USEFUL INFORMATION

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IONISING RADIATIONS REGULATIONS 2017 RECOMMENDED DOSE LIMITS

	Dose	Limit
Effective Dose:-	**Occupational**	**Public**
	20 mSv averaged over 5 yrs	1 mSv
Equivalent Dose in Lens of Eye	20 mSv	15 mSv
Equivalent Dose in Skin	500 mSv	50 mSv
Equivalent Dose in Hands/Feet	500 mSv	50 mSv
Equivalent Dose to Abdomen of a Woman of Reproductive Capacity	13 mSv in any consecutive 3 months	
Unit of Absorbed Dose (D_T)	1 gray (Gy) = 1 joule kg^{-1}	
Radiation Weighting Factor (W_R)	X, gamma and beta radiation: $W_R = 1$	
	alpha radiation: $W_R = 20$	
Unit of Equivalent Dose (H_T)	1 sievert (Sv)	

Equivalent Dose (H_T) = Absorbed Dose (D_T) x W_R
Effective Dose (E) : $E = \sum W_T H_T$ where W_T is the Tissue Weighting Factor
Adequate Shielding Level: 7.5 μSvh^{-1}
Activity: 1 curie (Ci) = 3.7 x 10^{10} becquerel (Bq)

CONVERSION OF ACTIVITY IN CURIES TO BECQUERELS

1 pCi	1 nCi	1 μCi	1 mCi	1 Ci
37 mBq	37 Bq	37 kBq	37 MBq	37 GBq

CONVERSION OF ACTIVITY IN BECQUEREL TO CURIE

1 Bq	1 kBq	1 MBq	1 GBq	1 TBq
27 pCi	27 nCi	27 μCi	27 mCi	27 Ci

PREFIXES

k	kilo	10^3	**m**	milli	10^{-3}
M	Mega	10^6	μ	micro	10^{-6}
G	Giga	10^9	**n**	nano	10^{-9}
T	Tera	10^{12}	**p**	pico	10^{-12}

DOSE RATE D AT DISTANCE "d" FROM A POINT SOURCE OF ACTIVITY "M" MEGABECQUEREL

Beta Radiation   ($E_\beta > 0.5$ MeV) : $D_\beta = 10^3$ M μGyh^{-1} in air at d = 0.1m

Gamma Radiation   ($E_\gamma > 0.1$ MeV) : $D_\gamma = ME_\gamma / 7\mu$Svh^{-1} at d = 1.0m where E_γ is the total gamma energy/disintegration in MeV.