E080 SPURR Embedding Kit GCC Diagnostics

General & useage information

Spurr Low Viscosity Embedding Kit.
For superior penetration of sample material.
Ease of mixing. Less viscous than Epons or Araldites. Short cure time. Controllable hardness by changing the amount of flexibiliser
(DER 736) in the mixture. Ease of sectioning (glass or diamond knives) and sections are tough under the electron beam. Mounted on 200 mesh grids without supporting membrane.

Storage:
Store kit components at cool room temperature in darkened cupboard away from sources of ignition.
After preparing mixed embedding medium, this can be stored frozen for several months and protected from moisture
by storing in capped disposable syringes which are then placed in a well sealed container with self-indicating silica gel to absorb
remaining moinsture. Check periodically and change silica gel if required.

Components

Vinyl cyclohexene dioxide (ERL 4206)	45gm	Nonenyl succinic anhydride (NSA)	110 gm
DER 736 Resin	40gm	Dimethylaminoethanol (DMAE)	5 gm

No additional reagents required.

Formulations, methods & results.

	Firm Standard	Hard	Soft	Longer pot life Lower viscosity
ERL4206	10 gm	10 gm	10 gm	10 gm
DER 736	6 gm	4 gm	8 gm	6 gm
NSA	26 gm	26 gm	26 gm	26 gm
DMAE	0.3 gm	0.3 gm	0.3 gm	0.2 gm
Cure time at 70 C	8 hours	8 hours	8 hours	16 hours
Pot life (ambient temp)	3-4 days	3-4 days		3-4 days
7 days				

Add each component in turn to a disposable plastic beaker. Weigh out the exact weight, great care must be taken in weighing out the
final amounts of each component so that no excess is added.
The catalyst DMAE should be added last, after gentle mixing of the other three reagents.
The final mixture should be mixed thoroughly.

This mixture can now be used immediately for infiltration and then embedding or stored as detailed above.

Dehydration – Infiltration & polymerisation.

This embedding media is compatible with acetone, ethanol, propan-2-ol,ter-butyl alcohol, dioxane, hexylene glycol, propylene oxide these reagents must be moisture free. Dehydration schedule should be prepared by the laboratory.
All dehydrating reagent must be completely removed during infiltration, if not it will affect curing.

Infiltrate using the complete resin mixture . Continuously agitate the mixture on a laboratory shaker during infiltration at room temperature or -
Adda portion of the complete resin mixture to an equal quantity (1:1) of the dehydrating fluid used & add the tissue. Agitate the mix and allow to stand for 30mins – 2 hours.
Replace mix with 1:3 dehydrating liquid / resin mixture, swirl and allow to stand for 30 mins – 2 hours.
Discard mix and replace with pure resin mixture , swirl and allow tissue to stand in this mix 4-6 hours for small specimens or overnight for larger specimens.

Place samples in flat embedding mould or capsules containing the pure resin mixture .Place identification code on mould or capsule.
Set oven carefully and equilibrate to 70 Deg C. Gently place samples in the oven and cure overnight 8-16 hours.

Reference : Spurr. A R. J. Ultrastructure Res 26,311 (1969)

No quality control required

Material safety data section

All components in this kit are for use only as an " In-vitro diagnostic reagent". Standard precautions in the handling of laboratory reagents should be observed at all times. Do not eat/drink/smoke when using these products. Do not consume the reagents in this kit.

In all cases of contact wash skin with soap & water, or if in contact with eyes apply eye batch and seek immediate medical help on what treatment to administer. If inhaled and you feel unwell, move to a clear air zone & seek immediate medical help on what treatment to administer. Show this sheet.

ERL 4206 has a MW of 140.18 and an expoxide equivelant of 74-78. Its viscosity is 7.8 cP. ERL 4206 is a known carcinogen and Toxic. It is irritating to eyes, skin and respiratory system. Harmful. Danger of serious damage to health by prolonged exposure through inhalation & contact with skin. Use in a ventilated hood only. Wear full eyes, skin and respiratory protection in use. See above.

NSA is a hardener with a viscosity of 102.8 cP at 25 C and a MW (min) 227.00. A minimum exposure to air is recommended to avoid hydrolysis. Irritating to eyes/ skin & respiratory system. Use in a ventilated hood and wear full eyes/skin and respiratory protection in use. See above.

DER 736 is diglycidyl ether of polpropylene glycol, a flexibiliser to control the hardness of the polymerised block. Viscosity 30-60 cP at 25 C. Harmful / irritating in contact with eyes/skin and if swallowed. See above.

DMAE – Dimethylaminoethanol is an accelerator. Keep away from sources of ignition. Highly Flammable. Irritant to eyes/skin & respiratory system. See above.

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Waste disposal :

The reagents in this kit should not be placed in the environment. Any residual product should be disposed of by a licensed waste disposal contractor.
Clean packaging should be recycled as polyethylene, glass paper & cardboard.

Unsatisfactory performance
As part of our duty to monitor product performance and our policy of continual improvement. Please report to us any unsatisfactory performance you may experience with this product. If any reagent degrades before expiry of shelf life we will replace that reagent free of charge. GCC Diagnostics guarantees the quality of this product, the user should however determine
the suitability of this product for their intended use.

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