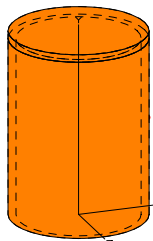


Case Title: 12 mCi Ge/Ga-68 BMCY
Description: Stycast Source Matrix / HDPE Source Body - Most Disperse
Geometry: 7 - Cylinder Volume - Side Shields

Source Dimensions	
Height	30.05 cm
Radius	10.03 cm
	11.8 in
	3.9 in

Dose Points			
	X	Y	Z
# 1	11.8 cm 4.6 in	15.03 cm 5.9 in	0 cm 0.0 in
# 2	16.3 cm 6.4 in	15.03 cm 5.9 in	0 cm 0.0 in
# 3	41.3 cm 1 ft 4.3 in	15.03 cm 5.9 in	0 cm 0.0 in
# 4	111.3 cm 3 ft 7.8 in	15.03 cm 5.9 in	0 cm 0.0 in



Shields			
Shield Name	Dimension	Material	Density
Source	9497.214 cm ³	Stycast 1264 A/B	1.1
Transition		Air	0.00122
Air Gap		Air	0.00122
Wall Clad	1.27 cm	HDPE	0.95
Top Clad	1.27 cm	HDPE	0.95

Source Input
Grouping Method : Actual Photon Energies

Nuclide	curies	becquerels	μCi/cm ³	Bq/cm ³
Ga-68	1.2000e-002	4.4400e+008	1.2635e+000	4.6751e+004
Ge-68	1.2000e-002	4.4400e+008	1.2635e+000	4.6751e+004

Buildup
The material reference is : Wall Clad

Integration Parameters

Radial	10
Circumferential	10
Y Direction (axial)	20

Results - Dose Point # 1 - (11.8,15.03,0) cm

Energy MeV	Activity photons/sec	Fluence Rate MeV/cm ² /sec		Exposure Rate mR/hr	
		No Buildup	With Buildup	No Buildup	With Buildup
0.511	7.896e+08	8.421e+04	1.830e+05	1.653e+02	3.592e+02
1.0145	1.069e+06	2.804e+02	4.538e+02	5.156e-01	8.344e-01
1.0774	1.461e+07	4.145e+03	6.579e+03	7.537e+00	1.196e+01
1.8831	6.325e+05	3.654e+02	5.029e+02	5.757e-01	7.923e-01
TOTALS:	8.059e+08	8.900e+04	1.906e+05	1.739e+02	3.728e+02

Results - Dose Point # 2 - (16.3,15.03,0) cm

Energy MeV	Activity photons/sec	Fluence Rate MeV/cm ² /sec		Exposure Rate mR/hr	
		No Buildup	With Buildup	No Buildup	With Buildup
0.511	7.896e+08	4.797e+04	9.979e+04	9.416e+01	1.958e+02
1.0145	1.069e+06	1.576e+02	2.482e+02	2.898e-01	4.563e-01
1.0774	1.461e+07	2.327e+03	3.598e+03	4.232e+00	6.544e+00
1.8831	6.325e+05	2.032e+02	2.745e+02	3.202e-01	4.325e-01
TOTALS:	8.059e+08	5.066e+04	1.039e+05	9.900e+01	2.033e+02

Results - Dose Point # 3 - (41.3,15.03,0) cm

Energy MeV	Activity photons/sec	Fluence Rate MeV/cm ² /sec		Exposure Rate mR/hr	
		No Buildup	With Buildup	No Buildup	With Buildup
0.511	7.896e+08	8.222e+03	1.680e+04	1.614e+01	3.298e+01
1.0145	1.069e+06	2.685e+01	4.180e+01	4.938e-02	7.686e-02
1.0774	1.461e+07	3.963e+02	6.061e+02	7.207e-01	1.102e+00
1.8831	6.325e+05	3.448e+01	4.624e+01	5.432e-02	7.285e-02

<u>Energy</u> <u>MeV</u>	<u>Activity</u> <u>photons/sec</u>	<u>Fluence Rate</u> <u>MeV/cm²/sec</u> <u>No Buildup</u>	<u>Fluence Rate</u> <u>MeV/cm²/sec</u> <u>With Buildup</u>	<u>Exposure Rate</u> <u>mR/hr</u> <u>No Buildup</u>	<u>Exposure Rate</u> <u>mR/hr</u> <u>With Buildup</u>
TOTALS:	8.059e+08	8.680e+03	1.750e+04	1.696e+01	3.423e+01

Results - Dose Point # 4 - (111.3,15.03,0) cm

<u>Energy</u> <u>MeV</u>	<u>Activity</u> <u>photons/sec</u>	<u>Fluence Rate</u> <u>MeV/cm²/sec</u> <u>No Buildup</u>	<u>Fluence Rate</u> <u>MeV/cm²/sec</u> <u>With Buildup</u>	<u>Exposure Rate</u> <u>mR/hr</u> <u>No Buildup</u>	<u>Exposure Rate</u> <u>mR/hr</u> <u>With Buildup</u>
0.511	7.896e+08	1.116e+03	2.333e+03	2.191e+00	4.580e+00
1.0145	1.069e+06	3.672e+00	5.797e+00	6.752e-03	1.066e-02
1.0774	1.461e+07	5.422e+01	8.406e+01	9.860e-02	1.529e-01
1.8831	6.325e+05	4.740e+00	6.418e+00	7.468e-03	1.011e-02
TOTALS:	8.059e+08	1.179e+03	2.430e+03	2.304e+00	4.753e+00