

Free formaldehyde in textiles



The textile industry is a sector with an important weight in the world economy and has a strong impact on employment in the countries where it is established.



The processes of production of fibres (both natural and synthetic), yarns, fabrics and products related to the manufacture of clothes use compounds and additives that must be controlled.

Formaldehyde

Formaldehyde, the smallest existing aldehyde (CH_2O), is widely used as a bactericide and preservative in the production of clothing (main source) and cosmetics. But formaldehyde is also an allergen which in contact with human skin can develop dermatitis problems. This is why it is necessary to control free formaldehyde levels in textiles.

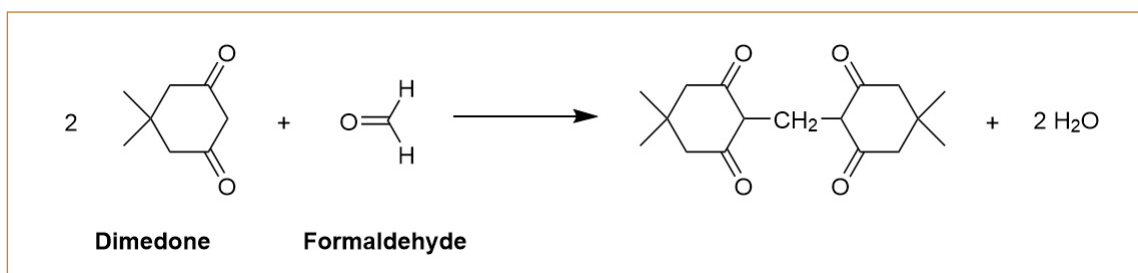
The ISO 14184-1: 2011 regulation specifies a method for determining the amount of free formaldehyde and formaldehyde partially extracted by hydrolysis, in a range of 16 mg/kg to 3500 mg/kg.

Formaldehyde from a textile sample is extracted with water at 40 °C. The amount of formaldehyde is determined by colorimetry.

Dimedone (DI0840), the aldehyde reagent

Dimedone reacts quantitatively with aldehydes, forming aldol condensation products. These derivatives are very valuable for the identification and characterisation of aldehydes. The dimedone derivative of formaldehyde is formed with quantitative yield and is very useful for the titration of free formaldehyde.

Scharlab offers Dimedone ExpertQ® (DI0840) in analytical quality for accurate and reproducible results.



The dimedone solution is prepared by dissolving the reagent in absolute ethanol. This solution must be prepared immediately before use.

Ordering information:

Scharlab supplies all the necessary material as stated by the ISO 14184-1:2011 regulation, including chemical reagents, solvents, glassware and instrumentation, for the determination of free formaldehyde in textile samples.

Description	Packaging	Art. No.
CHEMISTRY*		
Dimedone, ExpertQ®, for analysis	-	DI0840
Ethanol absolute, ExpertQ®, for analysis, ACS, ISO	-	ET0005
Ammonium acetate, ExpertQ®, for analysis, ACS, Reag. Ph Eur	-	AM0254
Acetic acid glacial, ExpertQ®, for analysis, ACS, ISO, Reag. Ph Eur	-	AC0344
Acetylacetone, EssentQ®	-	AC0220
Formaldehyde, solution 37% p/p, ExpertQ®, for analysis	-	FO0011
GLASSWARE		
Erlenmeyer flask, narrow neck, Ø22 mm, 50 ml	1 u	0033567304
Erlenmeyer flask, narrow neck, Ø34 mm, 250 ml	1 u	0033527308
Erlenmeyer flask, narrow neck, Ø34 mm, 500 ml	1 u	0033527311
Erlenmeyer flask, narrow neck, Ø42 mm, 1 l	1 u	0033527314
Erlenmeyer flask with screw joint, 250 ml	1 u	073S000140
Volumetric pipette, 1 mark, 1 ml, Class AS	5 u	073-991676
Volumetric pipette, 1 mark, 5 ml, Class AS	5 u	073-991678
Volumetric pipette, 1 mark, 10 ml, Class AS	5 u	073-991679
Volumetric pipette, 1 mark, 25 ml, Class AS	5 u	073-991682
Graduated pipette, 5 ml, Class AS	5 u	073-991719
Straight burette, conical PTFE stopcock, 10 ml	1 u	073-001520
Straight burette, conical PTFE stopcock, 50 ml	1 u	073-001522
INSTRUMENTATION		
Spectrophotometer Jenway 7200, visible 335-800 nm	1 u	021-720001
Macro-Cell, 6030-OG, optical glass, 3.5 ml	1 u	048-200400
Water bath WB22, 22 l, Max Temp 100 °C	1 u	074-G-WB22
Analytical balance ABS 80-4N, capacity 80 g, readability 0.1 mg	1 u	00ABS80-4N

→ *Different packagings and capacities available.

