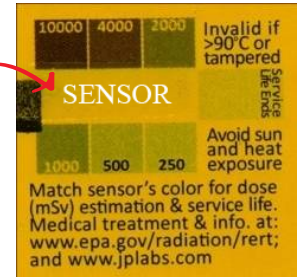


RADSticker responds to 250 mSv and higher of Gamma/x-ray radiation in a radiological incident. It instantly develops color upon exposure to radiation. Color development is permanent and cumulative. The longer the exposure the darker the color.

How to read the sticker

Radiation will darken the sensor between the numbered squares.

- Reading Dose:** Estimate the exposure dose by comparing the color of the sensor with the color reference squares. If the sensor develops a color in-between any two adjacent squares, this indicates an in-between dose.
- Service Life Indicator (SLI):** When the sensor color matches the SLI color your RADSticker should be replaced. This will normally occur in about 2 years of use. Check your RADSticker regularly to ensure there has not been a gradual color change.
- Scratch-off Bar:** RADSticker has a black bar on the left hand end of the sensor. This bar is for internal uses of the manufacturer (or trained/qualified personnel) to determine tampering with UV/sunlight.



NOT RADIATED



AS RADIATED at 1500 mSv



EXPIRED or as if radiated at 150 mSv

DO NOT UNNECESSARILY

- Expose the sticker to sunlight
- Expose the sticker to temperatures above 194°F / 90°C.
- Expose the sticker to temperatures above 140°F / 60°C for a prolonged period.

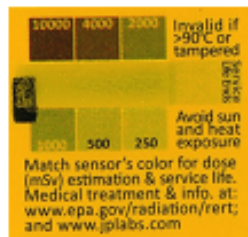
Service Life and Storage

With time, and when stored at 71°F / 22°C for about 2 years, the sensor strip will change color to match the large square on the right. The service life can be extended to ten years if stored in a freezer (when not in use).

EFFECT OF DOSE (mSv)



0 mSv



100 mSv



250 mSv



500 mSv



1,000 mSv



2,000 mSv



4,000 mSv



10,000 mSv

ANSWERS TO FREQUENTLY ASKED QUESTIONS

- 1) How accurate are the results? Dose can be estimated with an uncertainty of about 30% with the color-matching reference chart under fluorescent light. Dose reading under other lights may not be accurate.
- 2) What to do if you suspect the sticker is expired? Replace.
- 3) After there has been a color change, does it continue reacting? Yes. The sensor will continue to darken as the dose accumulates through prolonged exposure.
- 4) Can sticker be put where it will get hit by sunlight and still function? The sensor will acquire the color of the "Service Life Ends" bar if it is exposed to direct summer sunlight for a few days or stored at approximately 22°C for a couple of years. Avoid long exposure to direct sun light.
- 5) Can the sticker be used to identify radiation/radioactive materials in food or drinking water? No.
- 6) What happens if it goes into a washing machine? A normal residential laundry cycle of washing and drying (below 80°C) has a negligible effect on RADSticker. However, repeated laundry cycles or exposure to temperatures higher than 80°C will damage the sensors and hence must be avoided. Replace RADSticker if it is subjected to boiling water or more than one laundry cycle.
- 7) Is it a dose rate monitor? No. RADSticker registers the cumulative dose. It does not monitor the rate at which it is being radiated.
- 8) Will it react to artificial and sun light? Yes, over time. It is better to keep it away from direct light for long periods.
- 9) Is the radiation blocked from the sensor if covered by metal or other dense materials? It can be blocked by metal. It is better to keep in an area that is not covered by metal.
- 10) What happens if it is subjected to over 90°C? The sensitivity of the sensor is altered if heated above 90°C.
- 11) What happens if it goes through a security scanner? Multiple times (5-10) through a security scanner (especially a checked baggage scanner) could cause the sensor to begin to show some slight color change.
- 12) What types of radiation does it react to? The RADSticker sensor responds to gamma/X-ray (energy higher than 30 KeV) and high energy (above 300 KeV) electrons/beta particles. However, protective films attenuate low energy (e.g., below 200 KeV) X-ray.
- 13) Why is the lowest number on the color chart 250 mSv? Isn't that already quite high? This is the level that is allowed for a lifetime exposure for radiation workers according to US Government Nuclear Regulatory Commission. <http://WWW.NRC.Gov> NRC Recommended exposure levels are less for others as well as for children and fetuses. There are other organizations that also publish guidelines some of these links can be found at www.sirads.com
- 14) What levels of radiation exposure are dangerous? We cannot give medical advice. We recommend that before carrying a RADSticker you check with local radiation health authorities, ask your doctor or radiation health expert about radiation risks and the actions you should take at various levels of exposure.

LIMITED LIABILITY

In the event that the product does not perform as specified, JP Labs will replace the product. JP Labs specifically disclaims any and all other warranties and liabilities expressed. All warranties are null and void if any of the following occur:

(1) the usable/service shelf life is expired. (2) RADSticker is tampered with in any way.

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Your Name	
Date Issued	



For additional information and to register for updates go to www.sirads.com