

SAFEGUARDS

SGS CONSUMER TESTING SERVICES

SOFTLINES

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NEW EUROPEAN STANDARD FOR DETERMINATION OF 4-AMINOAZOBENZENE RELEASED FROM CERTAIN AZO COLORANTS

EN 14362-3:2012 "Textiles – Methods for determination of certain aromatic amines derived from azo colorants. Part 3: Detection of the use of certain azo colorants, which may release 4-aminoazobenzene"^{1,2} was officially approved by the European Committee for Standardization (CEN) in June 2012. This new testing standard is currently available and will be adopted as a national standard at the latest by December 2012.

4-aminoazobenzene (CAS no.: 60-09-3) is classified as a substance known to be or suspected to be a human carcinogen. It is currently listed as one of the 22 legislated aromatic amines proscribed under Annex XVII in the EC REACH regulation. The legislated aromatic amines may not be used in items in concentrations larger than 30 mg/kg. Using EN 14362-1:2012³, 4-aminoazobenzene may be released from certain azo colorants by reductive cleavage and it will further cleavage into two non-forbidden primary aromatic amines: aniline and 1,4-phenylenediamine. Since these two primary aromatic amines may also be found during testing from other unrestricted azo colorants, therefore, the presence of 4-aminoazobenzene needs to be further verified to provide a conclusive result. This verification can be accomplished with the additional test method of EN 14362-3:2012.

EN 14362-3:2012 is a supplementary part to EN 14362-1:2012 and describes a special procedure to detect the use of certain azo colorants in textile fibres, which may release 4-aminoazobenzene. This test method is applicable to natural, man-made, regenerated and blended fibres.

Highlights of the test method EN 14362-3:2012 for sampling, extraction approach and detection & quantification are listed below:



¹ [European Committee for Standardization, Latest publication – June 2012](#)

² [European Committee for Standardization](#) and search for "Standard reference" – EN 14362-3

³ [Safeguard 054/12](#)

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SAMPLING

- Specimens of the various qualities (in terms of fibre and/or colour) shall be analyzed separately.
- The textile specimen is tested according to the method of the colorant extraction for disperse dyes and/or the method of the direct reduction for the other classes of the dyes (refer to EN 14362-1:2012).

EXTRACTION APPROACH

- The pre-extraction method on colorant extraction is depending on:
 - ⇒ Textiles only dyed with disperse dyes; or
 - ⇒ Textiles dyed with disperse dyes and/or other dyes; or
 - ⇒ Textiles dyed with dyes other than disperse dyes.

DETECTION AND QUANTIFICATION

- If 4-aminoazobenzene is detected by one chromatographic method, then confirmation shall be made using one or more alternative methods.
- The result is positive only if both methods give a positive result.



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