Specification

Formaldehyde solution 37 % for molecular biology A0877

Physical Description:	Liquid
Product Code:	A0877
Product Name:	Formaldehyde solution 37 % for molecular biology
Headline Comment:	• **Attention**: All solutions of formaldehyde may contain a precipitate. This has no influence on the application.
Specifications:	DNases/RNases/Proteases: not detectable Assay (titr.): min. 37 % Acidic react. subst.: max. 0.05 % Sulfated ash: max. 0.005 % Methanol: 8 - 10 % Chloride: max. 0.0005 % Sulfate: max. 0.002 % Fe: max. 0.0005 % Pb: max. 0.0005 %
Hazard pictograms	
UN:	2209
Class/PG:	8/III
ADR:	8/III
IMDG:	8/III
IATA:	8/III
WGK:	2
Storage:	RT

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Signal Word:	Danger
GHS Symbols:	GHS05 GHS06 GHS08
H Phrases:	H301+H311+H331 H314 H317 H335 H341 H350 H370
P Phrases:	P201 P260 P280 P305+P351+P338 P310 P403+P233
Molecular Formula:	CH_2O
M:	30.03 g/mol
CAS:	50-00-0
EINECS:	200-001-8
CS:	29121100
Index Nr.:	605-001-00-5

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Comment

For the northern blot analysis, RNA is separated in formaldehyde-containing, denaturing agarose gels (1, 2). The agarose gel contains 2.2 M formaldehyde. DNA fragments of the same size as RNA fragments migrate more slowly through the formaldehyde-agarose gels than RNA. Therefore, DNA size markers cannot be used, if unknown RNA species are examined. Formaldehyde-containing gels are softer than normal gels - take care if handling the gel (2).Formaldehyde may irreversibly cross-link proteins / proteins and proteins / DNA, making it a good tool for the examination of protein / DNA interactions. Buffers for these experiments shall not contain primary or secondary amines, because they will be cross-linked to lysine residues in the protein, too. Triethanolamine, Hepes or phosphate are the buffers of choice (3).**Caution**\: Formaldehyde fumes are toxic. Solutions containing formaldehyde shall be handled in a chemical fume hood. Run the gel under a fume hood and cover the gel apparatus where possible (2).As an **alternative** to the toxic formaldehyde, guanidinium thiocyanate may be applied for Northern blotting (4). A final concentration of 20 mM is sufficient to denature RNA in the agarose gel (see A1107 for GuaSCN).

Bibliography

(1)Rave, N. *et al.* (1979) *Nucleic Acids Res.* **6**, 3559-3567Identification of prokollagen mRNA after transfer from formaldehyde agarose gels. (2)Sambrook, J. & Russel, D.W. (2001) *Molecular Cloning**:* A Laboratory Manual. 3rd Edition; Pages 7.31-7.34. Cold Spring Harbor Laboratory Press. Cold Spring Harbor, New York. (3)Jackson, V (1999) *Methods. Companion Methods Enzymol.* **17**, 125-139Formaldehyde Cross-Linking. (4)Goda, S.K. & Minton, N.P. (1995) *Nucleic Acids Res.* **23**, 3357-3358A simple procedure for gel electrophoresis and Northern blotting of RNA.

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