

EM 385-1-80
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SMB - 141
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Control No. 141302

Table 6-4
Acceptable Surface Contamination Levels

NUCLIDE ^a	AVERAGE ^{b c} dpm/100 cm ²	MAXIMUM ^{b d} dpm/100 cm ²	REMOVABLE ^{b e} dpm/100 cm ²
U-nat, U-235, U-238 and associated decay products	5,000 p	15,000 p	1,000 p
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100	300	20
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000	3,000	200
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above.	5000 β-p	15,000 β-p	1,000 β-p

^a Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides should apply independently.

^b As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

^c Measurements of average contaminant should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each object.

^d The maximum contamination level applies to an area of not more than 100 cm².

^e The amount of removable radioactive material per 100 cm² of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.

6-10. Exposure Rate Surveys.

In addition to contamination monitoring, it is also important to assess exposure rates resulting from the

storage and use of relatively large quantities of high energy beta or gamma emitters. This information is important in planning and evaluating the control of time, distance, and