KODAK FORMULA D-19 HIGH-CONTRAST NEGATIVE DEVELOPER

	Metric	UK Avoirdupois	US Avoirdupois
ELON Developing Agent	2 grammes	70 grains	30 grains
Sodium sulphite (anhyd.)	90 grammes	7 ounces 90 grains	3 ounces
Hydroquinone	8 grammes	280 grains	115 grains
Sodium carbonate (anhyd.)	45 grammes	3 ounces 265 grains	—
Sodium carbonate (monohydrate)	—	—	1¾ ounces
Potassium bromide	5 grammes	175 grains	75 grains
Water to make	1 litre	80 UK fluid ounces	32 US fluid ounces

If sufficient exposure has been given, optimum resolution will be obtained with this emulsion by developing for not longer than 5 minutes at 20 °C (68 °F). However, when the amount of exposure is doubtful, longer developing times may be needed to increase the effective emulsion speed. The emulsion is so clean working that developing times of up to 20–30 minutes can be used, giving a substantial increase in effective speed with some sacrifice of resolution.

RINSING: To remove any excess developer, immerse for not less than 30 seconds in a bath of clean water at 18 °–21 °C (64 °–70 °F).

FIXING: Fix at 18 °–21 °C (64 °–70 °F) in a solution of KODAK 'Metafix' Powder or a solution made up according to Kodak formula F-24. In areas having soft water supplies, some users have found it necessary to use an acid hardening fixer, such as KODAK 'Unifix' Powder or a solution made up according to Kodak formula F-5.

(For formulae F-5 and F-24, see Kodak Data Sheet FY-4).

WASHING: The preparation should be washed in running water for 5 minutes. Dry in a dust-free atmosphere.

RESOLUTION: The resolution obtainable in autoradiographs depends, apart from the processing conditions, largely on the thickness of the specimen. It is therefore advisable, if the specimen contains sufficient radioactive material, to use sections not exceeding 10 micrometres in thickness, and even less if possible.

STAINING TECHNIQUE: At a London hospital, good results were obtained, with this emulsion, by staining rat thyroid through the gelatin layer with Ehrlich's acid haematoxylin for 15–20 minutes, and differentiating in 1% aqueous hydrochloric acid.

For further information see – S.R. Pelc, *The Stripping Film Technique of Autoradiography,* International Journal for Applied Radiation and Isotopes, Vol. 1, No. 3, November 1956, pp. 172–177.

Further information on these plates and on autoradiography may be obtained from Kodak Data Sheet SC-10.

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