Restriction of cyclic siloxanes D4, D5, D6 under REACH

8 July 2019

Dear Customer,

In the last weeks we received several requests regarding the restriction of the cyclic siloxanes D4, D5 and D6 under REACH. Therefore we would like to take the opportunity to explain the background of the current situation as well as work of CES–Silicones Europe in this context.

In the course of the REACH registration process European authorities concluded, that D4 fulfils the screening criteria for persistent, bioaccumulative and toxic (PBT) as well as very persistent and very bioaccumulative (vPvB) and D5 for vPvB substances. Therefore a restriction was proposed for so called wash-off Personal Care products to limit the concentration of D4 and D5 to less than 0.1 % in the end-product. This restriction aims at emissions to water, which was identified as a potentially critical compartment and will be effective after 31 January 2020. The Industry has accepted the restriction as a proportionate measure, is committed to support it and monitor the effect in the environment.

In April 2017, following a request from the European Commission, ECHA published an additional restriction intention for leave on personal care products and other consumer/professional products (e.g. dry cleaning, waxes and polishes, washing and cleaning products) containing D4/D5/D6 in concentrations > 0.1%. In addition, wash off and rinse off cosmetic products containing D6 in concentrations > 0.1% shall not be placed on the market. In January 2019 the restriction dossier was published and the public consultation started in March. Final deadline for comments on Annex XV report is 20th September 2019.

In August 2017 the German authorities launched a Risk Management Option Analysis (RMOA) for D4 and D5. In their report, which was published in January 2018, the German authorities noted their intent to propose a candidate listing of D4 and D5 as Substances of Very High Concern (SVHC) under REACH. In parallel, the European Commission requested ECHA to develop a SVHC candidate proposal for D6. In June 2018 the Member State Committee agreed to add D4, D5 and D6 to the SVHC candidate list. The listing has no direct impact on the use of these products, but companies may have legal obligations regarding provision of data for safe handling and use as well as minimisation of release. These obligations, which are effective from the date of inclusion, refer not only to the listed substances on their own or in mixtures but also to their presence in articles with concentrations above 0.1% w/w.
It is obvious that European authorities see the need to regulate uses of cyclic siloxanes, which is in contrast to the activities in other countries like Australia, Canada and the US, who concluded that the risks associated with cyclic siloxanes in the environment warrant only minor actions like minimizing releases from industrial sources.

Evonik is a member of CES–Silicones Europe and GSC–Global Silicones Council and supports the position that the ongoing regulatory activities are disproportionate and not warranted for protection of the environment. Industry bases their conclusion on the unique properties and behaviour of cyclic siloxanes. The silicones industry is committed to responsible stewardship and is determined to address environmental risks through developing and supporting independent science and monitoring studies, which inform and guide measures. The industry will continue to work closely with regulatory authorities and with downstream users around the globe to ensure that silicones can continue to provide all the benefits and innovations for which they are used with confidence. Due to the specifics of silicone chemistry it is not possible to produce silicone polymers and silicone copolymers under industrial conditions with ‘zero D4 / D5’. During polymerization a certain amount of cyclic siloxanes will remain unreacted and can only be reduced afterwards to certain levels, which depend on the polymers and work-up conditions.

Situation at Evonik Coating Additives

Cyclic siloxanes are essential raw materials for tailoring polysiloxane backbones resulting in high performing additives for the Coating and Inks industry. Therefore their presence cannot be avoided completely. However, in our continuous improvement process Evonik Coating Additives strives to minimize the residual content of cyclic siloxanes in our products. After the recent regulatory changes we have intensified our efforts to further reduce the contents of remaining siloxanes and continue to work on this topic.

Legislative bodies like the German Environmental Agency (Umweltbundesamt – UBA) and the European ECHA have clearly expressed, that their regulatory initiatives aim at a) restricting uses of cyclic siloxanes as formulation ingredients (direct use, which means intentional addition of cyclic siloxanes), b) the information of the value chain about contents of one or more cyclic siloxanes above 0,1 %, c) the minimization of the release of cyclic siloxanes from products for consumer and professional use and d) minimization of emissions of cyclic siloxanes into the environment from industrial processes. The UBA, one of the driving bodies for the regulatory initiatives, has assured industry that authorization is not on their agenda.
Evonik in line with the Silicone Industry is assessing future scenarios. Although Industry works intensively with legislative bodies to avoid unnecessary and disproportionate rules, Evonik cannot exclude the restrictions for direct use of cyclic siloxanes and for the content of cyclic siloxanes in consumer and professional products.

Most of the affected Evonik Coating Additives products are being used as additives in single digit percentage concentrations in our customers formulations. And most of our products contain already less than 0.1 % of each of the cyclic siloxanes. We clearly expect that we can continue to serve these applications, as the socio-economic benefit clearly outweighs the potential reduction of emissions. We will provide such socio-economic arguments to the authorities.

In general, we confirm that Evonik is fully committed to Silicone technology and is working hard to define jointly with authorities a reasonable path forward, which allows to continue to use Silicone products and their special properties.

CES-Silicons Europe informed several downstream user organizations of silicones about the current situation and asked for support by stressing benefits of silicone polymers which are based on cyclic siloxanes as raw material. We would highly appreciate your support in reinforcing these messages with the relevant stakeholders in preparation for the public consultation.

We realize this information cannot be comprehensive and answer all questions. Please feel free to contact us in case you need more information or assistance: regulatory-coating-additives-europe@evonik.com

Sincerely yours,

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