



28 June 2018

Subject: REACH Substances of Very High Concern and Ashland

Dear Customer,

The following information is provided in response to your request for Ashland's position concerning the presence of Substances of Very High Concern (SVHCs) in the products we manufacture, market and sell to customers in the European Union (EU).

Ashland can confirm that:

- Procedures are in place to ensure compliance with the REACH obligations of a supplier (see appendix 1) for proactively and reactively informing our customers in situations where SVHCs are present in our products. Additionally, as a general rule, Ashland will provide you with the latest version of the Safety Data Sheet (SDS) upon product purchase. If an SVHC is present in any of the products you purchase from Ashland, the substance will be listed on the European SDS (at "any known concentration" equal to or greater than 0.1 %).
- The following SVHC substances are present in Ashland products (see appendix 2 for specific Commercial Unit products);
 - 1-methyl-2-pyrrolidone (June 2011)
 - bis(pentabromophenyl) ether, cyclohexane-1,2-dicarboxylic anhydride and 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (December 2012)
 - 4-nonylphenol, branched and linear, ethoxylated (June 2013)
 - octamethylcyclotetrasiloxane (D4), decamethylcyclopentasiloxane (D5), dodecamethylcyclohexasiloxane (D6), and dicyclohexyl phthalate (June 2018)
- Propylene oxide (methyl oxirane), which was added in December 2012, is not present in our products at levels of 0.1%, or higher. The propylene oxide in our products is bound (to polymers or other substances) and will not be released.
- Please see appendix 2 for an overview of the Ashland products involved. Where applicable, you will see these substances identified on the European SDS for the product. Although not legally required, Ashland is working on the reformulation of (some of) these products, where there is a benefit from reformulation to Ashland and our customers. In specific cases, you may be contacted to review the options.
- As additional SVHCs are placed on the candidate list, we will review the formulations of our product portfolio to phase out these substances from our products, where possible.

If you have questions regarding any REACH-related subject, please contact Ashland via your representative or send an e-mail to REACH@ashland.com.

Kind regards,

Sandor Zuurendonk
Manager - REACH

IMPORTANT DISCLAIMER: While it is our intention to register those substances manufactured and imported by Ashland in the EU, we cannot guarantee or absolutely commit to future registration. Ashland's product portfolio is subject to continual evaluation and optimization based on market and customer needs, including market size and profitability. Ashland is dependent on what information is received from its suppliers about the presence of SVHCs contained in purchased materials that compose Ashland's products. Ashland retains the right to discontinue any product, and no rights can be derived from this publication and Ashland disclaims any liability for any errors or omissions.

REACH will continue to apply in the United Kingdom until the United Kingdom exits the European Union. REACH or REACH-type requirements may continue to apply after the United Kingdom exits the EU, however this is unclear at the moment. Once the consequences of the exit become more clear, Ashland will decide on necessary steps to be taken.

Appendix 1

SVHC

SVHCs, also known as "Annex XIV substances," are clearly described in Article 57 of Regulation (EC) No 1907/2006 (the "REACH Regulation"). These substances are identified according to ECHA (European Chemicals Agency):

- **CMR** substances; Carcinogenic, Mutagenic or toxic to Reproduction, meeting the criteria for classification in category 1 or 2 in accordance with Directive 67/548/EEC,
- **PBT** substances; Persistent, Bioaccumulative and Toxic according to the criteria in Annex XIII of the REACH regulation, or
- **vPvB** substances; very Persistent and very Bioaccumulative according to the criteria in Annex XIII of the REACH Regulation, and/or
- Identified, on a case-by-case basis, from scientific evidence as causing probable serious effects to human health or the environment of an equivalent level of concern as those above (e.g., endocrine disrupters).

In June 2018, ECHA updated the candidate list of SVHCs, which now contains 191 substances. The list is incomplete and more substances may be added. Please use the following link to see the latest version of the candidate list:

<http://www.echa.europa.eu/web/guest/candidate-list-table>

These substances may become subject to Authorisation. As result the following obligations apply;

Obligations

ARTICLES

- **From 28 Oct., 2008**, EU and European Economic Area (EEA) suppliers of articles which contain substances on the Candidate List in a concentration above 0.1% (w/w) **must**
 - **provide sufficient information, available to them, to their customers and on request to consumers within 45 days of the receipt of this request.** This information must ensure safe use of the article and, as a minimum, include the name of the substance.
 - **notify the Agency**, according to article 7 (2), **if the substance is present in those articles** in quantities totaling over 1 tonne per producer or importer per year.

SUBSTANCES

- **From 28 Oct., 2008**, EU and EEA suppliers of a substance have to **provide a safety data sheet to their customers** when the substance is on the Candidate List.

PREPARATIONS

- **From 28 Oct., 2008**, EU and EEA suppliers of a preparation not classified as dangerous according to Directive 1999/45/EC have to **provide the recipients, at their request, with a safety data sheet** if the preparation contains at least one substance on the Candidate List and its individual concentration is at least 0.1% (w/w) for non-gaseous preparations and at least 0.2% by volume for gaseous preparations.

Ashland's products, in general, are preparations (mixtures of several substances).

Appendix 2

The tables below present an overview of those Ashland products currently on the European market, containing SVHCs. Although not legally required, we are working on the reformulation of (some of) these products, where reformulation would be valuable to both Ashland and our customers. In specific cases we will contact you to review the options.

* Under Article 56(3) use of substances in scientific research and development is exempt from Authorisation. According to the definition of REACH, scientific research and development means any scientific experimentation, analysis or chemical research carried out under **controlled conditions** in volume less than one tonne per year. On the basis of this, it is likely that the use of substances as test reagent or indicator **in laboratory settings** is exempt.

4-nonylphenol, branched and linear, ethoxylated (EC# not specified)		
Ashland Product Number	Product Name	Business
818650, 818711	PURERAD 18670E UV PSA	Ashland Specialty Ingredients
846911	PURERAD L8010E UV PSA	
819600	PURERAD DP8700E UV PSA DIGITAL	
818712, 818713	PURERAD 19013E UV PSA	
846912	PURERAD L8020E UV PSA	

1-methyl-2-pyrrolidone (EC#212-828-1)		
Ashland Product Number	Product Name	Business
826099	AGSOLEX 1	Ashland Specialty Ingredients
830697, 830698, 830699, 839217	PHARMASOLVE	
830701, 830703	PHARMASOLVE V	
829774, 839067, 839068	MICROFLEX 1	Ashland Performance Materials
829921, 829927, 829928, 829929, 829930, 829931, 829932, 829933, 829934, 837351, 839089	M-PYROL	
829838, 829841, 829842, 829843, 829844, 829845, 857892	MICROPURE EG	
829847, 829848, 857893, 857894	MICROPURE ULTRA II	
828306, 828307	GAFSOLVER TMP	

4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (EC# not specified)		
Ashland Product Number	Product Name	Business
824784, 824785	PURETHANE CO-CL0029E WB LA	Ashland Specialty Ingredients

bis(pentabromophenyl) ether (EC#214-604-9)		
Ashland Product Number	Product Name	Business
312941, 329694	ENGUARD AE 00026A GC	Ashland Performance Materials
305359, 315409	ENGUARD AE 00714A GC	
608948	ENGUARD AE 00715AV6 GC	
364641	ENGUARD AE 00960A GC	
315780	ENGUARD AE 01046A GC	
333323	ENGUARD AE 01046ATMV3 GC	
834228, 834229	ENGUARD AE 01046ATMV6 GC	
363992	ENGUARD AE 01066AV3 GC	
809258	ENGUARD AE 01078A GC	
330280, 333608, 348178	ENGUARD AE 10090AA6 GC	
832754	ENGUARD AE 28057A GC	

638872, 799176	ENGUARD AE 80524AV3 GC	
354790, 354204, 354429	ENGUARD AE 80555 AV3	
317128, 315419	ENGUARD CE 00729A GC	
354690, 354109	ENGUARD CE 01268A GC	
873831, 873832	ENG AE 10503AV3 GC	
721437, 731652, 723254	HETRON F 250 TFE RESIN	
746782, 746909, 857959	HETRON F 255 TFE RESIN	
769488, 769487	HETRON F 260 TFE RESIN	
345707	SF TH151GC	

cyclohexane-1,2-dicarboxylic anhydride (EC#201-604-9)		
Ashland Product Number	Product Name	Business
776150, 776181	PURERAD 3400470 LOW MIGR LAM ADH	Ashland Specialty Ingredients
813084, 813085	PURERAD 3400865 LM PET LA	
624871, 813753	PURERAD 52574 F LAM ADH	
624872, 704392	PURERAD 52575 LAM ADH	
765680, 765851	PURERAD 52575D LOW MIGR LAM ADH	
745256, 805521, 745257, 812559	PURERAD 52575E LOW MIGR LAM ADH	
627197, 771860, 812334	PURERAD 53330 UV LAM ADH	
695924, 695923	PURERAD 53560 UV LAM ADH	
743384, 769912, 771310	PURERAD 53637 PET LAM ADH	
782004, 783298	PURERAD 60025 LOW MIGR ADH	
782077	PURERAD 60030 LOW MIGR ADH	
782078	PURERAD 60035 LOW MIGR ADH	
617189, 617190	PURERAD FA331FLA LAM ADH	
845211, 862056, 862609	PURERAD L7000E HB LAM ADH	
845214	PURERAD L7070E PET LAM ADH	
875590, 875651	PURERAD 52575F LOW MIGR LAM ADH	
617516	NWC 52574 F LAM ADH	
883457, 883458	PURERAD LED 7500E	
883052, 883053, 885291, 895777	PURERAD L7200E	

dodecamethylcyclohexasiloxane (D6) (EC#208-762-8)		
Ashland Product Number	Product Name	Business
877124	CAPTIVATES GL21748	Ashland Specialty Ingredients
877126	CAPTIVATES GL21749	
910489, 910490,	CAPTIVATES GL21881	
828965, 828966	ISP CAPTIVATES HC2825	

decamethylcyclopentasiloxane (D5) (EC#208-764-9)		
Ashland Product Number	Product Name	Business
358205, 838260, 839621	DREWPLUS S-4382	Ashland Specialty Ingredients
877124	CAPTIVATES GL21748	
877126	CAPTIVATES GL21749	
910489, 910490, 910511	CAPTIVATES GL21881	
839047, 829570	LUBRASIL	
828965, 828966	ISP CAPTIVATES HC2825	
839458, 839459, 831698	SI-TEC CM 040	
852320, 831712, 831713	SI-TEC GF 1000	
839464, 831714, 831715	SI-TEC GF 3092	

octamethylcyclotetrasiloxane (D4) (EC#209-136-7)		
Ashland Product Number	Product Name	Business
722164, 838243, 839605, 722163	DREW 210-900	Ashland Specialty Ingredients
722166, 838244, 839606, 722165	DREW 210-901	
851598, 851599, 851600, 851681	ASHLAND ASI D-5675	
637265, 838261, 637266, 51357, 100799, 309880	DREWPLUS S-4386	
576901, 838259, 839620, 576560	DREWPLUS S4374	
838258, 839619, 587590, 587753	DREWPLUS S-4288	
838237, 340674, 637020, 325835, 895847	DREW 210-862	
838242, 839604, 320777, 353540, 320775	DREW 210-886	
100544, 838263, 839622, 172209, 340821, 637268, 637270	DREWPLUS S-4480	
50516, 838281, 839639, 67797, 637304	DREWPLUS TS-4481	
358205, 838260, 839621	DREWPLUS S-4382	
839458, 839459, 831698	SI-TEC CM 040	
852320, 831712, 831713	SI-TEC GF 1000	
839464, 831714, 831715	SI-TEC GF 3092	
839462, 831708, 831709	SI-TEC DMC 6031	
839463, 831710	SI-TEC DMC 6038	
833933	PURERAD 2600 SLIP ADDITIVE	

dicyclohexyl phthalate (EC#201-545-9)		
Ashland Product Number	Product Name	Business
879634, 879635, 889243	PURESEAL 23519ES HEATSEAL	Ashland Specialty Ingredients
881036, 881037	EXP SPA EU PURESEAL LT	