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Product Data Sheet: dry alcohol standards

Dry alcohol standards (DAS) are used for calibrating or checking the accuracy of breath alcohol testing instruments. They are made to order to any required value.

They have a minimum shelf life of 1 year when stored in a cool, dry place. DAS are non-flammable.

The DAS are made up of molecular sieve impregnated with ethanol (*specification right*). There is also a preservative present to enhance the life of the simulator solution. The charge is housed in an airtight screwtop container which is labelled with the batch number, expiration date and resulting alcohol concentration when mixed with 500 millilitres of local water. A tamper-proof security seal is fitted to the lid.

Equipment needed

500 ml volumetric flask, simulator, supply of DAS.

Preparation of the standard solution

1. Take the 500 ml volumetric flask and fill it to the line with deionised, distilled or tap water. The water should be close to 20C.
2. Empty this into a dry simulator jar.
3. Remove the cap from the DAS bottle and pour ALL of the pellets into the simulator jar.
4. Remount the simulator top and tighten it down.
5. Turn the power on and allow the solution to reach working temperature and be stirred for at least a further hour.

The solution should then be ready for use and supply the stated vapour value.

Ethanol 99.7–100% v/v ("absolute") 'AnalaR'

C ₂ H ₅ OH	M.W.46.07
Minimum assay	99.8 (w/w) %
Identity	By IR spectrum
<i>Maximum Limits of Impurities</i>	
Colour	10 Hazen units
Water	0.2%
Acidity (CH ₃ COOH)	0.0006%
Alkalinity (NH ₃)	0.0002%
Non-volatile matter	0.001%
Acetone [(CH ₃) ₂ CO]	0.001%
Aldehydes and ketones (CH ₃ CHO)	0.001%
iso-Amyl alcohol [(CH ₃) ₂ CH(CH ₂) ₂ OH]	0.05%
Furfuraldehyde (C ₅ H ₄ O ₂)	0.001%
Fusel oil	Passes test
Higher alcohols (standard mixture)	0.02%
Methanol (CH ₃ OH)	0.01%
Propan-2-ol [(CH ₃) ₂ CHOH]	0.003%
Aluminium (Al)	0.00001%
Barium (Ba)	0.000002%
Cadmium (Cd)	0.000005%
Calcium (Ca)	0.00005%
Chromium (Cr)	0.000002%
Cobalt (Co)	0.000002%
Copper (Cu)	0.000002%
Iron (Fe)	0.00001%
Lead (Pb)	0.000005%
Magnesium (Mg)	0.000005%
Manganese (Mn)	0.000002%
Nickel (Ni)	0.000002%
Potassium (K)	0.00001%
Sodium (Na)	0.00005%
Strontium (Sr)	0.000002%
Tin (Sn)	0.00001%
Zinc (Zn)	0.00001%
Substances darkened by sulphuric acid	Passes test
Substances reducing permanganate (O)	0.0003%

Also complies with BS 6376: Part 2: 1984 (ISO 6353/2-1983) and with the corresponding ACS specification

18 March 2013



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