

Distribution of Radioactivity 24 Hours Following Oral Administration of 500 mg/kg [¹⁴C]DMAE to Male B6C3F₁ Mice (DMAE Study J)^a

Dose Recovered in Excreta (%)

End of Collection Period (h)	Urine CPDE ^b	Feces CPDE	Volatile Organics ^c CPDE	CO ₂ ^c CPDE	Total CPDE
1	d	e	0.0678 ± 0.0186	0.757 ± 0.061	0.825
2	d	e	0.204 ± 0.034	1.83 ± 0.25	2.03
3	d	e	0.291 ± 0.043	2.78 ± 0.23	3.07
4	13.4 ± 13.5	e	0.394 ± 0.055	3.74 ± 0.32	15.3
6	d	e	0.492 ± 0.064	4.76 ± 0.35	5.25
8	24.5 ± 15.9	1.51 ± 1.77	0.578 ± 0.049	6.04 ± 0.64	33.6
12	26.7 ± 18.3	e	0.677 ± 0.055	8.48 ± 0.88	33.2
24 ^f	35.8 ± 16.9	3.20 ± 3.06	0.766 ± 0.040	12.1 ± 1.3	51.8

Distribution in Tissues (24 hours)

Tissue	nmol-eq DMAE/g Mean	nmol-eq DMAE/g SD	TBR ^k Mean	TBR SD	Dose in Total Tissue (%) Mean	Dose in Total Tissue (%) SD
Adipose ^g	2830	1280	3.65	1.47	3.65	1.63
Urinary Bladder	2150	715	2.79	0.85	0.0325	0.0133
Blood ^g	744	65	Unity	—	0.674	0.066
Brain	1270	156	1.66	0.17	0.388	0.034
Heart	2130	221	2.79	0.29	0.184	0.022
Kidney	9620	1130	12.6	1.7	2.48	0.28
Liver	7120	4060	9.37	5.20	7.01	3.97
Lung	4950	519	6.49	0.81	0.592	0.082
Muscle ^g	974	231	1.29	0.41	4.43	1.94
Skin ^g	908	157	1.18	0.15	4.84	1.93
Spleen	3220	522	4.22	0.71	0.141	0.014
Thyroid	4140	1690	5.34	1.92	0.00550	0.00269
Testes	2170	281	2.84	0.41	0.292	0.053
Stomach ^h	NA ⁱ	—	NA	—	0.467	0.157
Small Intestine ^h	NA	—	NA	—	2.96	0.65
Cecum ^h	NA	—	NA	—	0.249	0.079
Large Intestine ^h	NA	—	NA	—	0.407	0.105
Carcass ^j	NA	—	NA	—	2.17	2.08

Disposition Summary [Dose Recovered (%)]

Tissues and GI Tract	Excreted	Total
31.0 ± 6.0	51.8 ± 15.2	82.7 ± 14.8

^aAll values expressed as mean ± standard deviation (SD) (N = 5). The target dose was 500 mg DMAE/kg. The actual dose delivered was 499 ± 11 mg/kg (103 ± 2 µCi/kg).

^bCPDE = Cumulative percent dose excreted.

^cVolatile organics (trapped by isopropanol) and CO₂ (trapped by 1 N NaOH in H₂O) in exhaled breath.

^dUrine was collected at 4, 8, 12, and 24 hours (h) after [¹⁴C]DMAE administration.

^eFeces were collected at 8 and 24 h after [¹⁴C]DMAE administration.

^f24 h urine collection includes urine present in the urinary bladder at study termination.

^gPercent of dose in these tissues calculated using the following percentages of body weight: adipose 7.0%, blood 4.9%, muscle 38.4%, and skin 16.5%.

^hIncludes contents.

ⁱNA = Not applicable.

^jCarcass values are based on the residual digested carcass after the removal of the listed tissues (i.e., percent dose measured in skin, adipose, blood, and muscle was subtracted from the total percent dose measured in the carcass).

^kTBR = Tissue to blood ratio.