

Phthalate free

As consumers become increasingly aware of their interaction with polymer products, the chemicals used in the production of plastic are coming under greater scrutiny.

At Plastribution we are certainly listening to our customers and in this article we explain why Phthalate free polypropylene is becoming increasingly important.

Phthalates (pronounce thal-lates) are esters of phthalic acid and are sometimes called phthalic esters. They are made by reacting phthalic anhydride with alcohol or alcohols. They are mainly used as a plasticizer to soften PVC but are also used in a wide range of products such as personal care items (perfume, make up, hair spray etc) as well as medical devices (in particular tubing) detergents, packaging, toys, paints and glues.

Phthalates have been scrutinised recently as they are easily released into the environment and are widely believed to be endocrine disruptors. In too high a concentration they can damage the sexual development of children and have been linked to male infertility.

Some studies have also linked them to breast cancer, diabetes, asthma and obesity. They can be found in

the air that we breathe and can leach out of the products that they are used in and into our bodies.

Some legislation restricts the use of some phthalates – 4 are listed as a substance of very high concern (SVHC) under REACH because they are classed as toxic for reproduction.

Under REACH they cannot be used in concentrations of above 0.1% in any finished part that is made. Some phthalates are banned in cosmetics in the EU and 6 are banned or restricted in the EU for use in toys.

So how is polypropylene affected? Whilst phthalates are not intentionally added into polypropylene, phthalates can be found in 5th generation Ziegler Natta polypropylene catalysts. Traces of these phthalates can sometimes be left in the polypropylene in very small amounts – well below the level demanded by REACH.

It is important to know that these traces are tiny – less than one part per million and sometimes not even detectable in lab testing – and propylene is classed as food safe in the EU and with the FDA. However, because of the concerns about phthalates some end users are demanding phthalate free polypropylene, especially for baby and children's products. 6th generation Ziegler Natta catalysts don't use phthalates which guarantees that the polypropylene that is made by them is phthalate free.

Not all manufacturers have plans to switch to phthalate free polypropylene as the risk factors associated with the traces are minimal but all are watching the market closely. Ducor are introducing DuPure for homo and copolymers and DuClear for random copolymers which will

replace their existing grade range by the end of quarter 3 this year.

Total are also working on a range of phthalate free grades which should be available by the end of the year and Carmel will be switching to phthalate free grades with no name changes.

If you have any questions regarding this article then please do not hesitate to contact the Technical Team on 01530 561966 or E-mail technical@plastribution.co.uk or alternatively speak to your sales representative. 