

malathion

11-malathion (CAS# 121-75-5)															
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	RTC 1978	1	52M	NR, A	N R		5.5	(e)	0.4	1.21			ba:MS,G,V,MLS,NLS 0h:HA 0.8h:MA	0h:ST 3h:HD 61h:T,NA	144
2	RTC 1982	2	41M	NR, A	NR	(d)	2.5	(e)	0.649	1.96			ba:MLS,C 0h:NLS 3.5h:HA NRh:MA	ba:ST,AT 4.5h:HD	432
		3	37M	NR, A	N R		5	(e)	0.037	0.11			0h:MLS,NLS	0h:ST 2h:HP	216
3	RTC 1983	4	30M	NR, A	NR	(d)	3.2	(e)	0.468	0.14			ba:MLS I:R	ba:ST,AT 4h:HP 25h:AR	648
		5	45F	NR, A	NR	(d)	2.8	(e)	0.312	0.94			ba:V,G 0h:NLS 2.8h:MA 82h:PN	0h:ST,AT 1.4h:HP 3.8h:HD 19.8h:T	288
4	RTC 1984	6	58M	NR, A	N R		4	(e)	0.188	0.57			ba:HA,MLS,NLS 12h:MA	ba:ST,AT 3h:HP 30h:T	312
		7	30M	NR, A	NR	(d)	6.5	(e)	0.052	0.16			ba:MLS,G,NLS	ba:AT 0h:ST 1.5h:HP 21.5h:T	216
		8	43F	NR, A	N R		2.6		0.126	0.38			ba:MLS,G,NLS	ba:AT 0h:ST 3h:HP 22.5h:T	144
		9	43F	NR, A	NR	(d)	1	(e)	0.296	0.90			ba:MLS,HA 0h:NLS, MA	ba:AT,ST 0.5h:HP 10.8h:T	432
		10	30M	NR, A	NR	(d)	5	(e)	0.169	0.51			ba:MLS,G,HA 0h:NLS 3h:R	ba:AT,ST 1.3h:HP 3h:AR 28h:HD 39h:T	600
		11	56M	NR, A	NR	(d)	3.5	(e)	0.37	1.12			ba:MLS 0h:NLS 3.2h:MA	ba:ST,AT 1.3h:HP 2.3h:HD 23h:T	336
		12	43M	NR, A	N R		10.5	(e)	0.01	0.03			ba:MLS,V,NLS 8h:MA	ba:ST,AT 1.2h:HP	216
		13	36M	NR, A	N R		5	(e)	0.032	0.10			1.4h ba: MLS,NLS,G,V 0h:MA 2h:MA	0h:ST,AT 1.2h:HP	168
5	RTC 1985	14	42M	NR, A	NR	(d)	4.5	(e)	0.328	0.99			ba:MLS,G 0h:NLS 5h:MA	ba:ST,AT 1h:HP	288
		15	44F	NR, A	N R		5	(e)	0.129	0.39			ba:MLS,V,NLS	1h:HP 5h:HD	264
		16	33M	NR, A	N R		5	(e)	0.104	0.32			ba:MLS,NLS,V 24h:RA 86h:PN	0h:ST,AT 1h:HP 6.5h:HD 24h:AR 76h:T	648
6	RTC 1986	17	42F	NR, A	N R		3.2	(e)	0.11	0.33			ba:MLS,NLS 0h:G 0.8h:HA	ba:ST,AT 1.3h:HP 2.8h:HD	288
7	RTC 1990	18	57M	NR, A	N R		6	(e)	0.04	0.12			ba:MLS,NLS,G	ba:AT 1h:ST,HP 2h:HD	504
		19	59F	NR, A	NR	(d)	3	(e)	0.2	0.61			ba:MLS,V,G	ba:AT,ST 0h:HP 2h:HD	504
		20	36M	NR, A	NR	(d)	4	(e)	0.1	0.30			ba:MLS,NLS,G 0h:HA	ba:AT,ST 2.4h:HP 4h:HD	264
8	Lyon 1987	21	24M	S, A		X, (a)	6	p	0.35	1.06			ba: MS	ba: ATR	
		21					16		0.34	1.03			0h: MS, PS	0h: NT	
		21					28		0.029	0.09			15h: V(b)	15h: ATR, PAM	
		21					34		0.005	0.02					48
9	Burgess 1990	22	53F	NR	N R		3		0.87	2.64			0h: MS, R, RA	0h: ST, AR, ATR	
		22					3.5	p	1.31	3.97				3h: PAM, HP 4h	
		22					4		0.68	2.06				3d: HP 4h	
		22					5	(c)	0.96	2.91					
		22					6	(c)	0.57	1.73					
		22					7	(c)	0.54	1.64					384

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Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW malathion = 330.4															
(a) 1.8 g injected i.v.															
(b) pseudocholinesterase (PChE) levels were undetectable for 24 h and increased to normal at 7 days.															
(c) endogenous clearance.															
(d) plus alcohol.															
(e) cholinesterase activity level (as percent of normal value) also measured .															
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
	no cases										(a)	(a)			
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW malathion = 330.4															

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	RTC 1982	1	36F	NR, A	NR	(a)	7	(b)	0.472	1.43			ba:MLS; 0h:NLS; 1h:HA,CF; 6h:R	ba:AT 0h:ST1.5h:HP 3.5h:AR 4.5h:HD	28
		2	38F	NR, A	N R		6	(b)	0.950	2.88			ba:MLS,V,G; 0h:NLS,PS,C,CF,HCF; 1h:HA; 23h: RA	ba:ST,AT 3.3h:HP 4.9h:HD 23h:AR	36
		3	54M	NR, A	N R		5.5	(b)	0.630	1.91			ba:MLS,NLS,DC,R,CF,MA; 5h:G	ba:AT,ST,AR 0h:FD 1h:AB 13h:PD	16
2	RTC 1983	4	34M	NR, A	N R		4.5	(b)	0.570	1.73			ba:MLS,NLS,HA; 0.6h:R	ba:AT 0h:ST 0.6h:AR 1.5h:HP	11
		5	46M	NR, A	NR	(a)	5.7	(b)	0.780	2.36			ba:MLS,NLS; 0h:G 3.3h:MA; 14.7h:R	ba:ST,AT 1.3h:HP 3.3h:HD 14.7h:AR	28,5
		6	64F	NR, A	NR	(a)	4.7	(b)	0.819	2.48			ba:MLS,NLS,R; 27.5h:PS	ba:ST,AT,AR	
		6											41.5h:C,HCF	6.5h:HD	49
		7	44M	NR, A	NR	(a)	5	(b)	0.602	1.82			ba:MLS; 0h:NLS,G,C; 21h:R 23h:MS; 40.5h:HCF; 58h:PN	ba:ST,AT 1.5h:HP 3.5h:HD 26h:AR	59
		8	42F	NR, A	NR	(a)	4.5	(b)	0.468	1.42			ba:MLS,R; 2h:G,C,NLS; 4h:CF; 5h:DC	ba:ST,AT,AR 2h:HP	5,4
		9	67M	NR, A	NR	(a)	4.5	(b)	0.677	2.05			0.5h:MLS,NLS,HA; 1.5h:G 29.5h:CF; 32h:DC; 68h:HCF	ba:AT 0.5h:ST 2h:HP 14h:HD 32h:PD	76,3
		10	54F	NR, A	N R		3.3	(b)	0.624	1.89			ba:MLS,NLS,V,G; 1.2h:E,HA, MA; 4.5h:R; 14h:CF	ba:AT,ST,AR 1.5h:HP 4h:HD	23
3	RTC 1984	11	45M	NR A	NR	(a)	3		1.670	5.05			ba:MLS,NLS,R,HA; 1.2h:MA	ba:AT,ST 0h:AR 0.8h:HP	10
		12	24M	NR, A	N R		6	(b)	1.580	4.78			ba:MLS,NLS,G; 2.9h:R; 6.4h:MA; 68h:PN	ba:ST,AT 1.9h:HP 2.9h:AR 3.6h:HD 63.4h:T	92
		13	65M	NR, A	N R		5.2	(b)	1.080	3.27			ba:MLS,V; 2h:NLS	ba:AT,ST 0.5h:FD 1.6h:HP 5.2h:HD	17,5
		14	34F	NR, A	N R		4.5	(b)	0.310	0.94			ba:MLS,NLS,G,HA; 2.3h:V; 31h:PN	2.3h:AT 3.8h:ST,HP 5.8h:HD 31h:AR	72,2
4	RTC 1985	15	29M	NR, A	NR	(a)	5	(b)	0.561	1.70			ba:V,G; 0h:NLS,HA; 1h:MA; 70h:PN	ba:AT 0h:ST,AR 0.7h:HP 3.5h:HD 72h:T	124
		16	53M	NR, A	NR	(a)	1.5	(b)	0.765	2.32			ba:MLS,NLS; 8.2h:RA; 11.2h:MA	ba:AT,ST,AR 1.2h:HP 3.8h:HD	34
		17	43M	NR, A	NR	(a)	8	(b)	0.410	1.24			ba:MLS,NLS; 8.2h:RA; 11.2h:MA	ba:AT,ST 1.4h:HD	55
		18	67F	NR, A	NR	(a)	3.8	(b)	0.780	2.36			ba:MLS,NLS; 0.5h:R; 3.5h:MA	ba:AT 0.5h:FD,ST,AR 1h:AB,HP	8,5
		19	22F	NR, A	N R		4.6	(b)	0.275	0.83			ba:MLS,G 1.7h:NLS; 28h:R	ba:AT 1h:ST,HP 28h:AR	39
5	RTC 1986	20	59M	NR, A	NR	(a)	4	(b)	0.720	2.18			ba:MLS,NLS,G,R; 0h:MA	ba:AT,ST,AR 1h:HP 2.5h:HD	70,5
6	RTC 1988	21	50M	NR, A	NR	(a)	4.5	(b)	0.319	0.97			ba:MLS,HA; 4.5h:MA; 9.5h:E; 20h:PN	1h:ST,AT,HP 17h:AR	37,3
		22	44M	NR, A	N R		4		0.310	0.94			ba:MLS,HA,NLS,G 3.5h:PE,MA; 20h:PN	2.4h:HP,ST 4h:HD22h:AR	62
7	Gleason 1971	23	45F	S, A	N R		1	ET	2.67	8.09			ba: CA, RA; 0h: C; 8h: SZ; l: PN; OL: PN	0h: CR, AR, ST, ATR, PAM	132
		23					49	ET	7.4	22.42					

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MW malathion = 330.4															
(a) plus alcohol.															
(b) cholinesterase activity level (as percent of normal value) also measured.															
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
no cases															
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW malathion = 330.4															
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 1991:196	1	49M	S, A	NR		NR	(a)	10	30.3			0h: C, SZ; I: MA 18h: CF	0h: ST, AR, AB(b), NA	19
2	Suzuki 1985	2	53F	S, A	NR		NR	T	1.89	5.73			NR, OL: none	NT	E1
3	Chaturvedi 1989	3	24M	NR	NR	(c)	NR	T, (d)	0	0			before death: (e); OL: none	NT	E36
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MW malathion = 330.4															
(a) postmortem ethanol 300 mg/l and malaoxon 0.5 mg/l.															
(b) up to hypernatremia: 160 mEq/l.															
(c) chronic alcoholic.															
(d) malathion in bile 570 mg/l, but not detected in blood.															
(e) 36 h vomiting and diarrhoea.															

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 1988:129	1	49	S, A	NR			(a)	11.8	35.75			NR	NR	
2	Farago 1967	2	41M	S, A	50	(b)		T	1880	5696.4			OL: G	NT	
		3	63M	S, A	70			T	990	2999.7			OL: G, PE	NT	
3	Lewin 1973	4	51M	S, A	35			T	290	878.7			0h: C, R; 2h: CF; OL: PE	0h: ST, AR, ATR, PAM	>3
		5	42M	S, A	25			T	100	303			0h: C, R	0h: ST, AR, ATR, PAM	>15
		6	58M	S, A	NR			T	5	15.15			OL: AP, G	NT	
4	Morgade 1982	7	64F	S, A	NR			T, (c)	0.67	2.03			OL: AP, G	NT	
		8	53F	NR	NR			T	0.33	0.99			NR	NR	
Footnotes [General Glossary (via link) lists definitions of common abbreviations (general terms, symptoms and signs, treatment)]															
MW malathion = 330.4															
(a) blood levels of cocaine 0.59 mg/l and benzoylecgonine 1.41 mg/l.															
(b) chronic alcoholic.															
(c) also 1 mg/l malaoxon.															