

ISO 17280:2015-05 (E)

Surface active agents - Determination of 1,4-dioxan residues in surfactants obtained from epoxyethane by gas chromatography

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Principle	1
4	Reagents	1
4.1	1,4-Dioxane, purity 99,5 % minimum	1
4.2	4-Methyl-1,3-dioxane, purity 98 % minimum	1
4.3	N, N-dimethylformamide (DMF)	1
4.4	Carrier gas: nitrogen or helium, purity 99,99 % minimum	2
5	Apparatus	2
5.1	Analytical balance, 0,1 mg readability	2
5.2	Gas chromatography system, attached with temperature programmed device and flame ionization detector (FID)	2
5.3	Head space sampling unit	2
5.4	20 ml crimped top glass vials, sealing pliers and sealing clamp suitable for head space unit	2
5.5	Septum and crimped tops, lined with aluminium or PTFE, for closing the vials	2
5.6	Sealing pliers, for the vials	2
5.7	Capillary column, capable of the separation characteristics shown in Figure 2	2
5.8	Volumetric flasks, 50 ml and 100 ml capacity	2
5.9	Gas tight syringes or glass pipettes, 1 ml \pm 0,01 ml capacity	2
6	Preparation of calibration solutions	2
6.1	Calibration solution A	2
6.2	Calibration solution B	3
7	Procedure	3
7.1	Preparation of the test sample	3
7.2	Standard addition procedure	3
7.2.1	Preparation of test sample solutions	3
7.2.2	Determination	4
7.2.3	Expression of results	4
7.3	Relative response factor procedure	4
7.3.1	Determination of relative response factor	4
7.3.2	Preparation of test sample solutions	5
7.3.3	Determination	5
7.3.4	Expression of results	5
8	Chromatographic conditions	5
9	Evaluation	6
9.1	General	6
9.2	Identification	7
9.3	Calculation	7
10	Precision	7

10.1	Repeatability limit	7
10.2	Reproducibility limit	7
11	Test report	7
Annex A (informative) Statistical data from the ring carried out		8