

ethylene glycol

54-ethylene glycol (CAS# 107-21-1)															
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	SPC 1981:3	1	55M		800	(a)	3		4960	80000			0h: MS; 3d: RA, HA, L	0h: ST, AB, EI 3d: AR	336
2	SPC 1989:5	2	35M	S	NR	E, (b)	2		1674	27000			0h: NS; I: NS	0h: ST, EI	72
		2				E	26		434	7000					
		2				E	50		248	4000					
3	SPC 1989:6	3	AdF		300	(a), (b)	6		2852	46000			ba: V; 0h: NS; I: NS	0h: ST, EI	24
		3					15		502	8100					
		3					20		174	2800					
4	SPC 1991:9	4	28M		200	(c)	2		2294	37000			0h: NS	0h: ST	96
		4					9		1240	20000				7h: HD	
		4					15		248	4000					
5	Underwood 1973	5	27M	A, X	NR	(c)	4	(d)	1450	23000			0h: MS, MA; I: K	0h: ST, AB, EI	216
		5											12h: RM; 36h: K	3h: HD 8h	
6	Parry 1974	6	19M	X	200	E	5		900	14490			0h: MS, MA	0h: ST	240
		6				E	29		2.5	40.3			18h: SZ, N, HA; 2d: KF	18h: EI, PD 10d	
		6											3d: RM/N; 10d: RM/KF		
7	Stokes 1980	7	33F	S	2000		1		5600	90160			0h: MS	0h: ST, EI	
		7					4		4700	75670				3h: HD 4h, FD	
		7					8		500	8050					
		7					12		1500	24150					
		7					20		1000	16100					
8	Sangster 1980	8	27M		NR		8		1400	22540			0h: G, MS	0h: ST, EI	
		8					24		179	2882				I: HP 4h	
		8					38		7	113					

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9	Jacobsen 1981	9	51M	U	900	E, (b), (c)	12		2523	40700			0h: C, K, MA	0h: ST, AB, EI; 6h:HD	504
		9											24h: PN, KF; I: SS, N	24h: AR, HD 9x	
10	Peterson 1981	10	51M	A	600	(c)	2,5		6500	104000			0h: MS, MA	0h: ST, AB, EI	
		10					6		3250	52400			96h: K	4h: HD 6h	
		10					12		600	9700					
		10					80		0	0					
11	Jacobsen 1982 & Jacobsen 1984	11	36M		900	(b), (c)	12		2499	40300	1932	25404	0h: C, MA	0h: ST, AB, EI	504
		11											6h: SZ; I: AP, K	6h: HD, AC	
		12	47M		100	E (a), (b), (c)	18		242	3900	1932	25404	0h: MS, MA	0h: ST, AB, EI	144
		12											I: K	6h: HD 8h	
		13	37M		200	E (a), (b), (c)	18		490	7900	1491	19606	0h: MS, MA	0h: ST, AB, EI	600
		13											I: KF, PN	6h: HD 9h; I: HD x5	
12	Brown 1983	14	58M	S	NR		48		510	8211			0h: C, MA	0h: ST, AR, EI	96
		14					96		0	0					
13	Østberg 1983	15	43M		300	(b), (c)	3,5		2108	34000			0h: MS, MA	0h: ST, FD, EI, AB	84
		15					5,5		1116	18000			12h: RM	6h: HD 8h	
		15					10,5		248	4000					
		16	55M		NR	E, (b), (e)	11,5		496	8000	1795	23603	0h: MS, MA	0h: ST, EI, AB	336
		16				E	17,5		124	2000			I: KF	2h: HD 8.5h	
		16				E	26,5		62	1000				I: HD	
14	Jacobsen 1984	17	51M	U	NR	(b), (c)	12,5		2542	41000	1857	24418	0h: C, MA	0h: ST, AR, EI	
		17													
15	DaRoza 1984	18	27M	U	1000	(b), (c)	6		1500	24150			0h: MS	0h: ST, EI	36
		18					18		330	5313				2h: HD 10h	
16	Catchings 1985	19	24M	S, X	NR	(f)	14		1901	30606			0h: C; 2h: MA	0h: ST	528
		19											I: KF, SZ; 2d: R (3d:ARDS)	2h: AB, EI, AR, HD	
17	Gabow 1986	20	30F	U, X	NR		12		380	6118			ba: -6h: V, MS; 0h: MS,	0h: ST, AB, EI	
		20											MA; I: K	1h: HD 5h	
		21	41M		NR	(g)	19		860	13846			0h: C, SZ, MA	0h: EI, AR, AB	
		21											I: K	1h: HD 9h	

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18	Cheng 1987	22	25M	X	280		3		3030	48783			0h: MS, MA	0h: ST, AB, EI	72
		22					13		1500	24150				8h: HD 4h	
		22					17		450	7245					
19	Haupt 1988	23	27F	S, X	100	(c)	1		2550	41055			0h: MS, MA	0h: ST	
		23					8		577	9290			4d: C	1h: EI	
		23					26	y	54	869			6d: R	9h: HD 4d; 6d: AR	
20	Jacobsen 1988	24	36F	X	NR	E, (a), (c)	8		2539	40900	1600	21039	0h: MA, ED(h)	0h: ST, AB	504
		24				E	17		1117	18000	1500	19724	11h: SZ, KF	9.5h: EI	
		24				E	24	y	248	4000	300	3945	3d: RM; SS: K 4.5 months	11h: HD 7h	
		24				E	38		186	3000	75	986			
		24													
		25	38F	X	240	E, (a), (c)	30		4233	56400	1681	22107	0h: C, MA	0h: ST, AB	504
		25				E	34		2517	40600	1395	18343	l: ED(h)	2h: EI	
		25				E	39	y	373	6000	150	1972	48h: RM, KF	4h: HD 5h	
		25				E	44		373	6000	150	1972		l: HD	
21	Malmlund 1991	26	37M		NR	ET, (a),(c), (i)	3		6830	110000	<40	<526	0h: C, MA	0h: AR, AB, EI	72
		26				E	13		3720	60000	<40	<526		10h: HD 6h	
		26				E	19	y	1490	24000	<40	<526			
		26				E	43		1178	19000	<40	<526			
		26				E	55		124	2000	<40	<526			
		27	22M		NR		24		430	7000	2200	28928	ba: -12h MS, R, V	0h: AR, AB, EI	504
		27					32	y	186	3000	75	986	0h: MS, MA(6.9/-)	4h: HD 4h	
		27					47		186	3000	525	6903	l: KF	24h: HD 4h	
		27					58		0	0	0	0		l: HD	
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW ethylene glycol = 62.1															
MW glycolate = 76.1															
EI = ethanol infusion															
(a) plus some ethanol.															
(b) alcoholic.															
(c) antifreeze.															
(d) some salicylate <50 mg/l															
(e) chronic bronchitis and emphysema.															
(f) some salicylate (51 mg/l).															
(g) lamp oil.															
(h) hypocalcemia.															
(i) carbon monoxide poisoning involved initially (carboxyhemoglobin 48%).															

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	SPC 1982:2	1	54M		NR				2976	48000			0h: MA; I: KF	0h: ST, EI, AB, HD, PD	240
2	SPC 1982:5	2	44M		NR				105	1700			0h: MS, MA; I: K	0h: ST, AB, EI, AR, PD	504
3	SPC 1984:3	3	43F		NR				930	15000			0h: C, R, LP, HA, MA	0h: ST, AB, EI, AR, HD 5h	192
4	Lavelle 1977	4	48M						480	7728			0h: MS, MA	0h: ST	168
		4							240	3864				3h: EI	
		4							30	483				L: HD 4h	
5	Vale 1982	5	39F		170				2902	46800				0h: ST, AB, EI, PD	
		6	51M		340				6603	106500				0h: ST, AB, EI, PD	
6	Okell 1983	7	46M		NR	(a)	>8		900	14490			0h: DC, HA, IP, MA	0h: ST, AB, EI, PD	1176
		7							90	1449			I: LP, RA, KF	I: AR; 8h: HD 12h	
7	Bobbit 1986	8	36M		NR	(b)	>12		4650	74879			0h: MS; 6h: C, MA	6h: ST, AB	480
		8							200	3220			12h: MA, DC, RF, BD	12h: EI, HD	
		8											7d: RM		
8	Steinke 1989	9	30M	X	NR		>24		40	6441			0h: MS; 12h: C, MA, N, RF	0h: ST, AB, AR, HD	1632
9	Blakely 1993	10	44F	A	720	(c)			2600	41868			0h: DC, MA	0h: AR, ST, AB, EI	
		10												2h: HD 48h	
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW ethylene glycol = 62.1															
MW glycolate = 76.1															
EI = ethanol infusion															
(a) alcoholic.															
(b) phenytoin-treated epilepsy.															
(c) antifreeze.															

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	SPC 1991:6	1	37M	S	NR	E	12		868	14000			0h: DC, MA; I: KF	0h: ST, EI, FD, AA, HD 10h	24
2	AAPCC 1986:34	2	29M	S	NR		18		1540	24800			12h: C, SZ, MA; I: LP	I: HD; 12h: EI	108
3	AAPCC 1990:30	3	33	A	NR	E, (a)	30		1400	22544					
4	AAPCC 1991:29	4	56M	U	330		3		1760	28341			0h: MS; 1h: LP, AR, E, R	0h: ST; 1h: RA, AB, EI	432
5	AAPCC 1991:30	5	61	S	NR	(a)	8,5		50	805			36h: MA, RF, IH, B	24h: HD	
6	AAPCC 1992:25	6	27	S	NR	E, (a)	18		250	4026					
7	Bowen 1978	7	43M		NR	(a)	12		1000	16103			0h: MS; I: C, MA	NR	45
		7					21		370	5958					
		8	42M		500	(b)	6		7120	114654			0h: MS; I: C, MA, SZ	AB, EI	49
		8					18		2730	43961					
		8					37		920	14815					
8	Hewlett 1986	9	46M	A	200	(a)	7	(c)	193	3100	1163	15293	ba: C	0h: ST, AB	672
		9					15	(c)	93	1500	1051	1320	0h: MS, MA	1.5h: EI	
		9					24	(c)	31	500	188	2472	I: SZ, C, KF, DC	I: AR	
		9					28	(c)	31	500	15	197		9h: HD 7h	
9	Verrilli 1987	10	27M	S, X	NR	E	8		140	2254			0h: MS; 4h: C, MA	4h: AB, AR, ST	E 12
		10											I: HA, CA, (OL: L, P, K)		
10	Aderjan 1988	11	45M	S	250		3		5100	82125			0h: C, MA, ED, KF	0h: ST, AB, NA	28
11	Introna 1989	12	61M	X	NR		17		1900	30590			0h: C, MA	0h: ST, AR, AB, HD	120
		12											48h: SZ, KF; 96h: CA		
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW ethylene glycol = 62.1															
MW glycolate = 76.1															
EI = ethanol infusion															
(a) antifreeze.															
(b) plus some tranquilizer drugs.															
(c) concentration of glycolate within brackets.															

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	SPC 1985:1	1	53M		NR	(a)			1860	30000			0h: C, R, MA, LF, KF	0h: ST, AB, EI, PD	14
2	SPC 1991:7	2	53M	S	NR	(b)	<18		1798	29000			0h: C, RA, MA, E, L, K; l: KF, HF		504
3	AAPCC 1985:20	3	33M		NR				380	6118			0H: C, ED(f), MA l: KF	0h: ST, EI, HD	
4	AAPCC 1986:16	4	37	S	NR	(c)			5250	84525					
5	AAPCC 1986:17	5	44	S	NR	(c)			5840	94024					
6	AAPCC 1987:8	6	18	S	NR	(c)			890	14329					
7	AAPCC 1987:9	7	40	S	NR	(c)			32390	521479					
8	AAPCC 1987:29	8	28		NR				4180	67298					
9	AAPCC 1988:19	9	25		NR	(c)			380	6118					
10	AAPCC 1988:22	10	50	S	NR	(c)			173	2785	173	2785			
11	AAPCC 1988:34	11	24	S	NR				250	4025					
12	AAPCC 1988:36	12	56	S	NR				310	4991			ba: CA		
13	AAPCC 1989:18	13	25	S	NR	(c)			2496	40186					
14	AAPCC 1989:19	14	59		NR	(c)			1278	20576					
15	AAPCC 1989:20	15	69M		NR	(c), (d)			950	15295			0h: SZ, RA; l: C, K, KF,B	0h: AR, AC	408
16	AAPCC 1989:42	16	69	S	NR				57	913	57	913		48h: EI, HD	
17	AAPCC 1990:56	17	28		NR				584	9402	584	9402			
18	AAPCC 1991:55	18	32	S	NR				6900	111090					
19	AAPCC 1991:59	19	55		NR				400	6440					
20	AAPCC 1992:26	20	36	S	NR		>24		730	11753					
21	AAPCC 1992:51	21	62	S	NR		>12		100	1610					
22	AAPCC 1993:43	22	24	S, A	NR				1530	24633					
23	AAPCC 1993:44	23	24	S, A	NR				110	1771					
24	AAPCC 1993:45	24	25	A, U	NR				1440	23184					
25	AAPCC 1993:47	25	39	A, U	NR				1150	18515					
26	AAPCC 1993:48	26	59	A	NR				100	1610			ba: CA		
27	AAPCC 1993:49	27	59	S, A	NR				230	3703					
28	AAPCC 1993:50	28	69	A	NR				2110	33971					
29	Bergström 1979	29	24M	U	NR				580	9338					
		29							949	15300			0h: C, MA	NR	
		29							837	13500					
		29							533	8600					

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30	Godolphin 1980	30	18M		NR			980	15778			0h: NS, MA	0h: ST, AB, HD	
		30						860	13846			I: KF, SZ, B		
		30						660	10626					
		30						0	0					
31	Cadnapaphornchai 1981	31	54M		NR	(e)		7750	124775			0h: C, MA	0h: ST, AR, AB; 4h: PD	96
		31						480	7728			6h: RM/C; I: KF, SZ, CA, C	6h: HD; I:PD	
32	Jacobsen 1981	32	37M	Z	NR	E, (a)	32-56	1779	28700			0h: C; 8h: MA	0h: ST, AB, EI	336
		32										9h: S; I: KF, F, R	9h: HD 4h, AC	
		32											I: PD, AR	
33	Jacobsen 1984	33	37M	U	NR	(c), (d), (e)	12-48	1612	26000	2228	29297	0h: C, MA	0h: ST, AR, AB, EI, HD	408
		33										I: SZ, PN, CA		
34	Jacobsen 1986	34	49F		NR	(d)	0	239	40900	2040	26824		8h: HD, EI, AB	
		34					8	1240	20000					
35	Azzouz 1992	35	NR		NR			400	6440			0h: C	NR	24
		35	NR		NR			300	4830			0h: C	NR	24
		35	NR		NR			145	2335			0h: C	NR	504
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]														
MW ethylene glycol = 62.1														
MW glycolate = 76.1														
EI = ethanol infusion														
(a) plus some alcohol.														
(b) possibly 0.6 g Mallorol.														
(c) antifreeze.														
(d) history of methyldopa-treated hypertension.														
(e) alcoholic.														
(f) hyperglycemia.														

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	AAPCC 1988:21	1	34M		1000	(a), E	28		2090	33649			ba: V, MS; 0h: C, SZ, MA; I: CA	0h: AC, HD	
2	Harger 1959	2	Ad	U	NR		6		4230	68103					
		3	Ad	U	NR	(a)	3		3840	61824					
		4	Ad	U	NR	(a)	36		240	3864					
3	Walton 1978	5	20M	U, A	150	(a)	36		80	1288			OL: AP, K		
		6	50M	U	500		24		600	9660			OL: P		
		7	32M	S	1500		28		4100	66010			OL: P		
		8	32F	S	300		18		560	9016			OL: P		
4	Aderjan 1988	9	45M	S	250		28		720	11592			0h: C, MA, ED, KF	(0h: ST, AB, NA)=NT	
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW ethylene glycol = 62.1															
MW glycolate = 76.1															
EI = ethanol infusion															
(a) antifreeze.															
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
1	AAPCC 1987:11	1	47	S	NR	(a)			9267	149199					
2	AAPCC 1993:22	2	40	S	NR	(a)			3350	53935			ba: CA		
3	AAPCC 1993:46	3	26	A, U	NR				3000	48300					
4	Vale 1982	4	56M		170				2500	40300			NR	0h: ST, AB, EI, PD, HD	
5	Baselt 1990	5	9 cases		NR		6-48		2400	38640					
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW ethylene glycol = 62.1															
MW glycolate = 76.1															
EI = ethanol infusion															
(a) antifreeze.															