

Subject:

ORTH'S SOLUTION

PURPOSE: Used for the demonstration of chromaffin (chromate-loving) granules in the cytoplasm of adrenal medulla. This demonstration may be important in the diagnosis of a pheochromocytoma. Not a good general purpose fixative.

PRINCIPLE: The chromaffin granules are colored orange to brown by chromate, the reaction is most intense at a pH of 5 to 6.

REAGENTS:

Orth's Stock Solution:

Potassium dichromate 25.0 gm
Sodium sulfate 10.0 gm
Distilled water 1000.0 ml

Orth's Working:

Orth's Stock Solution 50.0 ml
Just before use, add:
Formaldehyde, 37% 5.0 ml

Mix well, label and date.

**CAUTION: CARCINOGEN,
CORROSIVE**

Fix for 24 hours, after fixation specimen must be washed in water. Store fixed specimen in 70% alcohol.

SAFETY/PPE: Wear gloves, goggles and lab coat. Work in well ventilated area. Potassium dichromate: toxic by inhalation of dust and by ingestion; target organ effects on reproductive and fetal systems. Solid form is corrosive to eyes, skin and mucous membranes.

Formaldehyde: severe eye and skin irritant. Sensitizer by skin and respiratory contact. Toxic by ingestion and inhalation. Target organ effects on respiratory system. Corrosive. Carcinogen.

Label with FORMALDEHYDE WARNING label.

REFERENCE:

Carson,F; Histotechnology: A Self-Instructional Text, 1st Ed, 1990, p. 20-21, ASCP Press, Chicago
Sheehan,D, Hrapchak, B, Theory and Practice of Histotechnology, 2nd Ed, 1980, p. 47, Lipshaw
Fredenburgh, J, Grizzle, William, Safety and Compliance in the Histology Laboratory: Biohazards To Toxic Chemicals, NSH Workshop, 1993.

Prepared: _____ By: _____

Approved: _____ By: _____

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