

EFFECT OF AMBIENT CONDITIONS

EXPOSURE TO HIGH TEMPERATURES & UV/SUNLIGHT (FALSE POSITIVES)

In reporting the service life (expiration date) of the dosimeter, we assumed that it will be stored at room temperature (below 22°C) and protected from ultraviolet/sunlight light exposures. Hence, the dosimeter must be stored at room temperature or below and protected from ultraviolet/sunlight light exposures. The service life will be reduced if SIRAD is stored at a higher temperature (higher than 22°C) and/or unprotected sensor(s) is exposed to UV/sunlight for a prolonged time (e.g., more than a few hours of direct sunlight).

For most SIRAD dosimeters, the sensor(s) will develop color upon prolonged exposure to higher temperatures or UV/sunlight, resulting in a false positive. For example, if the dosimeter is stored (1) at 70°C for a week, 60°C for a couple of weeks and/or (2) unprotected sensor(s) is exposed to direct sunlight for about a few hours, the sensor(s) will develop a faint color, equivalent to about 5-25 rads depending upon the exposure and nature of the sensor. Repeated, e.g., hundreds of reading of the dosimeter under sunlight or normal ambient light will have a negligible effect on the sensor. However, a week of direct exposure of unprotected sensor to ambient light or a half day of exposure to diffused sunlight (e.g., under shade) should be avoided as this will also cause the sensor to develop a faint blue color. Hence, to avoid false positives, protect the sensor(s) from prolonged exposures to UV/sunlight, ambient light and higher temperatures.

HUMIDITY: The dosimeter is essentially unaffected by ambient or high humidity. If the dosimeter gets wet, just wipe it. Don't put in hot or boiling water.

MICROWAVE: SIRADs without FIT indicators are not affected by microwave radiation. Don't put RADTriage-FIT in microwave as the FIT indicator is printed on a metallized plastic film and hence it will cause sparking. SIRAD without FIT indicator will not absorb microwave. However, it is made of plastics and there is a slight heating effect.

LAUNDRY CYCLE: The current SIRAD badge would not be affected if it is subjected to a few normal laundry cycles of washing and drying (usually below 70°C). However, prolonged exposure to temperature higher than 80 degree centigrade may damage the sensor. If the SIRAD badge is subjected to a laundry cycle, replace the badge.

FIRE: SIRAD is made of plastic and hence it will melt and burn.

DISPOSAL AND ARCHIVING OF DATA: If you are instructed to return the dosimeter, follow the instructions, upon expiration or radiation exposure.

If you are an individual user and if there is no radiation exposure, the dosimeter should be replaced with a new SIRAD badge upon the expiration date printed on the dosimeter. Dispose the old one. No special disposal is required. After recording the exposure (scanning or photographing), cut and dispose the dosimeter as you would dispose a credit card. Do not dispose the dosimeter if the sensor has developed color before the expiration date.