



New Brunswick Laboratory
U.S. Department of Energy

Certificate of Analysis

CRM 66 (1 – 7)

Thorium Oxide (ThO₂) Impurity Standard

Element	Btl 66-1	Btl 66-2	Btl 66-3	Btl 66-4	Btl 66-5	Btl 66-6	Btl 66-7
Al	500	200	100	50	20	10	0 10*
Cd	5	2	1	0.5	0.2	0.1	0
Fe	500 (559)	200 (233)	100 (118)	50 (66)	20 (33)	10 (27)	0 (14)
Mg	-	200	100	50	20	10	0 5*
Mn	50 (52)	20 (21)	10 (11)	5 (5)	2 (2)	1 (1)	0 (0.2)
Ni	200 (199)	80 (82)	40 (40)	20 (21)	8 (10)	4 (8)	0 (3)
Zn	500	200	100	50	20	10	0
Ag	5	2	1	0.5	0.2	0.1	0
Cu	50 (53)	20 (22)	10 (11)	5 (6)	2 (2.3)	1 (1.9)	0 (0.6)
Cr	100 (98)	40 (42)	20 (22)	10 (11)	4 (5.4)	2 (4.3)	0 (1)
Pb	50	20	10	5	2	1	0
Be	200	80	40	20	8	4	0
Ca	500	200	100	50	20	10	0
Bi	50	20	10	5	2	1	0
V	200	80	50	5	8	4	0
Mo	50	20	10	5	2	1	0
P	500	200	100	50	20	10	0
Sn	50	20	10	5	2	1	0
Si	250 (283)	100 (129)	50 (77)	25 (52)	10 (37)	5 (31)	0 (26)
B	5	2	1	0.5	0.2	0.1	0
Na	400	160	80	40	15	8	0
K	630	250	125	63	25	10	0

Values are in parts per million on a metal basis. These samples have been ignited at 900°C but may need further ignition before use. A large part of the boron apparently has been lost from these samples.

*=spectrographic; () = chemical

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www.nbl.doe.gov
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