FORMAT FOR SYNOPSIS OF INDIAN STANDARDS

Number and Title of the Indian Standard:

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IS 17336 (Part 1):2019/ ISO 14362-1:2017 Textiles — Methods for determination of certain aromatic amines derived from azo colorants — Part 1: Detection of the use of certain azo colorants accessible with and without extracting the fibres

Scope:

This document describes a method to detect the use of certain azo colorants that may not be used in the manufacture or treatment of certain commodities made of textile fibres and that are accessible to reducing agent with and without extraction.

Azo colorants accessible to reducing agent without extraction are those used to colour with pigments or to dye

— cellulosic fibres (e.g. cotton, viscose),

— protein fibres (e.g. wool, silk), and

— synthetic fibres (e.g. polyamide, acrylic).

Azo colorants accessible with extraction are those used to dye man-made fibres with disperse dyes. The following man-made fibres can be dyed with disperse dyes: polyester, polyamide, acetate, triacetate, acrylic and chlorofibre.

The method is relevant for all coloured textiles, e.g. dyed, printed and coated textile.

a) Salient features of content:

After selection of a coloured test specimen from the textile article, the test specimen is tested according to the method of colorant extraction for disperse dyes and/or the method of direct reduction for the other classes of colorants (pigments and/or dyes).

The application of one of the two methods is based on the nature of the fibre(s) of the test specimen (composed of pure fibre or of fibre blends) and the colour treatment (dyeing or printing process). When the method of the colorant extraction for disperse dyes is carried out, the colorant is first extracted from the fibre in the headspace using xylene under reflux. The extract is concentrated and transferred to the reaction vessel with methanol for subsequent reduction with sodium dithionite in a citrate-buffered aqueous solution (pH = 6) at 70 °C.

If the textile specimen is not completely discoloured after xylene extraction, a new test specimen needs to be prepared again and reprocessed with the method for non-extractable classes of the colorants. When the method for non-extractable classes of the colorants is

carried out, the test specimen is treated with sodium dithionite in a citrate-buffered aqueous solution (pH = 6) at 70 °C in a closed vessel.

After the reduction, any amine released in the process is transferred to a *t*-butyl methyl ether phase by means of liquid-liquid extraction using diatomaceous earth columns. The *t*-butyl methyl ether extract is then concentrated, and the residue is taken up in an appropriate solvent for detection and determination of the amines using chromatography.

A screening method using liquid-liquid extraction without diatomaceous earth columns is also described in.

If any amine is detected by one chromatographic method, then confirmation shall be made using one or more alternative methods.

b) **Types/Grades/Classes, if any covered in the standard**: None