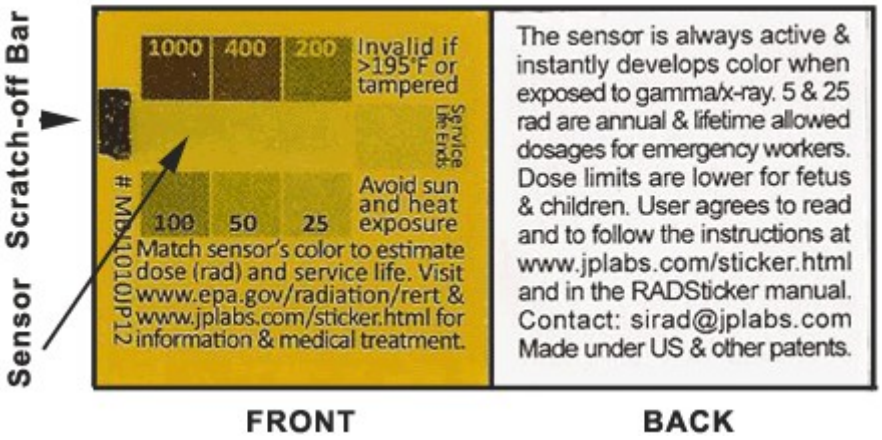
Instruction Manual for Stockpileable RADSticker™



General instructions: 1) Read this manual and follow the instructions. The sensor's color must be lighter than that of the "Service Life Ends" bar. **2)** Read the instruction and then remove the release liner in the back. Apply RADSticker onto an object (e.g., inside your wallet, clothing, driver license and credit card, if it is allowed and does not block any information) but away from heat and direct sunlight. **3)** RADSticker is a **casualty** radiation dosimeter for monitoring harmful high dose. It supplements, but does not replace, other dosimeters or detectors that you may require to use. **4)** Do not deliberately expose RADSticker to ionizing radiation. Protect RADSticker from high temperatures (above 60oC) and UV/sunlight for a prolonged period. This ensures the maximum usable life of the sensor. **5) The usable service life of this stockpileable RADSticker can be extended to about ten years by keeping it in a freezer.**

Introduction: RADStickerTM, a stockpileable personal **casualty dosimeter** provides wearers (public, medical personnel and law enforcement personnel) timely personal radiation exposure information in an event of an accident at a nuclear power plant or a nuclear or dirty bomb explosion. The objective of this low cost RADSticker is to quickly determine need for medical treatment and minimize the panic. RADSticker has a sensor (a rectangle strip between the color bars) with 25, 50 and 100 rad bars on its bottom and 200, 400 and 1,000 rad bars on its top for triaging information and medical treatment in emergencies. When exposed to radiation, the sensor of RADSticker develops color instantly. The color changes are permanent, cumulative and proportional to dose.

General guidelines: If during or after a radiation incident, the color of sensor is lighter than the "Service Life Ends" bar, the wearer has not received radiation exposure large enough to cause acute medical effects and therefore has ***peace of mind.*** If the sensor has developed a color darker than that of "Service Life Ends" bar but lighter than 25 rads bar (life time allowed dose for adults), a low radiation exposure is indicated. In this case, further exposure should be avoided. If the sensor has developed a color between 25 and 50 rads bars, the user should seek a medical evaluation. A person exposed to dose higher than 50 rads should immediately contact an emergency room of a nearest hospital and inform the authority.

End of service life bar: RADSticker has a color reference bar labeled "Service Life Ends" on the right hand side of the sensor to indicate end of usable service life of the dosimeter. The sensor will acquire color similar to that of the "Service Life Ends" bar after about two years of storage at room temperature (about 22oC) or upon exposure to about 15 rads. The sensor will also acquire the color of the "Service Life Ends" bar if it is exposed to direct summer sunlight for a few days. RADSticker can monitor radiation at a significantly reduced accuracy and sensitivity even after the color of the sensor matches or exceeds that the "Service Life Ends" bar due to storage. However, we recommend that you replace RADSticker if the color of the sensor matches or darker than the "Service Life Ends" bar due to storage/usage.

Scratch off bar: RADSticker has a black or light blue bar on the left hand end of the sensor. This bar is for internal uses of the manufacturer (or trained/qualified personnel) to determine remaining shelf life, thermal & UV/sunlight exposures and tampering. **All warrantees are null and void if RADSticker or its components (e.g., the scratch off bar) are tampered in anyway.**

Types of radiation: The RADSticker sensor responds to gamma/X-ray (energy higher than 30 KeV) and high energy (e.g., above 1 MeV) electrons/beta particles. Color development of the sensor is essentially independent of dose rate. However, protective films attenuate low energy (below 200 KeV) X-ray. RADSticker will not be affected by a normal exposure to diagnostic X-ray (e.g., chest or dental) or security X-ray machines. Multiple (more than five) exposures to medical or airport luggage CAT scans will result in sufficient exposure to produce a detectable color change in the sensor.

How to read dose with RADSticker: Estimate the exposure dose by comparing the color of the sensor with the color reference bars. If the sensor develops a color in-between any two adjacent bars, this indicates an in-between dose. It can be viewed in any light. However, we recommend reading the dose under fluorescent lights for a better accuracy. **Color matching under other lights may not be as accurate, especially at higher dosages.** Dose can be estimated with an uncertainty of about 25% with the color-matching reference chart. Where additional accuracy is needed, a spectrophotometer or an optical densitometer can be used.

Laundry cycle: A normal residential laundry cycle of washing and drying (below 80oC) has a negligible effect on RADSticker. However, repeated laundry cycles or exposure to temperatures higher than 80oC will damage the sensors and hence must be avoided. Replace RADSticker if it is subjected to boiling water or more than one laundry cycle.

False positive & tamper indicators: RADSticker is not equipped with the FIT indicator to monitor the false signals. If used as per instructions, it is least likely that RADSticker will provide false positives or negatives. Do not use the dosimeter if it was exposed to a temperature higher than 90oC or if the color of the sensor matches or becomes darker than that of the "Service Life Ends" bar.

LIMITED LIABILITY: In the event that the product does not perform as specified, JP Labs will replace the product. JP Labs specifically disclaims all other warranties and liabilities expressed or implied. All warranties are null and void if any of the following occur: (1) the usable shelf life is expired (2) RADSticker is tampered with in any way.

KI4U, Inc. • 212 Oil Patch Lane • Gonzales, TX 78629 • 830-672-8734 • www.ki4u.com • orders@ki4u.com