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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 25260.1-2022

Replacing GB/T 25260.1-2010

Synthetic rubber latex - Part 1: Carboxylated styrene-butadiene rubber latex

合成胶乳 第1部分：羧基丁苯胶乳

Issued on: December 30, 2022 **Implemented on: July 1, 2023**

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Standardization Administration of China

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1.Structure and Drafting Rules for Standardization Documents" drafting. This document is Part 1 of GB/T 25260.GB/T 25260 has issued the following parts.

1.Carboxylated styrene-butadiene latex (XSBRL);

2.Carboxylated nitrile latex (XNBRL). This document replaces GB/T 25260.1-2010 "Synthetic Latex Part

1.Carboxylated styrene-butadiene latex (XSBRL) 56C, 55B", and Compared with GB/T 25260.1-2010, except for structural adjustment and editorial changes, the main technical changes are as follows:

--- Changed the technical indicators and added the glass transition temperature item (see Table 1, Table 1 of the.2010 edition);

--- Changed the test method of total solids content (see 6.2,

5.2 of the.2010 edition);

---Changed the test method of pH value (see 6.4,

5.4 of the.2010 edition);

--- Added the test method for the content of residual volatile organic compounds (see 6.5);

--- Added the test method for glass transition temperature (see 6.10);

--- Changed the inspection rules (see Chapter 7, Chapter 6 of the.2010 edition);

--- Increased signs and accompanying documents (see Chapter 8). Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents. This document is proposed by China Petroleum and Chemical Industry Federation. This document is sponsored by the Synthetic

Rubber Sub-Technical Committee of the National Rubber and Rubber Products Standardization Technical Committee (SAC/TC35/SC6) Focus on. This document is drafted by: Zhejiang Tianchen Rubber Industry Co., Ltd., China Petroleum and Natural Gas Co., Ltd. Petrochemical Research Institute, Hangzhou Zhouzhou Longju Synthetic Materials Co., Ltd., Rizhao Kumho Jinma Chemical Co., Ltd., BASF Paper Chemicals (Jiangsu) Co., Ltd. The main drafters of this document. Zhou Hongwei, Li Xiaoyin, Liu Peiyuan, Zhang Hongqiang, Ma Nan, Li Jiangnian, Liu Zhexin, Wu Yi, Hou Haiyun, Qian Wei. This document was first published in.2010, and this is the first revision.

1 Scope

China's national product standard for carboxylated styrene-butadiene rubber latex. It is Part 1 of GB/T 25260 and specifies the requirements, the test methods, the inspection rules and the marking, packaging, transport and storage of XSBRL. Carboxylated SBR latex is a binder rather than a rubber in the ordinary sense. Styrene-butadiene latex on its own is an adhesive polymer dispersion; adding a small proportion of an unsaturated carboxylic acid during polymerisation puts carboxyl groups on the particle surface, and those groups change the material completely. They stabilise the dispersion so it tolerates shear, electrolyte and freezing far better than the uncarboxylated form. They provide sites for crosslinking, so the dried film can be cured into a network. And above all they are polar and they bond: a carboxylated latex adheres to cellulose, to mineral pigment, to glass fibre and to metal in a way the plain polymer does not. That is why it is the binder in paper coating, where it holds the clay and calcium carbonate onto the sheet and gives the coated paper its strength and printability; in carpet backing, where it locks the tufts into the primary backing; in nonwovens; and in the impregnation of glass fibre products. The standard specifies what a converter needs to know: the total solids content, which determines the dosage and the drying load; the pH and the mechanical and chemical stability, since the latex is pumped, sheared and mixed with pigments and electrolytes; the viscosity; the particle size; the residual monomer; the coagulum and grit content, because a speck of coagulum is a defect on a coated sheet; and the surface tension. Issued on 30 December 2022 and in force since 1 July 2023, it replaces GB/T 25260.1-2010.

This document specifies the product designation, requirements, test methods, inspection rules, marks and accompanying documents of carboxylated styrene-butadiene latex (XSBRL). and packaging, transportation and storage. This document is applicable to paper and carpet products produced by emulsion polymerization with styrene, butadiene and unsaturated carboxylic acid as main monomers Carboxylated styrene-butadiene latex.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references For

documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 8170-2008 Numerical rounding off rules and expression and determination of limit values

GB/T 8298-2017 Determination of total solid content of latex

GB/T 18012-2021 Determination of latex pH value SH/T 1149 Sampling of synthetic rubber latex SH/T 1151.1-2019 Determination of Mechanical Stability of Synthetic Rubber Latex Part

1.High Speed Method SH/T 1152-2014 Determination of apparent viscosity of synthetic rubber latex SH/T 1153-2011 Determination of synthetic rubber latex coagulum content (sieve residue) SH/T 1156-2014 Determination of Surface Tension of Synthetic Rubber Latex SH/T 1608-2014 Determination of Calcium Ion Stability of Carboxylated SBR Latex SH/T 1760-2007 Determination of residual monomers and other organic components in synthetic rubber latex by capillary column gas chromatography direct liquid sampling method SH/T 1799-2016 Determination of glass transition temperature of synthetic rubber latex Differential scanning calorimetry (DSC) SH/T 1815-2017 Determination of residual monomers and other organic components in synthetic rubber latex by capillary column overhead gas chromatography

3 Terms and Definitions

This document does not have terms and definitions that need to be defined.

4 Product grades

The classification of carboxylated styrene-butadiene latex grades refers to SH/T 1500-1992, and the specific product grades and related regulations are as follows: