Fixatives and Related Chemicals

Alcian Blue 8GX

Improves preservation of intracellular substances when added to glutaraldehyde.
Behnke & Zelander, J.Ultrastruct. Res., 31, 424 (1970)

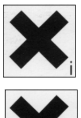
25g

Formaldehyde EM - 36% w/v

This preparation has a minimum methanol content consistent with stability. M.W. 30.03
Important: do not refrigerate, at temperatures below 25°C a white precipitate – polymer of formaldehyde – may form.

F003	**100ml**
F006	**500ml**
F007	**2.5ltr**

Formaldehyde, 16% w/v Methanol Free

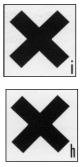


(Paraformaldehyde) – methanol free solution. A more efficient and rapid fixative used in combination with Glutaraldehyde and Acrolein fixatives, will fix delicate tissue such as brain in vascular perfusion. Ultra pure formaldehyde avoids the problem of depolymerising paraformaldehyde. It can be used in the Karnovsky method in conjunction with a buffer of choice.

F017	**10 x 10ml**
F017/1	**1ltr**
F017/2	**10 x 5ml**
F017/3	**10 x 2ml**

Concentrations of 20%, 32% and 40% available on request

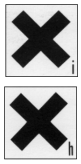
Formaldehyde/Zinc Ready to Use



A fixative designed for routine use, denaturing tissue specimens and achieving cellular rigidity without over hardening. Formalin/zinc retards protein crosslinking responsible for masking the immunocytochemistry antigenic binding sites. Will give excellent results with H & E, special stains and immunocytochemical reactions. Active ingredient 3.7% formaldehyde.

F019	**500ml**
F019/1	**1 litre**
F019/2	**2.5 litre**

Formalin 10% v/v



A low phosphate 10% (v/v) formaldehyde solution phosphate buffered at pH 7.0± 0.1 (25°C). Offers easy handling, consistent tissue penetration and fixation and compliments our other low methanol and methanol free fixatives.
Available in easy-carry 20 litre packs.

F018 **20ltr**

Glutaraldehyde

Introduced as a primary fixative, glutaraldehyde has been one of the more important technical advances made in the EM of biological materials. In some cases its use has led to images of structures that differ significantly from those obtained with osmium tetroxide fixation and accord better with the known physiology of the plant cell system studied.
TAAB offer 3 grades of material:
Practical grade for general fixation
EM grade for use in electron microscopy –with the following advantages:

- Actual glutaraldehyde content recorded on each bottle
- Stable for over 6 months
- pH 5 to 6
- Treatment with barium carbonate unnecessary
- Low buffer requirements
- Excellent fixative and is less inhibitory towards enzymes

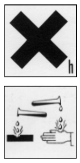
Vacuum distilled grade is purified by vacuum glass distillation to remove all polymerised material – there is no UV absorption at 235nm. It is packed in neutral glass under nitrogen for best results with enzyme histochemistry. Any distilled glutaraldehyde is relatively unstable, in particular 70%, and it has a high risk of polymerising if it is not handled properly. It is therefore recommended that material is only purchased for use within a 3 to 4 week period and carefully stored at 4°C without continued defrosting and recapping.
Unless it is imperative that material without an absorption of 235nm is required, we strongly recommend the use of TAAB's very high quality EM grade material, eminently suitable for use in cross-linking techniques, which has a stability of over 6 months at a fraction of the cost of distilled material.

Practical 25% Glutaraldehyde

This practical grade is suitable for general fixation, has a pH of approximately 3.5

G005	**500ml**
G005/1	**2.5ltr.**

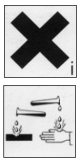
Practical 50% Glutaraldehyde



This practical grade is suitable for general fixation and has a pH of approximately 3.5

G006	**500ml**
G006/1	**2.5ltr.**

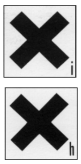
EM 50% Glutaraldehyde



A new introduction into the TAAB range, this material has the same excellent properties as the highly renowned 25% strength material.

G044	500ml
G045	100ml

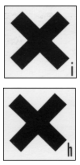
EM 25% Glutaraldehyde



A high quality preparation specifically for use in electron microscopy.

G002	500ml
G002/1	2.5ltr.
G003	250ml
G004	100ml
G011	10 x 10ml
G011/1	5 x 10ml
G011/2	10 x 2ml
G011/3	10 x 5ml

EM 8% Glutaraldehyde

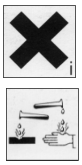


Has the same excellent properties as the 25% EM grade.

G010	10 x 10ml
G010/1	5 x 10ml

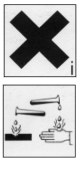
Distilled Glutaraldehyde

Distilled 70% Glutaraldehyde



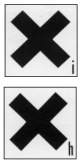
G012	10 x 10ml
G012/1	5 x 10ml
G013	10 x 2ml

Distilled 50% Glutaraldehyde



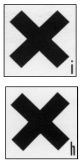
G014	10 x 10ml
G014/1	5 x 10ml
G014/2	100ml
G014/3	500ml
G015	10 x 2ml

Distilled 25% Glutaraldehyde



G016	100ml
G016/1	500ml
G017	10 x 10ml
G017/1	5 x 10ml

Distilled 8% Glutaraldehyde



G018	10 x 10ml
G018/1	5 x 10ml
G018/2	10 x 2ml

Osmium Tetroxide EM

TAAB's Osmium Tetroxide has a purity of at least **99.9%.** M.W.254.20 Osmium tetroxide is a pale yellow solid with a characteristic pungent chlorine-like odour. The crystals melt at 40^{0}C and have a solubility in cold water of 5.07%. Vapour pressure at room temperature is considerable and the vapour is extremely toxic.

To avoid exposure to osmium vapour it is *recommended* to use **TAAB's** ready prepared, filtered solution, available in **4%, 2% or 1% w/v solutions** in either ampoules or the very convenient screw top bottles, ideal for dispensing " a drop at a time".

Osmium fixatives in any form must always be handled in a fume hood, and skin contact must be avoided at all times. The primary use of osmium tetroxide in EM is as a reliable fixative. It does however, stain membranous structures, the Golgi complex and multivesicular bodies, which is a major advantage over most other fixatives.

Crystals

Dispersed Osmium

Osmium tetroxide crystals specially prepared as a thin layer within the glass vial to increase surface area and thus speed considerably the dissolving process. A real time saver unique to TAAB and ***at no extra cost***.

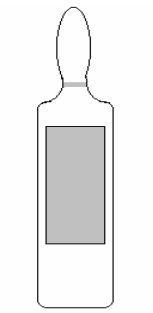
Please add suffix **/D** to existing product numbers

O001	1g
O001/10	10 x 1g
O002	500mg
O003	200mg
O004	100mg
O017	250mg

Phone: +44 (0) 118 981 7775 Fax: +44 (0) 118 981 7881 E-mail: sales@taab.co.uk

Osmium Tetroxide EM Solution

Ampoules



4% Aqueous Solution

O014	5 x 5ml
O018	5 x 2ml
O020	5 x 10ml
O021	10 x 10ml

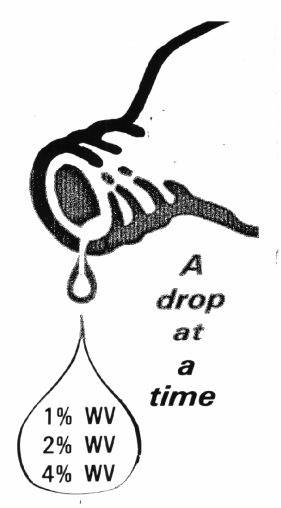
2% Aqueous Solution

O015	5 x 5ml
O015/1	10 x 5ml
O018/1	5 x 2ml

1% Aqueous Solution

O016	5 x 5ml
O016/1	1 x 10ml

Bottles



4% Aqueous Solution

O011	100ml
O012	50ml
O013	25ml

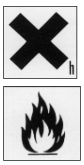
2% Aqueous Solution

O005	100ml
O006	50ml
O007	25ml

1% Aqueous Solution

O008	100ml
O009	50ml
O010	25ml

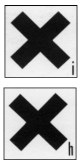
Paraformaldehyde EM



A high quality product prepared for EM, it is supplied as a white free flowing solid prill with a Paraformaldehyde content **greater** than 96.5%. A fast penetrating EM fixative used in conjunction with Glutaraldehyde, Acrolein and Osmium Tetroxide.
Karnovsky, J. Cell Biol. 27 137A, (1965).

P001	500g
P001/1	100g
P026	250g

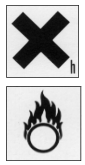
Potassium Dichromate EM



Purity 99.9% minimum
Luft, J. Biophys. Biochem. Cytol., 2, 799 (1956)
Mollenhauer, J. Biophys. Biochem. Cytol., 6, 431 (1959)

P023	500g

Potassium Permanganate



Metal stain.
J.Ultrastruct. Res. 21, 424 (1968)
Histochem 16, 45 (1968)

P019	100g

Ruthenium Tetroxide

0.5% Stabilised Aqueous Solution
Ruthenium tetroxide is very similar to Osmium tetroxide and is used as an EM fixative giving excellent staining of saturated and unsaturated polymer materials with improved image contrast. RuO_4 also has a stabilising effect against electron beam damage of material films.
Note:Penetration of ruthenium tetroxide into tissue is poor

R013	5 x 10ml
R013/1	1 x 10ml

Note
Occasionally, black rings may be seen at the tip of ampoules due to oxidation of the vapours during sealing. This has no effect on the remaining material nor on the effectiveness of the fixation.

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