

## The European Chemicals Agency added ten more substances to the Candidate List of Substances of Very High Concern (SVHCs) for authorisation on the 27 June 2018.

With this update, the list contains now 191 substances.

Information obligation as per REACH apply as well with immediate effect also for these 10 new substances if more than 0.1 % in the respective article. Additionally REACH requires importer or producer to notify ECHA if more than 1 t of these substances are produced or imported per year. Classification of substances as SVHC can have serious consequences, as it may result in the future ban of use as per Annex XIV REACH for EU producers, even if inclusion in the candidate list does not constitute a sales ban.

### Candidate List of Substances of Very High Concern (SVHC) for approval on 27 June 2018

#	Substance Name	CAS number	Examples of use(s)
1	Octamethylcyclotetrasiloxane (D4)	556-67-2	Used as raw material for the production of silicone polymers and in washing and cleaning products, polishes and waxes and cosmetics and personal care products. Decamethylcyclopentasiloxane (D5) can be used additionally as textile treatment products and dyes.
2	Decamethylcyclopentasiloxane (D5)	541-02-6	
3	Dodecamethylcyclohexasiloxane (D6)	540-97-6	
4	Lead	7439-92-1	Used in metals, welding and soldering products, metal surface treatment products, and polymers.
5	Disodium octaborate	12008-41-2	Used in anti-freeze products, heat transfer fluids, lubricants and greases, and washing and cleaning products.
6	Benzo[ghi]perylene	191-24-2	Normally not intentionally added but rather occurs as a constituent or impurity in other substances.
7	Terphenyl hydrogenated	61788-32-7	Used as a plastic additive, solvent, in coatings/inks, in adhesives and sealants, and heat transfer fluids.
8	Ethylenediamine (EDA)	107-15-3	Used in adhesives and sealants, coating products, fillers, putties, plasters, modelling clay, pH regulators and water treatment products.
9	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride) (TMA)	552-30-7	Used in the manufacture of esters and polymers.
10	Dicyclohexyl phthalate (DCHP)	84-61-7	Used in plastisol, PVC, rubber and plastic articles. A further use is also as a phlegmatic and dispersing agent for formulations of D13:H19 organic peroxides.

Most of these substances are not found in consumer goods in contents above 0.1 % and/or are part of existing compliance testing programs:

- Benzo[ghi]perylene as part of PAH testing (not expected in levels above 0.1 %),
- Dicyclohexyl phthalate in the determination of phthalates (very rare).

Concerning all new entries to the SVHC list, the most significant additions are siloxanes and lead.

### Siloxanes

The cyclic silicone compounds D4, D5 and D6 (compounds with 4, 5, 6 silicon atoms in the ring) are persistent chemicals that accumulate in organisms. Due to these properties, the substance meets the definition of REACH Article 57 for inclusion as SVHC.

Cyclic siloxanes are used as such both in cosmetics and in technical applications. The most common use is in the formulation of personal care products and as an intermediate in the manufacture of silicone polymers.

Other fields of application include personal care products for hair and skin care, antiperspirants and deodorants; pharmaceuticals; Processing aids and defoamers; Surfactants and mold release agents; Lubricant; Polishes and coatings on a variety of substrates, including textiles (equipment), carpeting and paper; Sealants and paints.

In the production of silicone rubber and silicones, these substances form the starting material for the polymerization that takes place via a ring opening. In polymers prepared in this way, the detection of cyclic siloxanes as unreacted monomers or else as additional additives in amounts of more than 0.1% is possible.

In contrast, there is also a larger group of silicones where polymerization starts with other silicone compounds. To have residues of cyclic siloxanes is possible by using these polymerization processes.

### Metallic lead

Although many lead compounds are already listed as SVHCs, the uptake of metallic lead has a significant implication. To use lead as a compound is permissible in many alloys (bronze, brass, nickel silver, injection-moulded metals ...).

Typical products or components are e.g. brass fittings, bearing bushes and other bronze components in appliances, plugs of electrical appliances. Adding lead to these alloys makes it possible to have short, easily removable chips when used on lathes and drills.

### Lead in electrical products

For electrical products, RoHS restricts the use of lead, hexavalent chromium, mercury (0.1 %) and cadmium (0.01 %). However, Annexes II to RoHS 2 set certain exemptions to the substance restrictions. The exemptions are temporary and reviewed at least every four years in accordance with scientific and technical progress.

Every day, manufacturers, importers and suppliers of a variety of electrical products applying these RoHS exemptions when alloys of steel, aluminium and copper (for example in the pins of plugs) and lead in refractory solder containing lead.

Examples of exemption in Annex III are alloying element in steel 6(a) containing up to 0.35 %, in aluminium 6(b) containing up to 0.4 % or copper alloy 6(c) containing up to 4 % lead by weight. All these exceptions exceed the threshold of 0.1 % for the obligation to inform under REACH Article 33 and the obligation to notify within the meaning of Article 7(1) (> 1 t/a).

While the restriction in the RoHS Directive refers to a homogeneous material, it will generally be the case that a lead-alloyed metal part forms its own article (within the meaning of REACH "Once a product, always a product"). Therefore, the concentration in this metal part according to RoHS corresponds to the concentration of the substance in the article.

For the lead content in high melting point solders, under RoHS exemption 7(a), the situation changes as a solder joint forms part of an article and is not an article itself (solder is a mixture and when joint on a circuit board becomes an article with the circuit board).

Concerning the exemption 7(a) the concentration of lead in the solder is to be above 85 % (w/w). The concentration of lead dilutes by the fact that the solder joint is part of a complex article. Therefore, whether or not the 0.1 % threshold for SVHC reporting will be necessary is application specific, although it is likely that lead will exceed 0.1 % in many of these types of components.

#### Lead in fittings

The copper alloys specified in fittings with drinking water contact contain in many cases but not always lead. Therefore, it must be decided here whether technically and economically different, lower-lead alloys can be used. If that is not possible, the notification obligation should be noted, as the 1 t limit per year for these heavy products is quickly reached.

With the new updates on SHVC, companies need to identify their use of lead and inform their customers. Therefore, all companies, whether within or outside the scope of RoHS, should carefully consider whatever action they should take. The obligation to provide the SVHC information applies to the new substances since 27 June 2018.

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