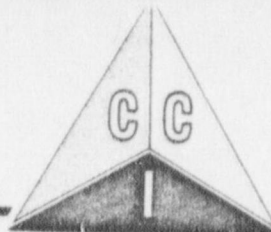


CATALYSTS AND CHEMICALS INC.

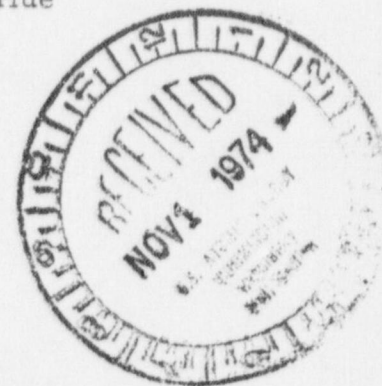


Telephone (502) 637-9751 • TELEX: 204190 • Cable Address: Catalyst • P. O. Box 86 • 1227 So. Twelfth St.

LOUISVILLE, KENTUCKY 40201, U.S.A.

Please address your reply
to: Richard W. LaHue

October 29, 1974



Director of Materials Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Dear Sir:

Catalysts and Chemicals Inc. in Louisville, Kentucky has applied for a source material license with the Kentucky Department of Radiological Health for the right to manufacture a catalyst which uses uranyl nitrate in its manufacture. The uranyl nitrate will be in the depleted form as supplied to CCI from Var-Lac-Oid in New Jersey. We were wondering if it is necessary for our company to apply for a source material license with the Atomic Energy Commission since the uranyl nitrate is depleted and we have already filed with the Kentucky Department of Radiological Health for a state license. The maximum amount of uranyl nitrate would be 12,000 pounds. Uranyl nitrate's chemical formula is $\text{UO}_2(\text{NO}_3)_2 \cdot 6 \text{H}_2\text{O}$ and contains approximately 47 percent depleted uranium.

We would also like to have a copy of any necessary forms that a consumer of this product would have to complete in order to obtain a license. The product will be transported across state lines to our customers in the USA.

Sincerely,

CATALYSTS AND CHEMICALS INC.

Richard W. LaHue

Richard W. LaHue, Manager
Research and Development Department

/jrj

H/89

10/74

H₂O-10 YEAR SUMMARY DATA (STATE)

Gross β (pci/l) Station mean Comparison 1971-1972			Gross α (pci/l) (3) Station mean Comparison 1971-1972		
1	Inc.	< m (10 yr)	Dec.	< m	
2	Inc.	> m	Inc.	> m	←
3	Dec.	< m	Dec.	> m	
4	Inc.	> m	Inc.	> m	↑
5	Inc.	< m	Inc.	> m	↑
6	Dec.	< m	Dec.	> m	
7	Dec.	< m	Dec.	> m	
8	Dec.	< m	Dec.	> m	
9					
10					
11					
12					
13					
14					
15					
16					
17	Dec.	> m	Dec.	< m	
18	Inc.	< m	Dec.	< m	
19	Inc.	< m	Dec.	> m	
20					
21	Dec.	< m	Dec.	< m	
22					
23					
24					
25					
7 Inc.	5 > m		3 Inc.	8 > m	
5 Dec.	6 < m		9 Dec.	4 < m	
	1 = m				
3 Inc. were > m			All Inc. were > m		
Sample mean by yr.			Sample mean by yr.		
1971	1972	yr.	1971	1972	yr.
24.7	25.2		2.0	1.4	

Sample Station No.	No. Samples	Ten Year Station Sample Results Range (pCi/ml)	Money Flats Water, Gross Beta Station Mean, pCi/L, by Year										Station Mean pCi/ml 10 Year Period
			1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
1	86	ND — 101.4	16.0	13.5	18.0	25.0	5.5	22.1	12.0	10.9	9.2	9.7	14.0
2	89	3.0 — 235.1	28.5	13.4	14.0	11.4	8.2	26.1	14.3	17.4	12.8	35.7	18.9
3	85	2.1 — 54.1	11.1	9.0	9.7	8.0	5.6	18.1	7.4	9.8	11.8	10.0	10.4
4	92	3.1 — 127.7	21.0	16.1	12.9	15.4	8.1	36.7	16.9	12.6	12.9	19.5	17.7
4A	49	ND — 245.7	140.6			6.6	6.9	52.0	18.1	25.6	16.3	31.7	28.0
5	94	2.8 — 143.9	7.2	7.1	9.4	24.4	12.7	16.3	12.8	37.7	12.3	12.6	12.6
6	95	ND — 182.1	9.05	8.0	8.1	10.4	11.7	68.3	24.6	14.7	29.5	22.6	21.5
7	7	5.0 — 86.4	12.3	46.4	6.1				9.4				18.9
8	90	2.7 — 2102.4	46.5	29.3	16.3	11.6	8.5	54.6	19.4	13.6	157.6	12.5	47.3
33 (8 mill)	2	5.4 — 8.9	5.4								8.9		7.2
9	5	4.9 — 97.1											42.3
10	4	8.0 — 45.9	18.1	8.0			4.9	85.4	20.8	15.2			15.6
11	9	5.3 — 131.0	86.1	50.5	29.6		5.3	17.9					42.8

Sample Station No.	No. Samples	Ten Year Station Sample Results Range (pCi/ml)	Masey Flats Water, Gross Beta Station Mean, pCi/L, by Year										Station Mean pCi/ml 10 Year Period
			1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
12	15	6.1 — 74.0	17.2	27.6	27.1		6.1	61.3					29.1
13	8	10.5 — 516.1	37.4	310.9								154.0	149.5
14	3	16.6 — 20.9	18.0	20.9									18.9
15	9	6.5 — 41.8	31.5		8.6		6.5	36.5	19.0		33.3		23.5
16	6	2.9 — 60.0	51.9	30.4	2.9								40.1
18	83	ND — 53.7	5.3	6.5	6.1	11.1	4.1	27.1	7.3	5.6	11.4	9.5	8.6
19	38	3.4 — 31.5						15.8	6.5	7.0	6.1	7.2	7.4
21	88	ND — 39.3	16.1	8.2	8.3	7.0	6.4	16.5	7.4	8.2	7.1	9.9	10.0
23	76	ND — 80.4	18.4	11.6	7.7	7.8	4.6	20.3	7.9	14.3	20.5		13.2
24	7	5.5 — 29.9									20.5	9.0	13.9
25	2	8.0 — 9.2										8.6	8.6
No. Stations		Ten Year Sample Range		Sample Mean, By Year									
24	1042	ND — 2102.4	29.9	36.3	12.3	12.6	7.0	35.9	13.6	14.8	24.7	25.2	

Sample Station No.	No. Samples	Ten Year Station Sample Results Range (pCi/ml)	Maxey Flats Water, Gr. 3 Alpha Station Mean, pCi/ml by Year										Station Mean pCi/ml 10 Year Period
			Station Mean, pCi/ml by Year										
			1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
1	84	ND — 36.4	0.9	ND	0.5	0.2	0.4	1.7	9.1	0.3	1.9	1.2	1.3
2	87	ND — 13.8	1.2	0.2	1.5	0.6	0.5	0.6	ND	1.1	1.0	1.1	0.8
3	83	ND — 13.7	ND	ND	0.8	0.2	0.2	0.6	ND	0.3	1.6	0.6	0.5
4	91	ND — 22.7	0.9	0.8	2.2	2.6	1.9	4.2	2.3	2.0	4.3	5.4	2.7
4A	47	ND — 18.2	ND			1.3	0.9	3.8	0.9	1.9	2.0	2.4	2.1
5	91	ND — 21.7	0.1	ND	1.9	0.9	0.4	0.4	1.0	1.1	2.3	1.1	0.9
6	92	ND — 19.2	ND	0.1	1.8	0.4	0.5	1.0	0.5	0.6	3.1	1.9	1.1
7	6	ND — 3.4	ND	ND	1.6								0.8
8	86	ND — 25.6	0.4	ND	2.9	0.7	0.1	0.6	0.4	0.1	2.1	1.0	0.9
33 (8 well)	2	ND — 1.5	ND								1.5		0.8
9	4	ND — 0.5						ND	0.3	ND			0.1
10	4	ND — 2.5	1.2	ND									0.9
11	9	ND — ND	ND	ND	ND			ND	ND				ND

Sample Station No.	No. Samples	Ten Year Station Sample Results Range (pCi/l)	Marey Flats Water, Gross Alpha Station Mean, pCi/L, by Year										Station Mean pCi/ml 10 Year Period
			1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
10													
11													
12	15	ND - 15.0	ND	ND	3.7		ND	0.2					1.2
13	8	ND - 9.3	ND	ND								3.3	1.2
14	3	ND - ND	ND	ND									ND
15	8	1.7 - 4.0	2.0		ND		ND	ND			4.0		1.0
16	6	ND - 1.3	0.6	ND	ND								0.4
18	82	ND - 12.1	0.2	ND	2.0	ND		0.6	0.2	ND	1.1	0.3	0.5
19	36	ND - 8.3						2.5	0.2	0.1	0.9	0.4	0.6
21	87	ND - 11.7	0.1	ND	0.9	ND	ND	0.3	ND	0.2	1.6	1.3	0.5
23	75	ND - 10.0	ND	0.1	1.2	ND	0.1	0.1	ND	0.1	0.3		0.2
24	7	ND - 6.7									2.8	ND	1.2
25	2	ND - ND										ND	ND

Sample Mean, By Year	
No. Stations	No. Samples
24	1015
	ND - 36.4
	0.4
	0.1
	1.4
	0.6
	0.3
	1.1
	1.2
	0.6
	2.0
	1.4

Sample Station No.	No. Samples	Ten Year Station Sample Results Range (pCi/g)	Marey Flats Silt - Soil, Gross Beta Station Mean, pCi/g, by Yea.										Station Mean pCi/g 10 Year Period
			1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
1	3	36.9 - 106.7					36.9	86.8					70.2 70.2
2	3	28.0 - 60.2					28.0	54.9					45.9
3	3	63.8 - 82.8					82.8	69.7					74.0
4	1						31.4						31.4
4A	2	49.7 - 125.9						87.8					87.8
6	4	39.9 - 128.6					43.1	91.0					67.0
8	3	44.6 - 85.4					44.6	82.5					69.9
13	2	54.0 - 201.4						127.7					127.7
14	2	469.7 - 684.6						577.2					577.2
15	3	66.7 - 101.4					66.7	98.8					88.1
18	1						31.4						31.4
21	2	37.3 - 48.7						43.0					43.0
No. Stations		Sample Mean, By Year											
12	29	28.0 - 684.6					45.6	131.9					

Sample Station No.	No. Samples	Ten Year Station Sample Results Range (pCi/g)	Moxey Flats Silt - Soil, Gr & Alpha Station Mean, pCi/g, by Year										Station Mean pCi/g 10 Year Period
			1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
1	3	15.4 - 72.9					15.4	52.3					40.0
2	3	11.0 - 26.0					11.0	24.5					20.0
3	3	14.4 - 51.3					14.4	33.0					26.8
4	1						9.0						9.0
4A	2	22.2 - 277.1						149.7					149.7
6	4	5.2 - 41.1					5.6	29.8					17.7
8	3	13.0 - 77.3					13.0	55.4					41.2
13	2	24.5 - 392.1						208.3					208.3
14	2	17.8 - 45.5						31.7					31.7
15	3	22.9 - 79.7					22.9	72.1					55.7
18	1						31.4						11.6
21	2	23.8 - 50.0						36.9					36.9
No. Stations	No. Samples	Ten Year Sample Range	Sample Mean, By Year										
12	29	5.2 - 70 392.1					12.9	69.4					

Station No.	No. Samples	Ten Year Station Sample Results Range (pCi/g ash)	Marey Flats Vegetation, Gross Beta Station Mean, pCi/g ash, by Year										Station Mean pCi/g ash, 10 Year Period
			1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
1	21	79.8 — 5875.0	1505.5	402.6			89.8	1036.6					758.6
2	4	134.4 — 17909.0	17909.0				134.4	915.2					6319.5
3	3	108.9 — 786.8					109.0	594.3					351.6
5	1		9866.0										9866.0
6	2	106.6 — 856.5	1842.8				106.6	856.5					481.5
8	18	128.8 — 5232.0	1842.8	444.8				2723.2					1670.2
13	13	176.2 — 4257.2	1354.1	575.0				899.2					942.8
14	2	3704.2 — 57095.6	3704.2					57095.6					30399.9
15	2	315.3 — 1485.8						900.6					900.6
18	3	713.2 — 5511.2	3417.6										3417.6
21	9	303.8 — 4315.0	1453.8					832.1					1142.9
23	16	149.2 — 3021.1	1459.8	562.2									1011.0
No. Stations		Ten Year Sample Range	Sample Mean, By Year										
12	94	79.8 — 57095.6	4723.6	496.1			109.9	7317.0					

Sample Station No.	No. Samples	Ten Year Station Sample Results Range (pCi/g ash)	Maxey Flats Vegetation, Gross Alpha Station Mean, pCi/g ash, by Year										Station Mean pCi/g ash, 10 Year Period
			1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
1	21	ND — 28.3	7.9	ND			28.3	9.2					11.4
2	4	ND — 50.5	47.8				50.5	5.8					34.7
3	3	ND — 60.1					60.1	3.4					31.7
5	1		33.0										33.0
6	2	27.4 — 28.0					27.4	28.0					27.7
8	18	ND — 1495.5	4.5	ND				1495.5					500.0
13	13	ND — 124.5	4.5	ND				62.3					22.3
14	2	8.9 — 23.0	23.0					8.9					16.0
15	2	ND — 119.7						59.9					59.9
18	3	ND — 28.9	18.5										18.5
21	9	ND — 7.4	1.8					ND					0.9
23	16	ND — 6.2	0.9	ND									0.5
No. Stations	No. Samples	Ten Year Sample Range	Sample Mean, By Year										
			1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
12	94	ND — 1495.5	15.8	ND			41.5	185.9					

To H. Kolde

From J. H. Leonard

Date 10/30/74

Hourly evaporation at full load = 2866 ^{5 gal/min} $\text{lb H}_2\text{O}/\text{HR.}$
 " " heat load = 2,706,000 Btu/hr.

By material balance calculations:

Component	lb/hr	Vol %
CO_2	478.2	4.74
N_2	2003.4	31.22
O_2	29.0	0.40
H_2O (from combustion)	260.8	6.36
H_2O (from evaporation)	2362.	57.3
	<u>5133</u>	<u>100.0%</u>

$\frac{261}{261 + 2362} = 9.95\%$

At 193°F, volumetric flow rate = 30.3 cubic feet/second

Inside Area of 12" sched. 40 pipe = 12.00 in.

$$A = \pi (0.5)^2 = 0.785 \text{ ft}^2$$

$$\text{Velocity} = \frac{30.3 \frac{\text{ft}^3}{\text{sec}}}{0.785 \frac{\text{ft}^2}{\text{sec}}} = 38.6 \text{ ft/sec. @ } 193^\circ\text{F} \quad (11.8 \text{ m/sec})$$

at other temperatures, make correction according to ideal gas law.

10/30/74

H/91

				Test No					
				6	7	8			
DATE, 1975				APR. 8	APR. 9	APR. 9			
SAMPLING INTERVAL				1343-1547	0955-1123	1343-1622			
NET SAMPLING TIME, MIN				102	88	155			
STORAGE TANK NO.				5	5	10			
FRACTION FROM TANK				.50	.50	^{.35} 0.40			
" " BERM *				.50	.50	^{.65} 0.60			
STACK WATER VOL, g				2549	2166	3701			
WATER COLLECT. RATE, ml/min				25.0	24.6	23.9			
AIR VOLUME m ³ @ true flow of 2 lit/min				2.142	1.848	3.261			
					combined filter				
* Berm water was also produced when ³ H levels were high and wind speed was very low (<5 mph)									
EERF ANALYSES @ 10/73 (?)									
TANK No	³ H	⁹⁰ Se	²³⁸ Pu	²³⁹ Pu	⁵⁴ Mn	⁶⁰ Co	¹³⁴ Cs	¹³⁷ Cs	²²⁸ Ac
5	1.6 x 10 ⁶	116 ± 5	104 ± 9	5.7 ± .6	13 ± 2	593 ± 12	632 ± 6	4210 ± 13	-
10	2.3 x 10 ⁶	533 ± 11	1497 ± 120	74 ± 10	-	125 ± 4	15 ± 1	158 ± 3	294 ± 9

EVAPORATOR STUDY

[illegible]

SW-12 C-100

257101

PC/100 ml

PC/ml Liquid

PRELIMINARY

DATA
5/75

		3H	22Na	60Co	90Sr	106Ru
EW-6						
2.14m ³	CONC. pCi/cc or ml	-	$8.8 \pm 4.8 \times 10^{-7}$	$4.1 \pm 0.2 \times 10^{-5}$	$8.4 \pm 0.9 \times 10^{-7}$	$1.8 \pm 0.4 \times 10^{-5}$
2549 ml	AIR	-	-	-	-	-
	FILTRATE	$4.44 \pm 1.0 \times 10^{-5}$	$< 1.2 \times 10^{-2}$	$1.3 \pm 0.2 \times 10^{-1}$	$2.4 \pm 0.2 \times 10^{-2}$	$< 1.1 \times 10^{-1}$
	FILTRANT A+B	-	ND	$4.8 \pm 1.2 \times 10^{-3}$	$1.5 \pm 0.8 \times 10^{-4}$	$9.2 \pm 7.7 \times 10^{-3}$
	0.8µm filter	-	-	-	-	-
	TOTAL pCi	-	-	-	-	-
	AIR	-	1.8	39	1.8	40
	FILTRATE	1.13×10^9	< 30	320	63.7	< 280
	FILTRANT	-	-	12	0.38	24
	TOTAL	1.13×10^9	1.8	420	66	64
	Q	-	-	-	-	-
	TOTAL STACK, µCi (x2114)	2.39×10^6	0.038	0.89	0.14	0.14
	µCi/sec (6120 sec)	391	6.2×10^{-7}	1.5×10^{-4}	2.3×10^{-5}	2.2×10^{-5}
EW-7						
1.85m ³	AIR	-	$< 5 \times 10^{-7}$	$1.8 \pm 0.1 \times 10^{-5}$	$4.7 \pm 0.1 \times 10^{-7}$	ND
2166 ml	FILTRATE	$1.47 \pm 0.6 \times 10^{-5}$	-	$1.0 \pm 0.2 \times 10^{-1}$	$1.5 \pm 0.1 \times 10^{-2}$	ND
	FILTRANT	-	ND	$2.1 \pm 0.7 \times 10^{-3}$	$< 9 \times 10^{-5}$	ND
	TOTAL pCi	-	-	-	-	-
	AIR	-	< 0.49	32	0.86	-
	FILTRATE	3.18×10^8	-	40	32.5	-
	FILTRANT	-	-	4.5	< 0.2	-
	TOTAL	3.18×10^8	< 0.49	76	33	-
	Q	-	-	-	-	-
	TOTAL STACK, µCi (x2114)	6.73×10^5	< 0.0010	0.16	0.071	-
	µCi/sec (5280s)	127	$(< 2 \times 10^{-7})$	3.0×10^{-5}	1.3×10^{-5}	-
	Ratio: $\frac{\text{Test 6}}{7}$	3.1	-	5.0	1.8	-

TESTS 6 & 7.

SUMMARY

		^{131}I	^{134}Cs	^{137}Cs	^{226}Ra	^{228}Ra	Gross N
5	$5.8 \pm 0.1 \times 10^{-6}$	$1.25 \pm 0.08 \times 10^{-5}$	$1.1 \pm 0.6 \times 10^{-6}$	$1.68 \pm 0.08 \times 10^{-5}$	$< 4 \times 10^{-6}$	$2.5 \pm 1.6 \times 10^{-6}$	- count
	$< 4.4 \times 10^{-2}$	$2.6 \pm 0.8 \times 10^{-2}$	$< 1.6 \times 10^{-1}$	$3.2 \pm 1.1 \times 10^{-2}$	$< 1.2 \times 10^{-1}$	$< 2.0 \times 10^{-2}$	$.0347 \pm .0$
10^{-3}	ND	ND	ND	ND	ND	ND	$.0129 \pm .0$
12	-	27	2.3	36	< 9	5.5	-
< 110	-	71	< 410	80	< 300	< 50	89
-	-	-	-	-	-	-	33
12	-	98	2.3	116	(< 300)	5.5	122
0.025	-	0.21	0.0049	0.25	-	0.12	0.258
5	4.1×10^{-6}	3.4×10^{-5}	7.9×10^{-7}	4.0×10^{-5}	-	1.9×10^{-6}	4.2×10^{-5}
	$1.8 \pm 1.2 \times 10^{-6}$	$1.3 \pm 0.6 \times 10^{-6}$	$< 1 \times 10^{-6}$	$7.2 \pm 0.8 \times 10^{-6}$	ND	-	-
	-	$< 1 \times 10^{-2}$	-	$1.2 \pm 0.9 \times 10^{-2}$	$1.5 \pm 0.9 \times 10^{-1}$	ND	$.0147 \pm .000$
	ND	ND	ND	ND	ND	-	$.0183 \pm .00$
3.3	-	2.4	< 2	13	-	-	-
	-	< 4	-	4.7	192	-	32
	-	-	-	-	-	-	40
3.3	-	2.4	-	18	192	-	72
0.0070	-	.0051	-	.038	0.41	-	0.152
1.3×10^{-6}	-	9.6×10^{-7}	-	7.2×10^{-6}	7.7×10^{-5}	-	2.9×10^{-5}
3	-	(35)	-	5.6	-	-	1.5

PRELIMINARY DATA 5/25

1. EA-9A - a 32-min. sample. Results extrapolated to entire period (1100)
2. EA-8+9 - with EA-9A results, subtract from EA-8+9 to leave only Test 8 activity

		^3H	^{60}Co	^{90}Sr	^{134}Cs
	pCi/cc pCi/ml				
	AIR [test 8+9 (32 min)]	-	$5.6 \pm 0.08 \times 10^{-5}$		$2.8 \pm 0.2 \times 10^{-1}$
3701 ml	FILTRATE	$3.05 \pm 0.08 \times 10^5$	$2.7 \pm 1.1 \times 10^{-2}$	0.13 ± 0.03^{-1}	$< 1.6 \times 10^{-2}$
	FILTRANT	-	$1.7 \pm 0.5 \times 10^{-3}$	4.1 ± 1.1^{-4}	-
	TOTAL pCi AIR (effectively)	-	23		0
	FILTRATE	1.13×10^9	99	477	< 59
	FILTRANT	-	6.3	1.5	-
	TOTAL	1.13×10^9	128	479	< 59
	TOTAL STACK, μCi ($\times 2114$)	2.39×10^6	0.27	7.6	- (4)
	$\mu\text{Ci/sec}$ (9300s)	257	2.9×10^{-5}	1.1×10^{-4}	- (1)
	1.9 CONC				
0.582 $\Rightarrow 2.12 \text{ m}^3$ 2300 ml	AIR pCi/cc (EA-9A)	-	$2.9 \pm 0.05 \times 10^{-4}$	1.8 ± 0.2^{-4}	$1.7 \pm 0.2 \times 10^{-1}$
	FILTRATE pCi/ml	$1.79 \pm 0.02 \times 10^6$	$3.5 \pm 0.2 \times 10^{-1}$	1.9 ± 0.05	$4.0 \pm 1.3 \times 10^{-1}$
	FILTRANT pCi/ml	-	$1.8 \pm 0.04 \times 10^{-1}$	3.5 ± 0.2^{-3}	ND
	TOTAL pCi AIR (effectively)	-	635	397	37
	FILTRATE	4.12×10^9	804	4213	92
	FILTRANT	-	419	8	
	TOTAL	4.12×10^9	1258	4719	129
	TOTAL STACK, μCi ($\times 2114$)	8.70×10^6	3.9	10	0.27
	$\mu\text{Ci/sec}$ (6240s)	1395	6.3×10^{-4}	1.6^{-3}	4.4×10^{-5}
	Ratio $\frac{8}{9}$	0.18	0.046	.064	
			22x		

min)
1.5
kg.

MF

T: 8 & 9

SUMMARY

	^{137}Cs	^{226}Ra	^{228}Ra	Gross α
10^{-6}	$8.9 \pm 0.07 \times 10^{-5}$	$< 1.2 \times 10^{-6}$	$1.2 \pm 0.2 \times 10^{-6}$	-
2	$3.4 \pm 1.1 \times 10^{-2}$	ND	ND	$.0039 \pm .0007$
	-	$3.9 \pm 2.9 \times 10^{-3}$	-	$.00904 \pm .0002$
	42	-	3.1	-
	125	-	-	14
	-	14.5	-	33
	167	14.5	3.1	47
(2)	0.35	.031	.0066	.099
(10^{-5})	3.8×10^{-5}	3.3×10^{-6}	7.1×10^{-7}	1.1×10^{-5}
5	$4.6 \pm 0.05 \times 10^{-4}$	ND	ND	-
-2	1.19 ± 0.03	ND	ND	$.0265 \pm .0013$
	$1.5 \pm 1.2 \times 10^{-3}$	ND	ND	$.0246 \pm .0002$
	1003	-	-	-
	2747	-	-	61
	4	-	-	57
	3754	0	0	118
	7.9			.249
	1.3×10^{-3}			4.0×10^{-5}
	0.130			0.28
	30x			