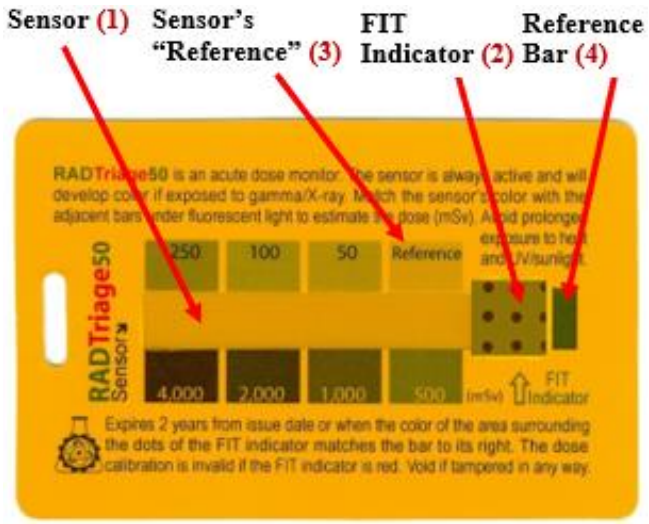
BestGoBag.com
507 Bell Avenue
Alamosa, CO 81101 USA

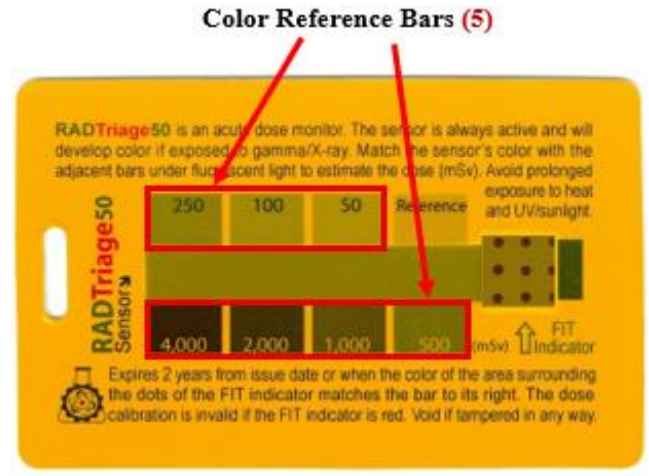
Tel **719-284-4545**
Email **Support@BestGoBag.com**
WEB **www.BestGoBag.com**

Please read and follow the instructions provided on the dosimeter and in this manual. The RADTriage50™, a member of the SIRAD® family of dosimeters, is a personal casualty, acute dose dosimeter. It is intended to be used for monitoring medically significant doses of radiation in the event of a radiological incident, including accident at a nuclear power plant or a nuclear or dirty bomb explosion. It supplements, but does not replace, any other devices that a user may be required to use. It has two monitors: **(1)** the sensor (central rectangular strip in the center) which monitors ionizing radiations above 50 mSv (yearly allowed dose limit for occupational workers in USA) and **(2)** a FIT™ indicator (located to the right of the sensor with four to nine dark dots) which monitors tampering, service life and the effects of undesired ambient conditions. When first received, the area *surrounding* the dark dots of the FIT indicator **(2)** may have coloration but should be a lighter shade than the dark, vertical reference bar **(4)** to its right.



HOW TO READ THE EXPOSURE/DOSE: The dosimeter is always active and ready to use. It should not be used for monitoring dose below 50 mSv, even though it may indicate a lower dose.

- The Sensor's **(1)** color must not be darker than that of the "Reference" block **(3)** above it when received.
- The sensor instantly develops color upon exposure of gamma/X-ray and the color intensifies with increasing dose. **The Sensor (1) is the specific area that darkens when radiation is detected.**
- Color development is permanent and cumulative.
- Exposure dose can be estimated with an uncertainty of about 20% by comparing the color of the sensor with the color reference bars **(5)** printed on the top and bottom of the sensor when viewed under fluorescent light.
- If the sensor develops a color in-between any two adjacent color reference blocks, it indicates an in-between dose.



RADTriage50 exposed to 250 mSv

SENSOR LIMITATIONS:

- The sensor will not monitor gamma/X-ray below 30 KeV, electrons/beta below 0.5 MeV) and alpha particles.
- The sensor will not monitor dose from diagnostic X-ray (e.g., chest or dental) or security X-ray machines. Multiple (e.g., about ten) exposures to medical or airport luggage and CAT scans may result in sufficient exposure to produce a detectable color change in the sensor.
- The radiated sensor, especially above 1,000 mSv is bathochromic (i.e., it displays different color shades under different lights). In an event RADTriage is exposed to such a high dose, estimate the exposure when viewing under fluorescent lighting.
- The sensor has slight thermal reactivity and therefore has a service life of two years at room temperature (25ºC/77ºF). Avoid prolonged exposure to heat.
- The sensor develops faint color upon prolonged (e.g., a couple of days) direct exposure to UV/Sunlight. Avoid prolonged direct exposure to UV/Sunlight.

BestGoBag.com
507 Bell Avenue
Alamosa, CO 81101 USA

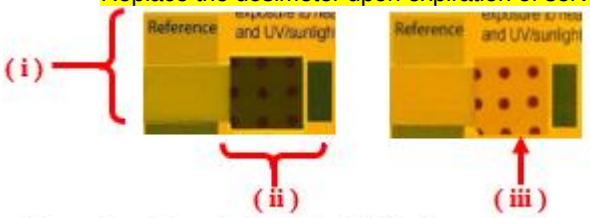
Tel **719-284-4545**
Email **Support@BestGoBag.com**
WEB **www.BestGoBag.com**

FIT INDICATOR: The sensor also develops faint color upon prolong exposure to heat and UV light (sunlight) and hence RADTriage is equipped with an indicator (FIT) **(2)** for monitoring such exposures. If used as per instructions, it is least likely that the sensor will provide false positives or negatives. The FIT indicator simultaneously monitors (1) service-life and, false positives and negatives from overexposure to heat & UV/sunlight which will be indicated by the darkening of the area surrounding the dark dots and (2) inactivation or altered sensitivity (i.e., change of dose calibration) which will be indicated by the FIT changing to red.

- If the FIT is *not* red, the sensor is active and the calibration of the sensor is valid.
- If RADTriage50 is exposed to heat above 95ºC/203ºF, the FIT will change to red indicating an altered sensitivity of the sensor to radiation and hence the dose calibration is not valid. Replace the dosimeter if the FIT is red. (see illustration below)
- FIT is an indicator and as it monitors many parameters simultaneously, the uncertainty in monitoring the service life is high (~50%).

SERVICE LIFE: The estimated service life of dosimeter is two years at room temperature in the absence of contributions from other environmental effects.

- Depending upon the time, the temperature above the room temperature, and/or UV/sunlight exposure, the service life will be reduced proportional to the exposures.
- Service life can be extended up to ten years if properly stored in a freezer below -15ºC/5ºF.
- Service life expires when **(i)** the color of the sensor is darker than the "Reference" bar above it, **(ii)** the area *surrounding* the dark dots of the FIT matches or becomes darker than the color vertical reference bar to its right or, **(iii)** the FIT is red. Replace the dosimeter upon expiration of service life.



Examples of expired service life / when to replace

REPLACING THE RADTriage: Replace RADTriage when one or more of the following occur:

- Two years of use at room temperature or more than ten years of proper storage in a freezer at -15ºC/5ºF.
- When the sensor develops color that is darker than the "Reference" bar above it.
- When the area surrounding the dark dots of the FIT indicator matches or becomes darker than the color vertical reference bar to its right.
- If the FIT is red.

LIMITED-LIABILITY:
The RADTriage50 is expected to perform as specified if used as recommended and instructions are followed. In an event that the product does not perform as specified, JP Labs, the manufacturer, will replace the product. JP Labs specifically disclaims all other warranties and liabilities expressed or implied. All warranties are null and void if (1) the FIT indicator is red/purple and/or area surrounding the dots of the FIT matches or is darker than that of its vertical color reference bar, or (2) RADTriage50 is tampered with in any way.