MicroShield 6.22 (6.10-0033)
International Isotopes Inc

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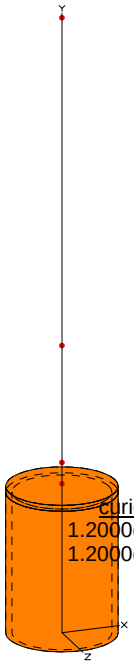
DOS File : BMCY_12mCi_mostdisperse_top.ms6
Run Date : June 5, 2009
Run Time : 12:49:03 PM
Duration : 00:00:00

File Ref: _____
Date: _____
By: _____
Checked: _____

Case Title: 12 mCi Ge/Ga-68 BMCY
Description: Stycast Source Matrix / HDPE Source Body - Most Disperse
Geometry: 8 - Cylinder Volume - End Shields



Source Dimensions

Height	30.05 cm	11.8 in
Radius	10.03 cm	3.9 in

Dose Points

	X	Y	Z
# 1	0 cm	31.82 cm	0 cm
	0.0 in	1 ft 0.5 in	0.0 in
# 2	0 cm	36.32 cm	0 cm
	0.0 in	1 ft 2.3 in	0.0 in
# 3	0 cm	61.32 cm	0 cm
	0.0 in	2 ft 0.1 in	0.0 in
# 4	0 cm	131.32 cm	0 cm
	0.0 in	4 ft 3.7 in	0.0 in

Shields

Shield Name	Dimension	Material	Density
Source	9497.214 cm³	Stycast 1264 A/B	1.1
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/cm³	Bq/cm³
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 : Top Clad

Integration Parameters

Radial	20
Circumferential	10
Y Direction (axial)	10

Results - Dose Point # 1 - (0,31.82,0) cm

Energy MeV	Activity photons/sec	Fluence Rate MeV/cm²/sec No Buildup	Fluence Rate MeV/cm²/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup
0.511	7.896e+08	8.805e+04	1.771e+05	1.728e+02	3.475e+02
1.0145	1.069e+06	2.863e+02	4.430e+02	5.264e-01	8.146e-01
1.0774	1.461e+07	4.224e+03	6.424e+03	7.681e+00	1.168e+01
1.8831	6.325e+05	3.665e+02	4.899e+02	5.774e-01	7.718e-01
TOTALS:	8.059e+08	9.293e+04	1.844e+05	1.816e+02	3.608e+02

Results - Dose Point # 2 - (0,36.32,0) cm

Energy MeV	Activity photons/sec	Fluence Rate MeV/cm²/sec No Buildup	Fluence Rate MeV/cm²/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup
0.511	7.896e+08	4.595e+04	9.002e+04	9.018e+01	1.767e+02
1.0145	1.069e+06	1.478e+02	2.266e+02	2.718e-01	4.167e-01
1.0774	1.461e+07	2.179e+03	3.287e+03	3.963e+00	5.978e+00
1.8831	6.325e+05	1.884e+02	2.513e+02	2.968e-01	3.959e-01
TOTALS:	8.059e+08	4.846e+04	9.379e+04	9.471e+01	1.835e+02

Results - Dose Point # 3 - (0,61.32,0) cm

Energy MeV	Activity photons/sec	Fluence Rate MeV/cm²/sec No Buildup	Fluence Rate MeV/cm²/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup
0.511	7.896e+08	5.991e+03	1.337e+04	1.176e+01	2.624e+01
1.0145	1.069e+06	2.000e+01	3.362e+01	3.677e-02	6.181e-02
1.0774	1.461e+07	2.958e+02	4.876e+02	5.380e-01	8.868e-01
1.8831	6.325e+05	2.636e+01	3.757e+01	4.154e-02	5.918e-02
TOTALS:	8.059e+08	6.333e+03	1.393e+04	1.238e+01	2.725e+01

Results - Dose Point # 4 - (0,131.32,0) cm

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0.511	7.896e+08	7.568e+02	1.884e+03	1.485e+00	3.698e+00
1.0145	1.069e+06	2.614e+00	4.738e+00	4.806e-03	8.712e-03
1.0774	1.461e+07	3.878e+01	6.874e+01	7.052e-02	1.250e-01
1.8831	6.325e+05	3.548e+00	5.327e+00	5.590e-03	8.392e-03
TOTALS:	8.059e+08	8.017e+02	1.963e+03	1.566e+00	3.840e+00