with the unvulcanised rubber compounds, this normally contains special additives and in general this water is run in closed circuits where only evaporation losses are replaced by fresh water. The latter is being valid for extruded parts, handmade rubber clothing, rubberised fabrics and some technical rubber products that are vulcanised in autoclaves.
We also invite you to consider that all the risk assessments, carried out in the past by EU Rapporteurs (e.g. for CBS, Aniline, Zinc Oxide) and addressing the rubber sector, have extensively investigated and concluded about the low environmental risk of chemicals exposure in the rubber process.
For the above mentioned reasons and before deriving any conclusions, an exposure scenario should in case be developed specifically for the tyre sector.

Leaching from tyres

PTOP based resins are used as tackifiers for carcass compounds, where they are assuring the required short and long-term tack between green rubber components during tyre assembly.
It derives that OP is not present in the tyre tread and, since leaching of substance occurs for whole tyres from the surface, it can be stated that **OP is not released to the environment during tyre service life**. This is valid also for eventual leaching from particles generated from rolling tyres because they are generated solely by abrasion of tread.

UK Risk Reduction Strategy (RSS)

The **particularity of the rubber sector is recognized in the UK Risk Reduction Strategy report** (Chapter 10). It is stated that a blanket approach may not be appropriate for uses of (we do not use OP only) PTOP based resins in rubber formulation specifying that:

- ✓ The use of tyres is of major socio-economic importance to both the UK and the EU, it is believed that the use of PTOP based resins should be allowed until technical, environmental and economic aspects of OP substitution are clarified;
- ✓ Potential trade barrier issues may apply if any restrictions are placed on PTOP based resins;
- ✓ The imminence and degree of risk associated with presence of OP impurities in the resins use in rubber formulation has also been taken into account, in particular the relatively low risk characterisation ratios for the terrestrial and aquatic compartments (1.49 and 4.05 respectively) based on generic scenarios;
- ✓ Existing regulatory frameworks and site-specific emissions control measures (taking into account the 'captive' use pattern of OP and possibility of the identifying and monitoring such users) provide options for addressing the risks from PTOP based resins in rubber formulation.

In any case, the RRS currently proposed is based on the 'positive list' approach, whereby all uses are to be banned with the exception of some derogations. This is a highly unusual approach for such strategies and there is concern that critical current or future uses could be banned via this procedure even when they could be demonstrated to be safe and not pose a particular risk to the environment.

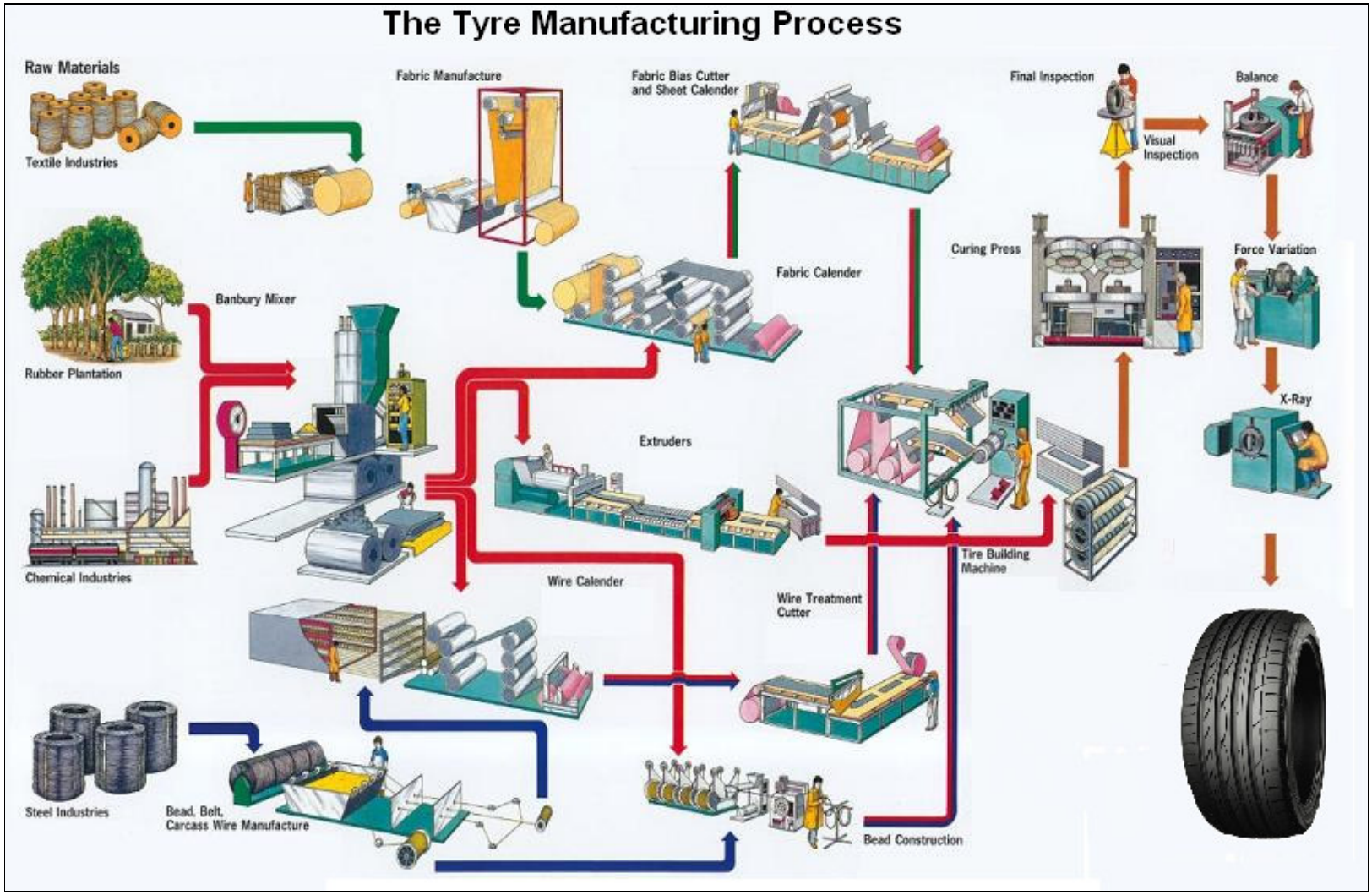
ETRMA position

ETRMA believes that:

- ✓ Concerns expressed about octylphenol in the UK's voluntary environmental risk assessment are over-stated and, in addition, are **not directly applicable to tyre and rubber manufacture.**

- ✓ **OP should be normally registered under the upcoming REACH regulation that will introduce further extensive means to guarantee the safe use of chemicals.**

Annex A


The Tyre Manufacturing Process
Raw Materials
Textile Industries
Fabric Manufacture
Fabric Bias Cutter and Sheet Calender
Final Inspection
Balance
Visual Inspection
Curing Press
Force Variation
Fabric Calender
Banbury Mixer
Rubber Plantation
X-Ray
Extruders
Chemical Industries
Tire Building Machine
Wire Calender
Wire Treatment Cutter
Steel Industries
Bead, Belt, Carcass Wire Manufacture
Bead Construction