TI1823 Revised 4-94

KODAK INSIGHT Thoracic Imaging Film / 4319

1) Description

KODAK INSIGHT Thoracic Imaging Film / 4319 is a high speed, ortho-sensitive medical x-ray film for use with special asymmetrical green emitting intensifying screens. INSIGHT Film has asymmetrical T-grain emulsion technology with absorbing dyes that reduce screen-light crossover to zero. This film features improved static protection. When used as designed with KODAK INSIGHT Thoracic Imaging Screens, KODAK INSIGHT Thoracic Imaging Film / 4319 is slighlty slower (12%) than KODAK Ortho C Film / 4511 using KODAK LANEX Medium Screens, yet exhibits improved visualization of mediastinum, retrocardiac, and retrodiaphragmatic areas while yielding improved resolution of fine detail on both lung field and bony structures. It is processable in existing automated processing cycles.

This asymmetrical product is designed to be used with a specific film-screen orientation, which is facilitated by both a notch in the film and a special dye in one emulsion of the film. When the notch is in the upper right hand corner of the film, the "C" Emulsion is facing up. This emulsion must be in contact with the back, or non-tube side intensifying screen. The opposite emulsion, or "G" Emulsion, contains a special dye for darkroom identification, and must be in contact with the front, or tube side screen.

2) Safelight

Use a KODAK GBX-2 Safelight Filter with a frosted 15-watt bulb located at least 4 feet from the film.

Latensification: Safelight exposure after primary x-ray exposure.

Hypersensitization: Safelight exposure before primary x-ray exposure.

3) Storage and Handling

Handling -
Hands must be clean, dry and free of lotions, etc. Film should be handled carefully by the edges to avoid physical strains such as pressure, creasing, or buckling.

Storage -
Store unexposed film at 50 to 70 F (10 to 20 C), at 30 to 50 percent RH, and properly shielded from x-rays, gamma rays, or other penetrating radiation. Keep exposed film in a cool, dry place that is properly shielded from penetrating radiation. Process as soon as possible after exposure. Processed film should be stored at 60 to 80 F (16 to 27 C), at 30 to 50 percent RH.

4) Sensitometric Parameters

Relative Speed:	Measured at a density of 1.00 above gross fog.
Lower Scale Contrast:	Measured as slope of the line between densities of 0.25 and 1.00 above gross fog.
Upper Scale Contrast:	Measured as slope of the line between densities of 1.15 and 2.50 above gross fog.
Gross Fog:	Density of film base plus processing fog.

5) Process Variations

Changes to speed, contrast, and fog as a result of temperature variation from normal are included in GRAPHS Section.

6) Intermix

This film can be processed with intermixes of common medical x-ray films.

Variations of bromide and iodide ions in KODAK RP X-OMAT Developer cause sensitometric speed effects that are significantly different for T-MAT Films than for conventional films; GRAPH included.

Some soiling and discoloration of the rollers of automatic processor developer racks may occur when KODAK INSIGHT Film is introduced into a film intermix.

7) Automated Processing

Processors -
The following processors are recommended with KODAK RP X-OMAT Chemicals using the standard process cycle:

KODAK RP X-OMAT Processor, Model M7 Series

KODAK X-OMAT Processor, Model M4 Series

KODAK RP X-OMAT Processor, Model M8

KODAK X-OMAT M20 and M35 Processor

KODAK RP X-OMAT Processors, Models M5, M6

8) Emergency Manual Processing

(Not recommended for regular use, but can be used when automated processor fails)

Solution/Step	Temperature	Time	Agitation
KODAK RP X-OMAT Developer working solution	80 F (26.5 C)	1 min	No agitation. Tap hanger immediately after immersion to remove film surface air bubbles.
KODAK Indicator Stop Bath OR Running Water Rinse	80 F (26.5 C)	20 sec	Continuous, moderate
KODAK RP X-OMAT X-OMAT Fixer and Replenisher	80 F (26.5 C)	1 min	Vigorous at start
Running water wash[1] (8 volume changes/hour)	80 F (26.5 C)	5 min	—-
Dry	120 F (49 C)	—-	—-

[1] KODAK PHOTO-FLO Solution may be used after washing to minimize water spots and drying marks.

NOTICE! Observe precautionary information on product labels and on the Material Safety Data Sheets.

9) Image Structure

Diffuse rms Granularity -
GRAPH included; read at net diffuse visual densities from 0.5 to 2.0, 48-micrometre aperture.

10) Graphs[1]

Characteristic:

A) RP X-OMAT Chemicals (10-91)
B) RP X-OMAT Developer, Temperature Series (9-90)

Reciprocity:

C) (10-90)

Process Variations from Normal Processing Temperature:

D) Speed (9-90)
E) Contrast (9-90)
F) Fog (9-90)

rms Granularity:

G) (12-90)

Safelight Sensitivity:

H) (9-90)

[1]NOTICE: While the data presented are typical of production coatings, they do not represent standards that must be met by Kodak. Varying storage, exposure, and processing conditions will affect results. The company reserves the right to change and improve product characteristics at any time.

Drying:

I) (9-90)

Spectral Sensitivity:

J) (9-90)

Bromide Effects:

K) (9-90)

NOTE: The Kodak materials described in this publication for use with KODAK INSIGHT Thoracic Imaging Film / 4319 are available from dealers who supply Kodak products. You can use other materials, but you may not obtain similar results.

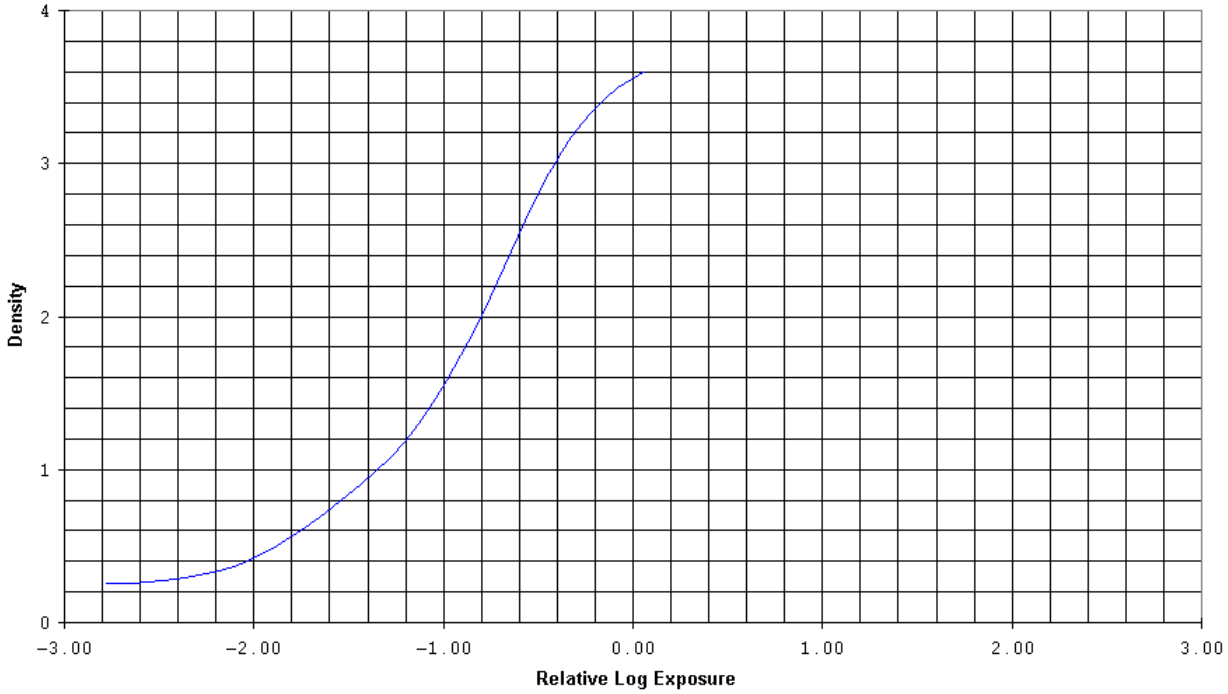
The contents of this publication are subject to change without notice.

Health Imaging
EASTMAN KODAK COMPANY - Rochester, NY 14650

End of Data Sheet

TI1823A 10-91
CHARACTERISTIC, For Publication

KODAK InSight Thoracic Imaging Film/4319
1/25 second Simulated Green Screen Exposure
Seasoned KODAK RP X-OMAT Chemicals, 95 F (35 C); KODAK RP X-OMAT Processor M6;
Diffuse Visual Densitometry



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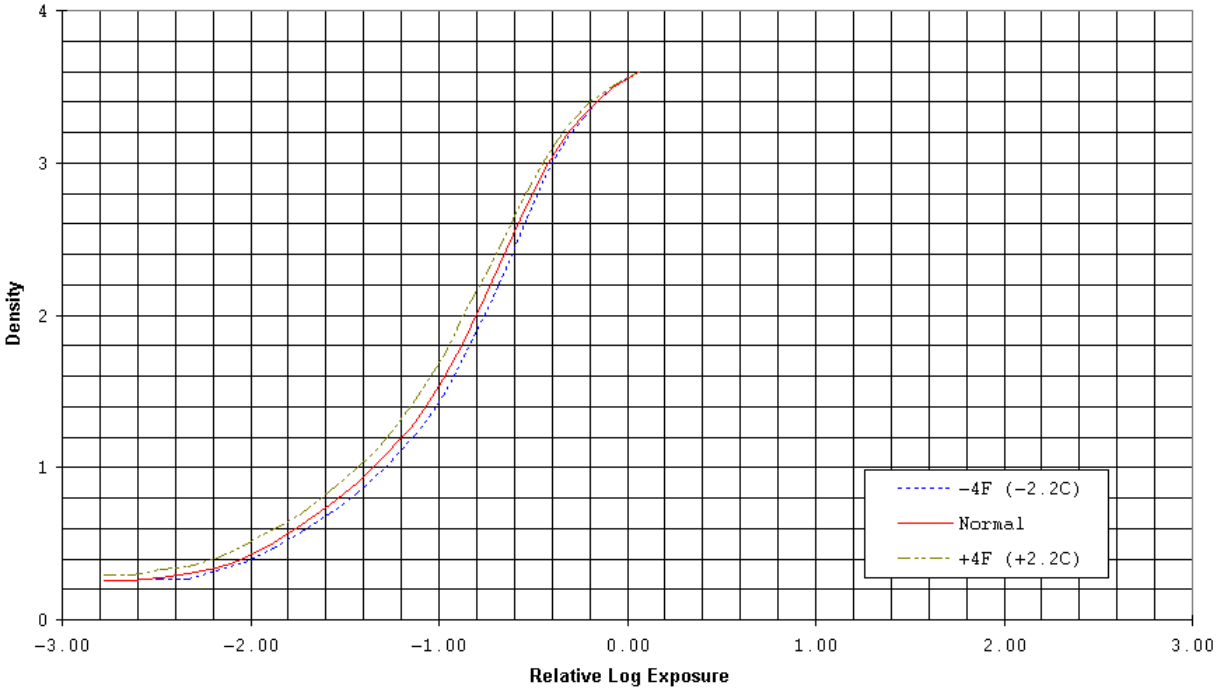
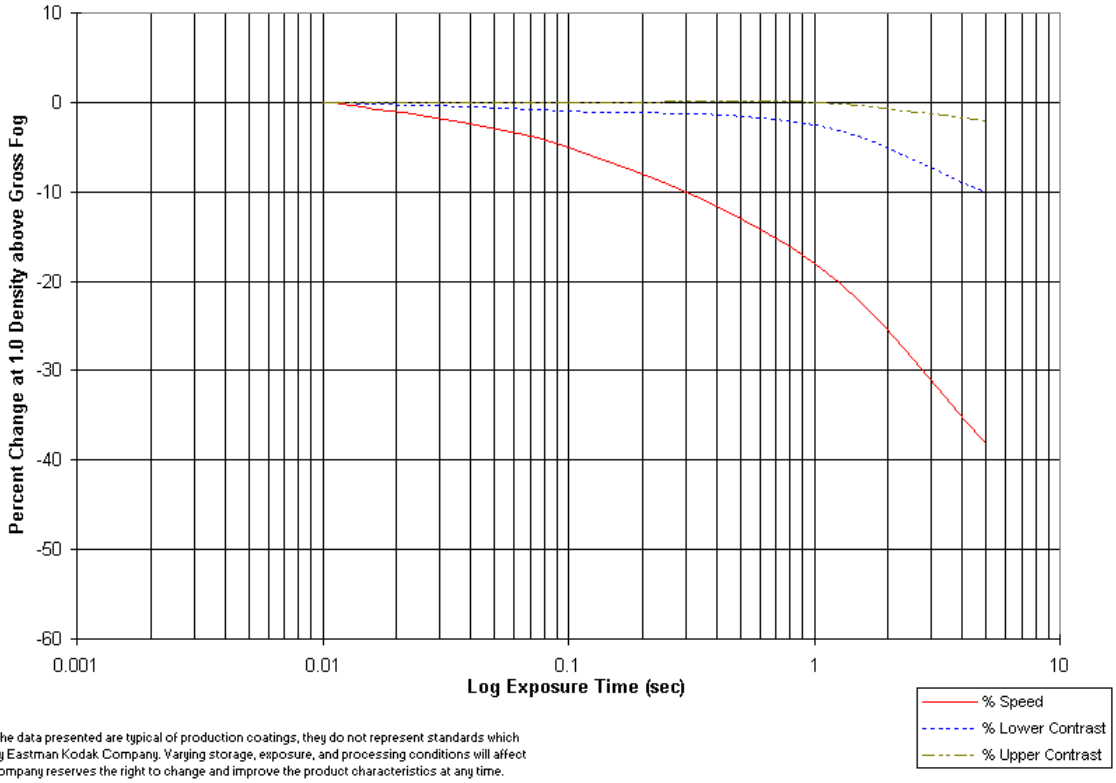
TI1823B 11-90
CHARACTERISTIC, For Publication

KODAK InSight Thoracic Imaging Film/4319
1/25 second Simulated Green Screen;
KODAK RP X-OMAT Chemicals KODAK RP X-OMAT Processor, Model M6;
Diffuse Visual Densitometry



TI1823C 11-90
RECIPROCITY, For Publication

KODAK InSight Thoracic Imaging Film/4319
KODAK RP X-OMAT Chemicals, 95F,
KODAK RP X-OMAT Processor, Model M6
(Reference: 1/100 second = 0%)



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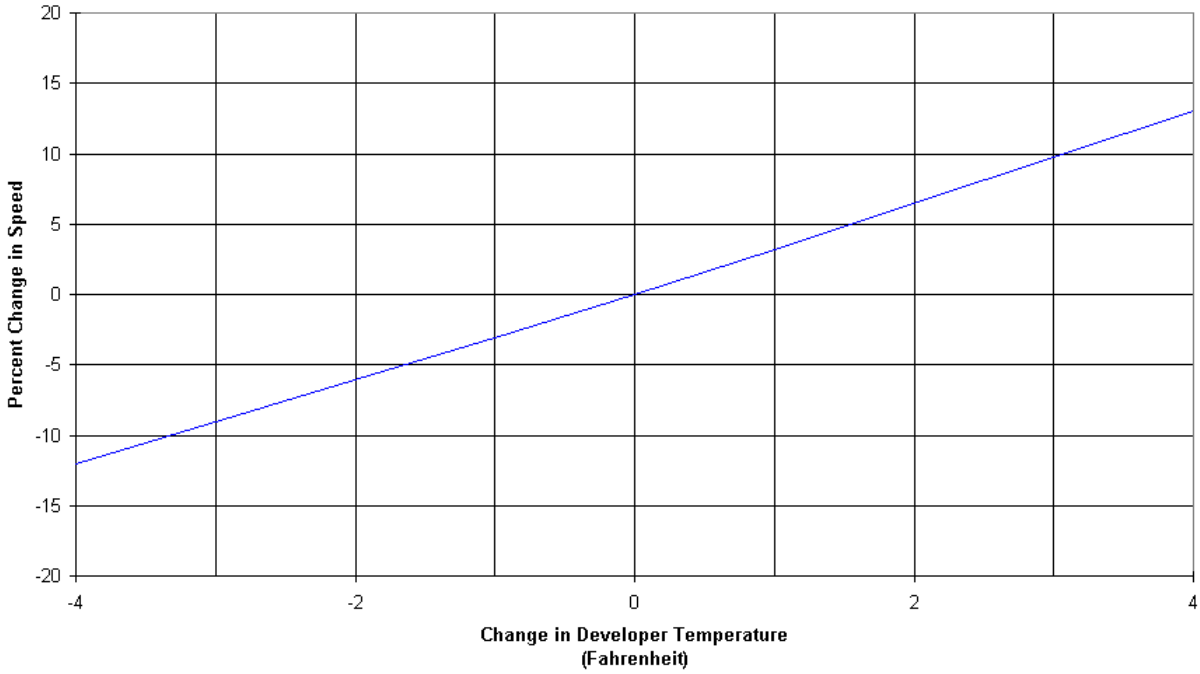
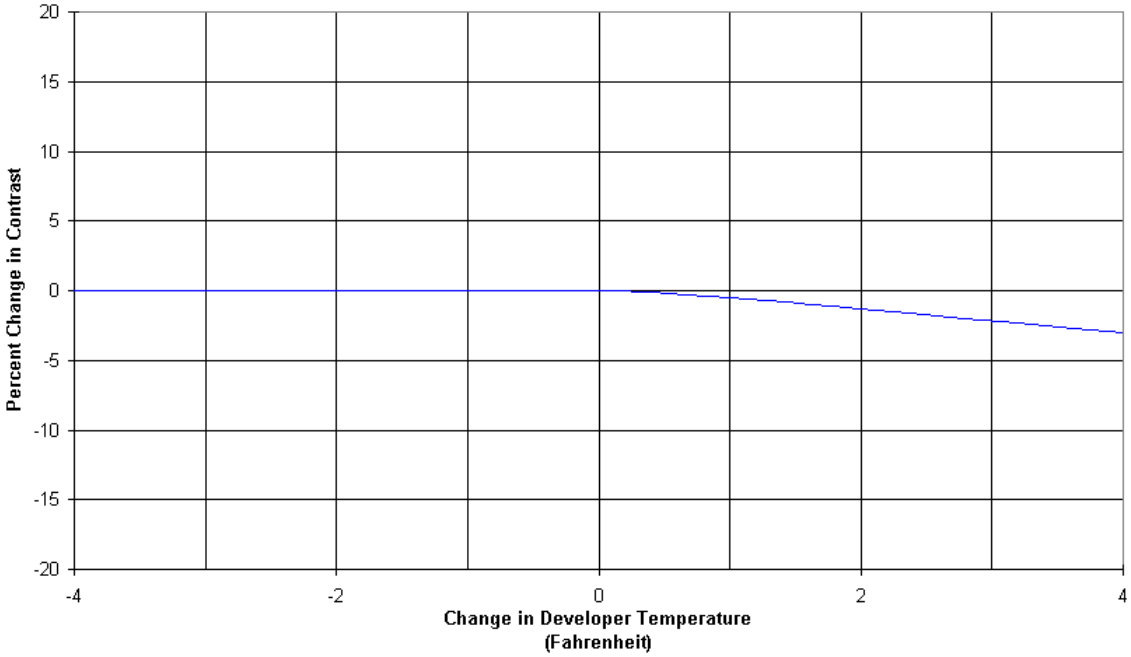
TI1823D 11-90
TEMPERATURE VARIATION, For Publication

KODAK InSight Thoracic Imaging Film/4319
Percent Change in Relative Speed
KODAK RP X-OMAT Chemicals, KODAK RP X-OMAT Processor, Model M6
(Reference: Normal Temp. = 0% Change)
(4 F = 2.2 C)



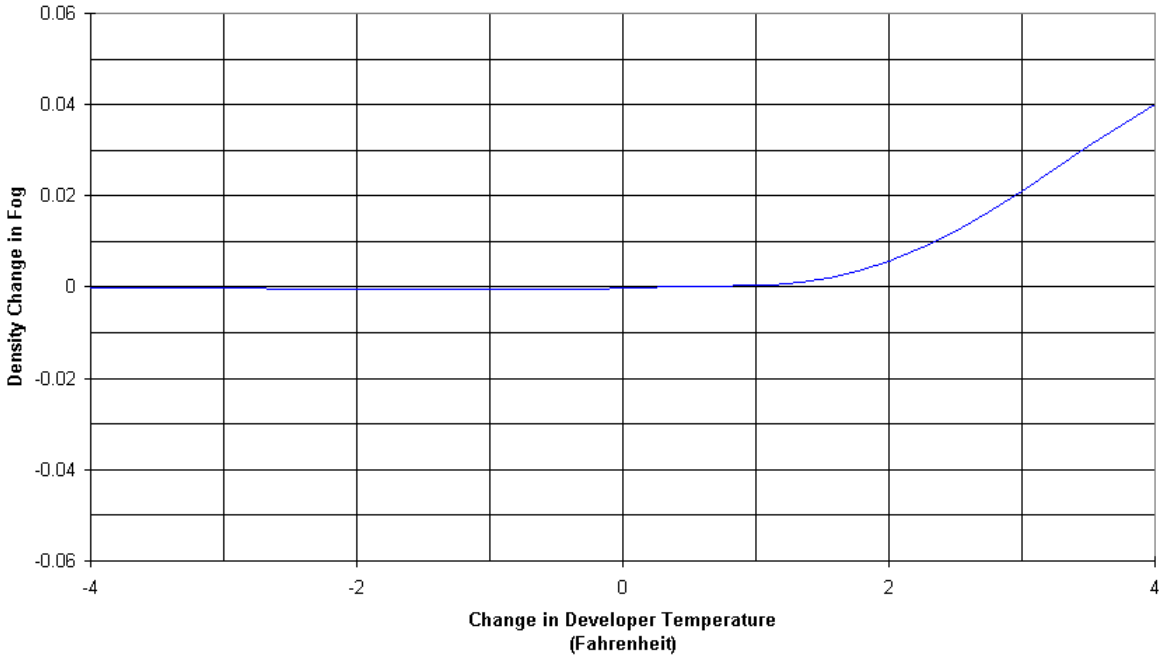
TI1823E 11-90
TEMPERATURE VARIATION, For Publication

KODAK InSight Thoracic Imaging Film/4319
Percent Change in Contrast
KODAK RP X-OMAT Chemicals, KODAK RP X-OMAT Processor, Model M6
(Reference: Normal Temp. = 0% Change)
(4 F= 2.2C)



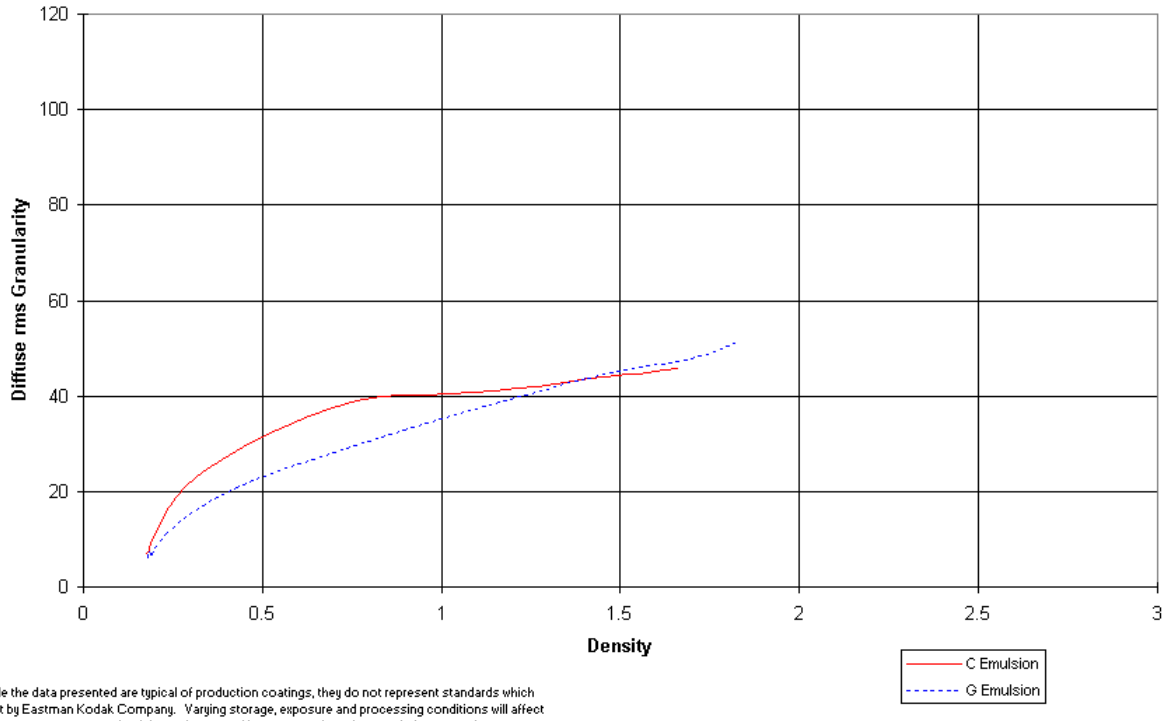
TI1823F 11-90
TEMPERATURE VARIATION, For Publication

KODAK InSight Thoracic Imaging Film/4319
Density Change in Fog
KODAK RP X-OMAT Chemicals, KODAK RP X-OMAT Processor, Model M6
(Reference: Normal Temp. = 0% Change)
(4 F = 2.2 C)



TI1823G 12-90
GRANULARITY, For Publication

KODAK InSight Thoracic Imaging Film/4319
KODAK RP X-OMAT Chemicals, 95F
KODAK RP X-OMAT Processor, Model M6



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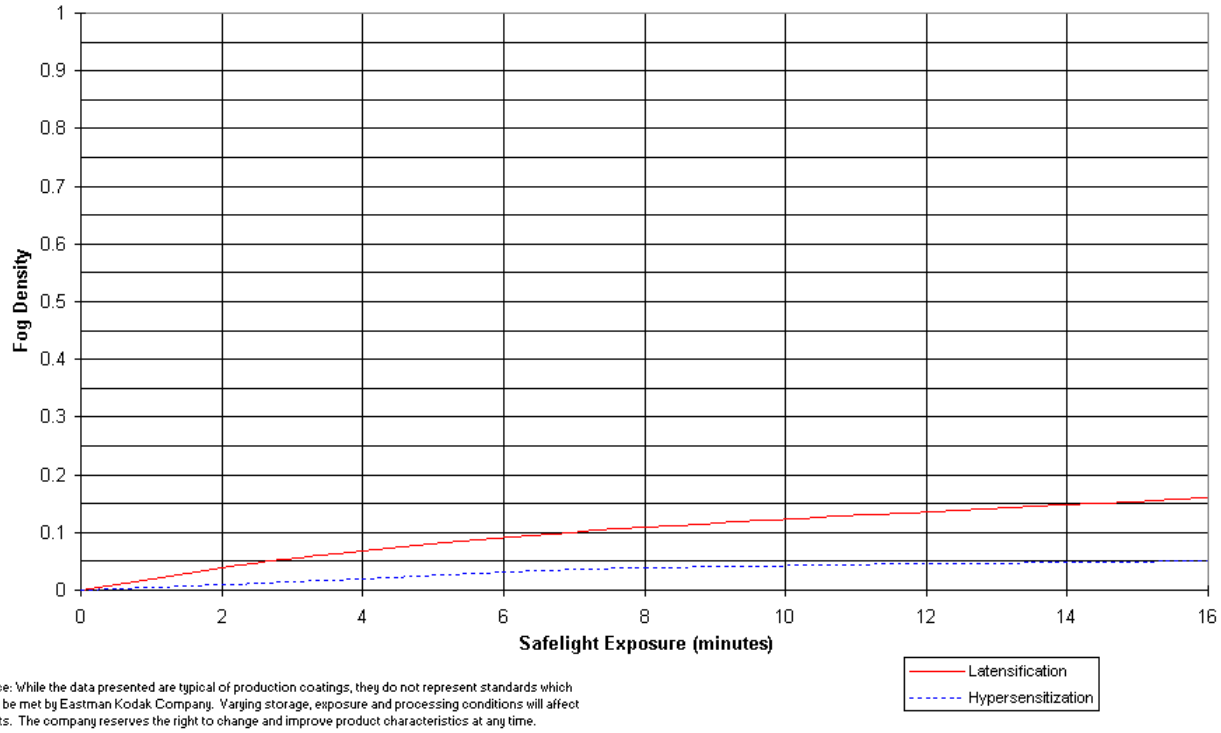
TI1823H 11-90
SAFELIGHT SENSITIVITY, For Publication

KODAK InSight Thoracic Imaging Film/4319
KODAK GBX-2 Safelight Filter, 15 watt lamp, 48 inches
KODAK RP X-OMAT Processor, Model M6; KODAK RP X-OMAT Chemicals, 95 F
(Fog growth with increasing safelight exposure)



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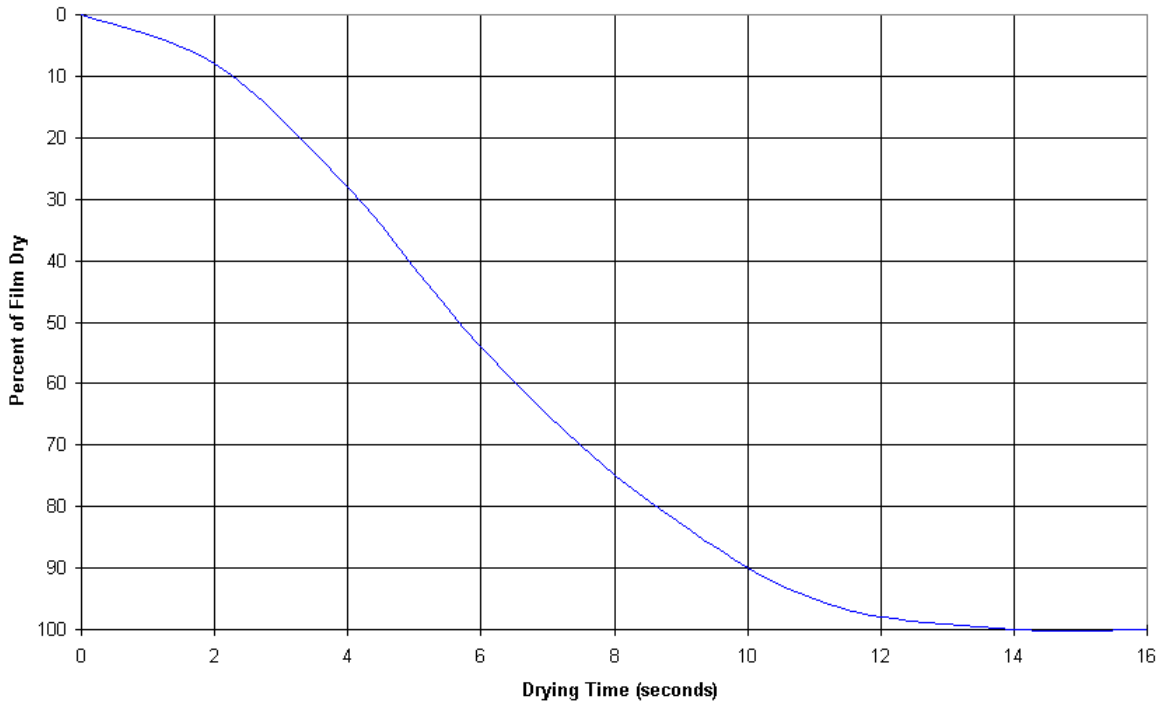
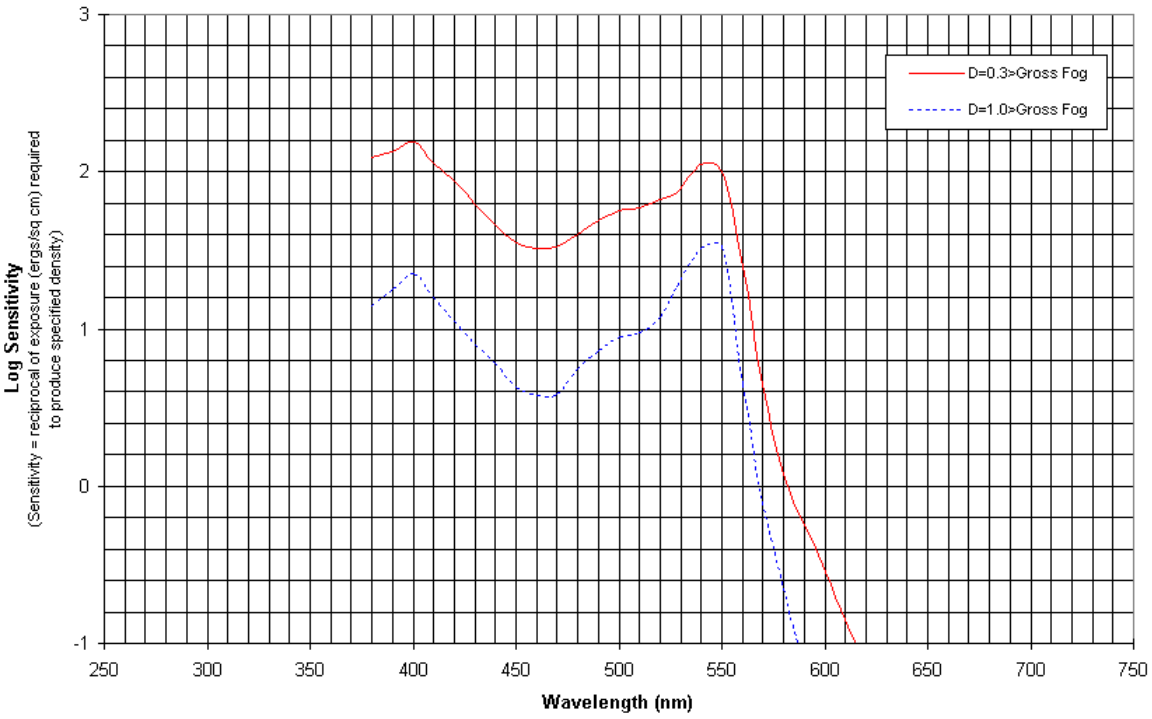
TI1823I 11-90
DRYING, For Publication

KODAK InSight Thoracic Imaging Film/4319
KODAK RP X-OMAT Processor, Model M8
KODAK RP X-OMAT Chemicals, 96 F
Dryer Capacity Used to Dry Film at 125 F



TI1823J 11-90
SPECTRAL SENSITIVITY, For Publication

KODAK InSight Thoracic ImagingFilm/4319
Seasoned KODAK RP X-OMAT Chemicals; KODAK RP X-OMAT Processor, Model M6
Effective Exposure 1.4 sec; Diffuse Visual Densitometry



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TI1823K 11-90
BROMIDE EFFECTS, For Publication

KODAK InSight Thoracic Imaging Film/4319
KODAK RP X-OMAT Processor, Model M6
Seasoned KODAK RP X-OMAT Chemicals, 95 F
Normal Level is 3.5 g/L