

thallium sulphate

66-thallium sulphate (CAS# 7446-18-6)																
Table 1a. Sub-lethal acute poisoning (single dose): Clinical observations (time related)																
Ref No.	Reference (linked to full source)	Case No.	Case age/sex	Case category	Dose: g	Notes (case, dose, time)	Time (exposure to sampling): h	Notes (blood sample)	Blood conc.: mg/l	Blood conc.: µM	Metabolite Blood conc.: mg/l	Metabolite Blood conc.: µM	Symptoms and signs	Treatment	Time (exposure to recovery): h	
1	Grunfeld 1964	1	22M	S, A	1.3	ED, ET	744	wb	0.3	1.2			MS,G,V,N E96h:D	(b)		
		1					1032	wb	0.1	0.4					E1032	
		2	21M	S, A	1.3	ED, ET	120	wb	0.4	1.9			MS,V,N,G,H,D(a)	(b)	E912	
2	Sunderman 1965	3	18F	S, A	0.38	ET	408	wb	4.2	20.6			MS,V,PS,N,C,D(a)	(c)		
		3					1080	wb	2.3	11.3					E1800	
3	Loew 1972	4	19F	S, A	1.55	ED	120	sr	1.4	7.0				0h:FD E0-5h, 24-96h:HD	NR	
		4														
4	Stevens 1974	5	49F	S, A	0.3	ET	24	wb	0.2	1.1			G,MS	0h:ST I:(d)		
5	Hoppe-Seyler 1975	6	16F	S, A	NR	(e)	504	sr	0.6	2.9			3w ba: MS 2-0w ba: MS,D,SS	ST,(d),HD	NR	
		6														
		7	26F	S, A	1.6			3	sr	2.7	13.2			0h:MS,H 2w:N 4w:D(a)	0h:ST 0-1w:HD:6(f)	NR
		7														
		8	26F	S, A	1.5			10	sr	3.0	14.7			0h:G,MS,H	0h:FD,HD,(d),ST	NR
6	Barckow 1976	8					432	sr	0.2	0.7					NR	
		9	25M	S, A	1.15								E72h:MS I: N,H,D(a)	0h:ST,FD I:(i)	NR	
		9												40-112h: HD	NR	
7	Drasch 1977	10	16F	S, A	0.3	(j)	504	wb	0.6	2.9			NR(k)	0h:ST,FD, I:HD	NR	
		10													NR	
		11	26F	S, A	1.3	(j)	3	wb	0.27	1.3			NR(k)	ST,FD,HD	NR	
		12	26F	S, A	1	(j)	22	wb, p	1.5	7.3			NR(k)	ST,FD,(d),HD:11	NR	
		12														
		13	28M	S, A	0.9	(j)	50	wb	1.8	8.8			NR	ST,FD,HD:9		
		13														
13															NR	
																NR

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8	Pedersen 1978	14	56F	S, A	2		12	wb	1.16	5.7				0h:ST,FD,(d)	
		14					84	wb	0.04	0.2				I:HD 10 d	504
9	BGPC 78 06876	15	31	NR	0.24		0.5	wb	0.8	3.8			NR	(d)	NR
10	BGPC 79 14-01	16	30	NR	0.5	(e)	2	wb	0.2	1.0			NR	(d)	NR
11	BGPC 80 19899	17	33	NR	0.3		24	wb	0.6	2.7			MS(l)	HD,(d)	NR
12	Graben 1980	18	21F	S, A	0.75	(m)	24	wb	1.5	7.3			0h:MS,H	0-92h:HD 0-8d:	
		18												FD,(d) 8d:(n)	E192
13	Koshy 1981	19	52M	S, A	20	(o)	312	wb	0.8	3.7			0-1w:G,MS,N 1-2w:MS	0-5d:ST, 6-9d:	
		19											3w:D(a), LS(p)	PD 12-18d:FD	NR
14	Nogué 1982	20	27M	S, A	0.75	(q)	36	wb	1.0	4.6			E36h:N E288h:D(a)	FD 18h:HD;	
		20					372	wb	0.1	0.4				I:HD 19 d, (r)	E1344
15	Heath 1983	21	58M	U, A	NR		120	pl	2.0	9.8			0h:MS I:G,N I:D(a)	HP,FD,(d)	
		21					192	pl	0.4	2.0					NR
		22	28M	S, A	NR		120	pl, (h)	0.3	1.5			MS,N,D(a)	HP,FD,(d)	NR
16	Christensen 1986	23	22M	NR	NR		1440	wb	0.14	0.685			N,G	NT	
		23					1632	wb	0.1	0.4					NR
17	Hurlbut 1990	24	36F	NR	NR		216	wb	1.3	6.1			N,G	(s)	NR
18	BGPC 90 39804	25	28	NR	0.6		72	wb, (g)	1.00	4.89			MS(t)	(d),FD	NR
19	BGPC 93 00594	26	38	NR	1.5		1.5	wb	10.9	53.3			M S, (a)	0-2w: (d),HD	
		26					24	wb	2.5	12.2					
		26					120	wb	0.5	2.3					NR
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW thallium 204.4															
Ingested dose of thallium sulphate (with the exception of cases No. 10-13 and 19) is given.															
(a) alopecia.															
(b) dimercaprol (also known as "BAL", a metal chelating agent).															
(c) sodium diethyldithiocarbamate ("Dithiocarb") + dimercaprol.															
(d) Prussian blue (potassium ferric ferrocyanide).															
(e) plus alcohol.															
(f) day 7 concentration of thallium in serum was still almost 2.7 mg/l.															
(g) unit error?															
(h) 0.35 mg/l in whole blood.															
(i) Berlin blue (synonym: Prussian blue), 3 g/d for 7 weeks.															
(j) weight of elemental thallium.															
(k) clear, typical symptoms.															
(l) paraesthesias, polyneuritis, constipation.															
(m) 14 weeks pregnant.															
(n) surgical abortion performed.															
(o) thallium iodide ingested.															
(p) unsteady gait and muscle weakness after 1 year.															
(q) schizophrenic.															
(r) diphenylthiocarbazon ("Dithiozone") and dithiocarb, and Prussian blue at different times for comparison.															
(s) 2,3-dimercaptosuccinic acid (DMSA), which is a chelating agent.															
(t) dorsalgia, lower limb pain, neuropathia, anorexia.															

Table 1b. Sub-lethal acute poisoning (single dose): Clinical observations (without time information)															
Ref No.	Reference (linked to full source)	Case No.	Case age/sex	Case category	Dose: g	Notes (case, dose, time)	Time (exposure to sampling): h	Notes (blood sample)	Blood conc.: mg/l	Blood conc.: µM	Metabolite Blood conc.: mg/l	Metabolite Blood conc.: µM	Symptoms and signs	Treatment	Time (exposure to recovery): h
1	Paulson 1972	1	56F					sr	3.0	14.7			N	(a), HD	
2	BGPC 8123863	2	20					wb	23.0	112.5					
3	Roby 1984	3	51F					sr	0.5	2.4			N, H, (b)	ST, (c)	
4	Delille 1989	4	27M					wb	0.22	1.1					
5	Chandler 1990	5	39M				>672	sr	0.18	0.9			R	TR, (c)	
6	Labauge 1991	6	28F					sr	0.17	0.8					
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW thallium 204.4															
(a) an eight-day course of dithizone, 20 mg/kg/day, orally, in four divided doses; HD on third day.															
(b) alopecia developed over the following weeks after acute thallium poisoning.															
(c) Prussian blue (potassium ferric ferrocyanide).															
Table 2a. Lethal acute poisoning (single dose): Clinical observations (time related)															
Ref No.	Reference (linked to full source)	Case No.	Case age/sex	Case category	Dose: g	Notes (case, dose, time)	Time (exposure to sampling): h	Notes (blood sample)	Blood conc.: mg/l	Blood conc.: µM	Metabolite Blood conc.: mg/l	Metabolite Blood conc.: µM	Symptoms and signs	Treatment	Time (exposure to death): h
1	Grunfeld 1964	1	30F	S, A	3.3	ED	92	wb	2.0	9.9			8h ba:MS,V,G,N	ST,AR	
		1				ET	140	wb	1.9	9.4					E140
2	SWPC 1970 5020688	2	30F	S, A	1.5		3	wb	0.8	3.9			0h:NS 24h:G 76h:ED,E		
		2											168h:C 216h:DC 384h:B		
		2											408h:CA		387
3	Hologgitas 1980	3	23M	S, A	17	(a), ET	24	wb	8.0	39.1			0h:N E24h:V,RF I:KF,H,C	0h:ST,FD I:PD	
		3				ET	120	wb	1.8	8.8			I:CA	E24h:AR E72h:	
		3				ET	312	wb	4.4	21.5				(b)	E360
4	de Groot 1985	4	24M	U, A	1.2	ET	72	pl	4.8	23.5			0h:G,N,H E96h:R,L,DC,P	ba:ST,(b) I:	
		4											E120h:DC,KF	HP,HD	E192
5	Aoyama 1986	5	26M	S, A	8	(c)	16	pl	11.3	55.3			0h:G,KF 7h:N I:CA	0h:ST 10h:HP,HD	
		5											25h:HP+HD I:CR		40
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW thallium 204.4															
Ingested dose of thallium sulphate (with the exception of cases No. 3 and 5) is given.															
(a) weight of elemental thallium (intake of Clerici's solution). Same case as in table: Post-mortem observations (time related).															
(b) Prussian blue (potassium ferric ferrocyanide).															
(c) intake of 10 g of thallium malonate.															

Table 2b. Lethal acute poisoning (single dose): Clinical observations (without time information)															
Ref No.	Reference (linked to full source)	Case No.	Case age/sex	Case category	Dose: g	Notes (case, dose, time)	Time (exposure to sampling): h	Notes (blood sample)	Blood conc.: mg/l	Blood conc.: µM	Metabolite Blood conc.: mg/l	Metabolite Blood conc.: µM	Symptoms and signs	Treatment	Time (exposure to death): h
1	van Kesteren 1980	1	22F			(a)		pl	3.0	14.7				ST, (b)	
2	Roby 1984	2	61F					sr	7.4	36.2					
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW thallium 204.4															
(a) ingested over 3 days.															
(b) Prussian blue (potassium ferric ferrocyanide).															
Table 3a. Post-mortem observations (time related)															
Ref No.	Reference (linked to full source)	Case No.	Case age/sex	Case category	Dose: g	Notes (case, dose, time)	Time (exposure to sampling): h	Notes (blood sample)	Blood conc.: mg/l	Blood conc.: µM	Metabolite Blood conc.: mg/l	Metabolite Blood conc.: µM	Symptoms and signs	Treatment	Time (exposure to death): h
1	Hologgitas 1980	1	23M	S, A	17	(a)		T, wb	8.0	39.1			0h:N E24h:V,RF I:KF,H,C	0h:ST,FD I:PD	
		1						wb	1.8	8.8			I:CA	E24h:AR E72h:	
		1						wb	4.4	21.5			(b)		E360
2	Heath 1983	2	58F	U, A				wb	36.0	176.2			0h:MS I:N,LP E48h:DC,CF	ST,AR	E72
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW thallium 204.4															
(a) weight of elemental thallium (intake of Clerici's solution). Same case as in table: Lethal acute poisoning (single dose): Clinical observations (time related).															
(b) Prussian blue (potassium ferric ferrocyanide).															
Table 3b. Post-mortem observations (without time information)															
Ref No.	Reference (linked to full source)	Case No.	Case age/sex	Case category	Dose: g	Notes (case, dose, time)	Time (exposure to sampling): h	Notes (blood sample)	Blood conc.: mg/l	Blood conc.: µM	Metabolite Blood conc.: mg/l	Metabolite Blood conc.: µM	Symptoms and signs	Treatment	Time (exposure to death): h
no cases															
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW thallium 204.4															