

Date: 20. Dec. 2017

Regulatory Data Sheet of LUCENE™ Polyolefin Elastomers LUCENE™ POE LF100A (Ethylene-1 -OCtene-Copolymer)

1. United States Food and Drug Administration

This product complies with the US FDA Regulation 21 CFR 177.1520(c)(3.2c) and may be used with all type of food under conditions of use C through H as described in table 2 of 21 CFR176.170(c).

2. EU Registration, Evaluation and Authorization of Chemicals

2.1 Pre registration

As an only representatives of us, LG Chem Europe GmbH have completed the pre-registration of substances in our products. The disclosure of the pre-registration number is optional and non-obligatory under REACH and due to our policy. We do not disclosure pre-registration number we have completed.

2.2 Registration

LG Chem has completed the pre-registration for our substances and also completed the registrations of our own substances that we have manufactured by ourselves, without any violation of their deadlines for our EU export tonnage.

The substance suppliers of LG Chem have reported that they have registered their substances, following their deadlines for our EU export tonnage.

3. Regulation(EC) No 2023/2006 : Good Manufacturring Practice(GMP)

LG Chem follows Quality Management System Standards : ISO 9001, The Quality Management System applicable to manufacture of polyolefin elastomer.

4. Regulation(EC) No 1272/2008 : Classification, Labelling and Packaging(CLP)

The Polyolefin Elastomer of classification has been derived based on the classification of the individual components in accordance with the rules set out in Regulation (EC) No 1272/2008(CLP)

5. Substances of Very Hazardous Materials (SVHC)

None of chemical substances included in the most updated candidate list (See link to Candidate List of 173 substances of Very High Concern for authorization updated on 07/07/2017) are contained in this product.

6. EU RoHS (Restriction of Hazardous Substances)

Directive 2011/65/EC : This product does not contain Cd, Pb, Hg, Cr(+6), PBBs, PBDEs

For additional sales, order and technical assistance

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7. EU Directive 10/2011/EC & EU Regulation 2015/174 (Food Contact): OML

EU Directive 10/2011/EC includes a limit of 10 mg/dm² on the overall migration from finished plastic article into food. In accordance with Commission Regulation No10/2011 the migration should be measured on finished articles placed into contact with the foodstuff or appropriate food simulants in accordance with ANNEX III of Commission Regulation No 10/2011 for a period and a temperature which are chosen by reference to the contact conditions in actual use, according to the provisions in Article 22 of Commission Regulation No 10/2011.

8. Commission Regulation 10/2011/EC & EU Regulation 2015/174 (Food Contact): SML

Substances(s) with specific migration limit are as follows :

1-Octene CAS No : 111-66-0 Limit : 15mg/kg

Please note that it is the responsibility of both the manufacturers and finished food contact articles as well as the industrial food packers to make sure that these articles in their actual use are in compliance with the imposed specific and overall migration requirements.

9. EU Directive 94/62/EC : Packaing and Packaging Waste (PPW)

This product is under the limit set (100ppm) for heavy metals defined as lead, cadmium, mercury and chromium(VI)

10. Regulation (EC) No 1169/2011-ANNE II : Food Allergens

None of allergens included in the most updated list (Regulation 78/2014(UE), Annex III a) are contained in this product.

11. Commission Regulation(EC) 1895/2005: Epoxy-Derivative and following amendments

This product does not contain BADGE, BFDGE, NOGE.

BADGE : 2,2-bis(4-hydroxyphenyl)propane bis(2,3-epoxypropyl)ether
(CAS No 001675-54-3) and their derivatives.

BFDGE : bis(hydroxyphenyl) methane bis(2,3-epoxypropyl)ethers
(CAS No 039817-09-9) and their derivatives.

NOGE : Other Novolac Glycidyl Ethers and their derivatives.

12. Phthalates free

LG Chem does not intentionally use phthalate as ingredients in the manufacture of Ethylene-1-Octene-Copolymer

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13. Regulation (EC) No 1935/2004: Food contact material(FCM)

This **STATEMENT** is to inform you the **PRODUCT** as the plastic intermediate material, supplied from us, complies with Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food, Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food and Regulation (EC) No 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food, including their subsequent amendments.

The **PRODUCT** is manufactured with monomers, other starting substances and additives authorized under Regulation (EU) No 10/2011.

No components with restrictions, i.e. a specific migration limit (SML), a residual content (QM) restriction imposed by Regulation (EU) No 10/2011 are used in the **PRODUCT**.

Regulation (EU) No 10/2011 imposes a limit of 10 mg/dm² on the overall migration from the finished plastic food contact articles intended to come into food. In accordance with Regulation (EU) No 10/2011 the migration should be measured using the actual foodstuff or the appropriate food simulants for a period and at a temperature which are chosen by reference to the contact conditions in actual use. Considering that, we inform you it is the responsibility of the manufacturer of the finished food contact articles to check and confirm that the final articles comply with the overall or specific migration limits specified in Regulation (EU) No 10/2011. In addition, we remind that the manufacturers of the final articles should verify that the final articles, manufactured according to good manufacturing practices, do not modify the organoleptic properties of the food.

One or more substance as listed in the European legislation on additives or flavorings [Regulation (EC) No 1333/2008 on food additives, or Regulation (EC) No 1334/2008 on flavorings] are present in the **PRODUCT**. The identity of substances with a restriction can be disclosed for testing purposes, upon special request and under maintaining secrecy.

If you have any further questions regarding the **PRODUCT** or need any assistance of ours, please do not hesitate to contact us.

[DISCLAIMER]

To the best of our knowledge, the information contained in this **STATEMENT** is accurate and reliable as of the date herein. But, we do not assume any liability whatsoever for the accuracy and completeness of the above information. We make no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

The legislation cited above applies to the final articles which is intended to come or is brought into contact with foodstuff. This **STATEMENT**, however, is restricted to the **PRODUCT** as the plastic intermediate material, supplied from us. It is the responsibility of yours to verify compliance with applicable legislation of the final articles and packaging under actual and foreseeable conditions of use. No liability can be accepted in respect of the use of the **PRODUCT** in conjunction with other materials. The information contained herein relates exclusively to the **PRODUCT** when not used in conjunction with any third party materials.

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14. Regulation (EC) No 1907/2006, ANNE XVII

- 1) This product does not contain cement and chromium(VI).
- 2) Nonylphenol $C_6H_4(OH)C_9H_{19}$ & Nonylphenol ethoxylate $(C_2H_4O)_n C_{15}H_{24}O$
This product does not contain Nonylphenol and Nonylphenol ethoxylate in the formulation.
And there is no potential chemicals which generate nonylphenol compound.
- 3) This product do not use following substances in the formulation
 - Substances listed in the California Proposition 65 list
 - GMO (Genetically Modified Organisms)
 - Phathale Esters
 - Tin Organic compounds
 - Acrylammide (CAS.Nr. 0000079-06-1)
 - Isopropylthioxantone (ITX)
 - Natural Latex or Synthetic Latex
 - Epoxidized soy bean oil (ESBO) Directive 2001/18/EC
 - Brominated flame retardants
 - composition of your materials (monomer, additives etc) is compliant with (Eu) n. 10/2011 annex I

15. Other Hazardous Substances

According to other regulations and specific customer's requirements, this product do not use following substances in the formulation.

- 1) Animal product associated with Bovine Spongiform Encephalopathy (BSE) or Transmissible Spongiform Encephalopathy (TSE)
- 2) Halogens(Flour, Chlor, Brom, Iod and their compounds)
- 3) Bisphenol-A and/or its derivatives.
- 4) N-Ethyl ortho-toluene Sulfonamide (CAS No 1077-66-1)
- 5) N-Ethyl para-toluene Sulfonamide (CAS No 80-39-7)
- 6) BHT (Butylated Hydroxytoluene)
- 7) TNPP (Trisnonylphenyl Phosphite)
- 8) Radioactive particles and radioactive-contaminated material.
- 9) Paraffin Oil, Tri-i-propanol amine, Benzophenone
- 10) 4-Methyl benzophenone
- 11) Polybromierte Diphenyle, Polybromierte Diphenylether, Polybromierte Biphenyle
- 12) Primary aromatic Amines
- 13) Polycyclic aromatic hydrocarbons(PAH)
- 14) Mineral Oil(MOSH, POSH and MOAH)
- 15) Phenylphenole
- 16) Adipate
- 17) Vinylchloride, PVC, PVDC
- 18) Nanoparticles / Nanotechnology
- 19) Antimony
- 20) Melamine
- 21) Recycled materials

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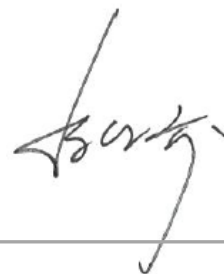
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< IMPORTANT NOTICE >

The statements herein are believed to be reliable to the best of LG Chem Ltd.'s knowledge and to be current as of the date stated above. Please be advised that the statements herein are provided based on the information available to us from our material suppliers as of the date of issue. Because use conditions and applicable laws may differ from one location to another and may change with time, users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any products.



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