RED TAPE OR RED WARNING?

Bob Nelson, Conveyor Belt Specialist, examines the impact of European chemical regulations on the conveyor belt industry and questions whether they represent unnecessary red tape or essential environmental safeguards.

Especially within the past two decades, the EU/EEA has led the world in regulatory controls designed to protect human health and the environment. Primarily aimed at the use of potentially harmful substances within the manufacturing process, there are long-standing regulations such as the registration, evaluation, and authorisation of chemical substances (REACH regulation EC 1907/2006) and EU Regulation No.2019/1021 Persistent Organic Pollutants (POPs).

Such regulations affect conveyor belt manufacturers, importers, traders, and end-users alike. But are they simply another example of 'red tape interference' from Brussels,

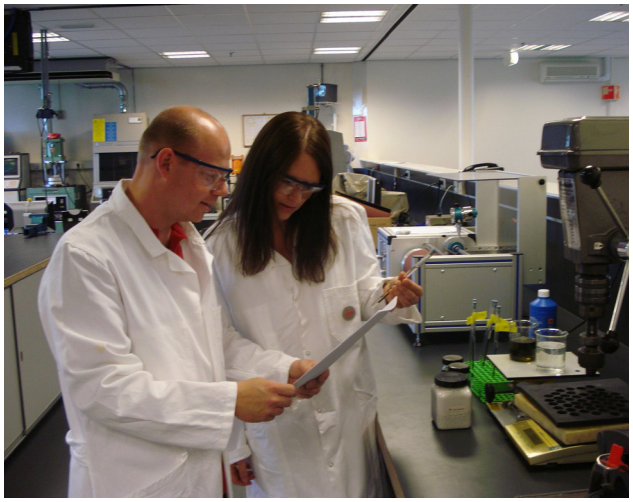

Figure 1. SVHC – Substances of very high concern.

Figure 2. The combined weight of SVHCs should not exceed 0.1% of the actual weight of the product.

Figure 3. Less than 10% of rubber belts are recycled.

or do they serve as a warning that needs to be taken much more seriously? To be able to answer that question it is first necessary to understand what the regulations are and what they are designed to achieve.

Reach stands for Registration, Evaluation, and Authorisation of Chemical substances, and was established by the EU with the specific aim to improve the protection of human health and the environment through better and earlier identification of the properties of chemical substances. REACH places direct responsibility on industry to manage the risks from chemicals and to provide safety information. Manufacturers and importers are required by law to gather information on the properties of the chemical substances they use and register the information in a central database in the European Chemicals Agency (ECHA) based in Helsinki.

Nearly all the rubber used for conveyor belts is synthetic, and literally dozens of chemical components – such as anti-degradants, anti-ozonants, and accelerators – are used to make it. These include substances such as OTOS (N-oxydiethylene-2-benzothiazolesulfenamide, CAS 102-77-2). It is an inescapable fact that it is necessary to use some chemicals that are potentially extremely dangerous to humans and the environment.

REACH calls for the progressive substitution of harmful chemicals, which are referred to as 'substances of very high concern' (SVHC's) when suitable alternatives have been identified. Anything to do with science is a process of continual evolution, so since its original introduction, regulation regarding SVHC has become increasingly stringent and demanding. For example, previous compliance was largely based on declaring (registering) the use of listed chemical substances and staying within specific limits applicable to each substance. Now, however, regulations such as Article 31 demand that if a product contains an SVHC in a concentration greater than 0.1% of the total weight of the finished product, the manufacturer is compelled to register its use with the European Chemicals Agency (ECHA) and also provide the customer with a safety datasheet. There is also Article 33 (obligation for supply of information to downstream users when SVHC >0.1%), which is important for importers and essential for compliance.

Short-chain chlorinated paraffins

One of the biggest concerns involves short-chain chlorinated paraffins (SCCPs). These are most commonly used to artificially accelerate the vulcanising process, as well as for plasticising and fire retardancy. REACH regulations clearly stipulate that SCCP's should either not be used at all or at least only used on a very limited basis (0.15%), because they are listed on the International Agency for Research on Cancer's (IARC) Carcinogen List as 'possible carcinogens'. A clue to their presence can be

a strong, pungent aroma, whereas good quality rubber that does not contain SCCPs usually has very little smell at all.

Persistent organic pollutants

Shortly after the introduction of the REACH regulation, the European Parliament issued another directive in the form of EU Regulation No. 2019/1021 on Persistent Organic Pollutants (POPs). These substances pose a serious risk to human health and the environment because they are bioaccumulative in humans and wildlife, and toxic to aquatic organisms even at low concentrations. For example, in Europe, SCCPs have been forbidden under the POPs regulation since 2019 at levels above a very low threshold of 0.15%.

Regulated worldwide by the Stockholm Convention and the Aarhus Protocol, these international treaties are implemented in the EU by the POPs Regulation through the ECHA. They are designed to prohibit or severely restrict the production, placing on the market, and use of persistent organic pollutants in manufactured products.

Environmental damage

In Europe, nearly 95% of used car tyres are recycled, whereas the amount of used conveyor belting being recycled is almost non-existent by comparison. Although there are initiatives to improve the situation, a great deal of used rubber belting still goes to landfill or is being burned, for example, by cement plants. There are many reasons for this disparity. Recycling conveyor belts is an appreciably slower, more complicated, expensive, and logistically difficult process compared to recycling vehicle tyres. There is also much less demand for the polyester and nylon fabric inner plies and certainly no practical use for the metal cables found in steel cord reinforced belts.

The harsh reality is that under foreseeable market circumstances, recycling conveyor belts is not only ecologically problematic, but also not viable. This is why using belts with strictly controlled chemical content and the longest possible working life is more important than ever before.

Penalties for non-compliance

National authorities are responsible for regulation enforcement through inspections as well as handing out penalties in cases of non-compliance. They exchange information and coordinate activities related to enforcement through the Forum for Exchange of Information on Enforcement. The level of penalty depends upon where the case is heard. In the UK, for example, higher courts such as Crown Courts can impose unlimited fines and/or up to two years' imprisonment. This is certainly not common knowledge within the conveyor belt industry.

In truth, those with duties under such regulations are usually legal entities rather than individuals. When prosecutions are brought, they are typically against these legal entities rather than individuals. A fine, albeit a substantial one, may therefore be the only option. Even so, where offences committed by a corporate body are shown to have been committed with the consent of, or are due to the neglect of, a senior person in that organisation, they too may be regarded as being guilty of the offence and may be prosecuted separately.

Accountability and responsibility

Aside from the leading brand European conveyor belt manufacturers, most manufacturers have chosen to ignore REACH and POPs requirements. Importers and traders seem even less interested. The primary reason is cost, due to the significant impact on production expenses. Raw materials can account for up to 70% of the cost of producing an industrial conveyor belt. Competition is fierce and largely driven by selling price. As in all markets, unregulated (non-compliant) raw materials cost considerably less than regulated ones, creating a substantial price advantage for those willing to ignore safety regulations.

Manufacturers located outside of EU/EEA are not subject to the regulations. They are therefore free of the responsibility and the consequences of using unregulated raw materials that are prohibited or have strict usage limitations within the European community. Given such an advantage, it is hardly surprising that low-grade, unregulated belting, primarily imported from China, is growing at an unprecedented rate. Meanwhile, importers and end-users of their products are unlikely to be aware of the risks that they are being exposed to because it is virtually impossible to know how much SVHC and POPs these belts contain.

The majority of European conveyor belt manufacturers are also exposing themselves to risk because they are importing at least part of their product range from outside of Europe to allow them to compete at the 'bargain basement' end of the market. The only known exception to this practice is Netherlands-based Fenner Dunlop Conveyor Belting, which has a 'set in stone' policy of ensuring compliance and high quality standards by making all its own belts, including the rubber.

Conclusion

The use of SVHCs and POPs in the manufacture of rubber conveyor belts is a very real issue that needs to be addressed today. The regulations designed to control their use can no longer be ignored or simply regarded as being 'red tape'. Both corporately and individually, there is a responsibility and duty of care to colleagues and the environment to take appropriate action. The first step is to stop using cost as an excuse, because good-quality belts made from regulated raw materials have been proven to last considerably longer and are consequently far more cost-effective. It is time to decide. DB