

SYSTEMIC TOXICITY: COMPARISON OF TEST RESULTS AND PREDICTIONS

Chem. No.	SAR level for organ toxicity	MPPD level for organ toxicity	SAR concern organ toxicity	MPPD target organ toxicity	SAR concern not tested
4	High	High	Acute	nd	
6	Low	Low	nd	nd	
16	Low	Low	None	None	Develop
17	Low	Low	None	None	Develop Repro
21	Low	Low	None	Liver-inc wt NOEL = 330mg/kg LOAEL = 1000mg/kg	
23	Low	Mod R48	None	Liver-inc wt micros path NOEL = 40mg/kg LOAEL = 200mg/kg	
24	Low	Mod	None	Liver-micros path NOEL = 8mg/kg LOAEL = 200mg/kg	
26	Low	Low	None	Liver-clinchem NOEL = 200mg/kg LOAEL = 1000mg/kg	
37	Low	Low	None	Liver-inc wt clinchem NOEL = 750mg/kg LOAEL = 1500mg/kg	Develop Devel-neuro Neuro

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Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
44	Low	Low	Liver (uncert)	None	
47	Low	Mod R48	None	Liver-inc wt clinchem kidney-inc BUN NOEL(m) = 50mg/kg NOEL(f) = 5mg/kg LOAEL(m) = 500mg/kg LOAEL(f) = 50mg/kg	
49	Low	Low-mod	None	Skin Adrenal NOEL < 100mg/kg	Develop
50	Low	Low	None	None	
53	Low	Low	None	Liver-clinchem @ < 200mg/kg(f) NOEL = 200mg/kg(m)	Immuno Develop
54	Mod	Mod-high	Neuro Hemo-siderosis Eye (cataracts)	Neuro Liver Eye NOEL < 100mg/kg Death at 300mg/kg	
61	Low	Low-mod	None	Blood effects Kidney-urinalysis Lymph nodes-hyperplasia NOEL = 200mg/kg LOAEL = 1000mg/kg	

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Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
68	Low	Low	None	Liver-micros path Kidney-inc wt micros path NOEL < 1gm/kg	Onco
69	Low	Low	None	None	Onco
70	Low	Low	None	Liver-clinchem NOEL = 1000ppm (70-100mg/kg) LOAEL = 5000ppm	
76	Mod-high	Mod-high	Liver Kidney Thymus Spleen Repro	Liver-inc wt micros path Kidney-inc wt micros path Bone Marrow NOEL = 10mg/kg/28-days LOAEL = 50mg/kg/28-days NOEL = 5mg/kg/90-days	Develop
78	Low	Low	None	None	Onco
79	Low	Low	None	None	
87	Low	Low	None	Liver-clin chem Kidney-micros path NOEL = 120mg/kg LOAEL = 1200mg/kg	
96	Low-mid	Low	Blood (hemolytic anemia)	Testes-dec wt Neuro-locomotor activity disturbance NOEL = 250mg/kg LOAEL = 1g/kg	Onco Devel

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
99	Low-mod	Low	Liver	None	
101	Low	Low	None	None	Onco Resp sens
102	Low-mod	Low	Liver (uncert)	None	Develop Onco
106	Low	Low	None	None	
107	Mod-high	Mod-high	Acute	nd	
108	Mod	Mod	Liver Kidney	Liver-micros path, clinchem Kidney-clinchem Neutrophils, monocytes NOEL = 30mg/kg LOAEL = 100mg/kg	Develop
110	Low	Low	None	Liver-inc enzymes, dec bw NOEL = 1ml/kg LOAEL = 2ml/kg	
113	Low	Low	None	None	
118	Low	Low-mod	None	Stomach NOEL = 60mg/kg LOAEL = 200mg/kg	Develop Neuro

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Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
156	Low	Mod-high R48	Cholin-esterase inhibition	Liver-micros path Kidney-micros path NOEL = 1-2mg/kg-90-day study LOAEL = 50mg/kg-90-day study NOEL = 15mg/kg-28-day study	Develop Neuro
164	Low	Low	None	None	
170	Low-mod	Low-mod	Blood	Liver-micros path kidney-micros path NOEL = 40-360mg/kg LOAEL = 360mg/kg	Develop Devel-neuro
173	Low	Low-mod	None	Poor health NOEL = 300mg/kg LOEL = 1000mg/kg-death	
176	Low	Low-mod	None	Kidney-clinchem Liver-clinchem NOEL = 33-35mg/kg LOAEL = 280mg/kg	
182	Low	Low	None	Clin chem NOEL = 50mg/kg LOAEL(?) = 150mg/kg Cor-s, Irr-e	
186	High	Mod	Liver	Seminal vesicles-micro path, atrophy Uterus-micro path, atrophy Ovaries-micro path, atrophy NOEL = 33mg/kg LOAEL = 130mg/kg	Onco

A14-6

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
124	Mod-high	Mod	Chronic Acute	Liver-dec wt Blood NOEL = 10mg/kg LOAEL = 30mg/kg	Develop Repro
128	Low	Low	None	None	
133	Low	Low-mod	None	Degeneration of gastric lining, regression of thymus, bone marrow NOEL = 20mg/kg LOAEL = 100mg/kg	
144	Low	Low	None	Dec bw NOEL = 100mg/kg LOAEL = 1000mg/kg	
148	Low	Low	None	None	
151	Low-mod	Mod-high	Lung	Liver-micros path Testes-micros path Ovary-micros path Kidney-clinchem Neuro-dose-dep agitation, uncor movement NOEL < 10mg/kg	
155	Low-mod	Low	Liver Kidney	None	Develop Repro

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
192	Low	Low-mod	None	Kidney-micros path NOEL = 40mg/kg LOAEL = 400mg/kg	Develop
194	Low	Low	None	nd	
196	Low-mod	Low-mod	Liver	Blood-inc prothrombin time dec platelets, dec WBC NOEL = 200mg/kg LOAEL = 1000mg/kg	Onco Develop
197	Low	Mod-high R48	None	Kidney-inc wt, micros path Blood-anemia, cyanosis, sulphmethemoglobin Liver-inc wt, clinchem NOEL < 10mg/kg Sens	Onco
200	Mod	Mod-high R48	Repro, liver, kidney	Testes-dec wt, micros path Liver-micros path Kidney-micros path, clinchem Spleen-lym depletion NOEL < 10mg/kg	Neuro Repro
204	Low	Low	Chelator	Clinchem NOEL = 170-350mg/kg LOAEL = 850-1750mg/kg	Develop

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Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
214	Low	Low	None	Clinchem NOEL = 200mg/kg LOAEL = 600mg/kg	
216	Low	Low-mod	None	Blood-inc RBCs and WBCs NOEL = 50mg/kg LOAEL = 200mg/kg	Neuro Photosens
217	Low	Low	None	None	
218	Low	Low-mod	None	Liver-inc wt Kidney-inc wt NOEL = 2.2mg/kg (30ppm) LOAEL = 23.26mg/kg (100ppm)	Develop Repro
219	Mod	Low	Blood Liver	Undefined NOEL > 300mg/kg	Onco Develop Repro
222	Low	High R48	None	Derm sens Undefined eff @ 0.3-0.9mg/m ²	Onco Resp sens Repro
224	Low	Low	None	None	Onco
235	Low-mod	Mod	Liver, Thyroid	Liver-micros path, clin chem, inc wt Adrenals-micros path, inc wt Lung-micro path Blood-malform RBCs, inc WBCs NOEL = 50mg/kg LOAEL = 150mg/kg	Develop Onco

A14-8

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
237	Low-mod	Low-mod	Liver Lung	Kidney-micros path, urinalysis NOEL = 100mg/kg LOAEL = 300mg/kg	Lung
239	Low	Low	None	None	
240	Low	Low-mod	None	Liver-inc wt Kidney-inc wt NOEL = 40mg/kg LOAEL = 200mg/kg Lysosomal storage of dye @1000mg/kg	Onco
241	Low	Low	None	Acute LD ₅₀ = 585mg/kg Inc serum Cl NOEL = 30mg/kg LOAEL = 100mg/kg	Neuro
242	Low	Low-mod	None	Acute LD ₅₀ = 520mg/kg Kidney-micros path, inc wt Liver- inc wt Adrenals-inc wt Blood-inc WBC and Hb NOEL = 50mg/kg LOAEL = 150mg/kg	Neuro
253	Low	Low-mod	None	Liver-inc wt, alinchem NOEL = 50mg/kg LOAEL = 250mg/kg	Develop

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
256	Low	Low-mod	None	Blood-inc WBC and platelets Liver-inc wt Kidney-inc wt and clinchem NOEL = 50mg/kg LOAEL = 200mg/kg	
263	Mod	Low	Kidney	Dec bw clinchem NOEL = 200mg/kg LOAEL = 1000mg/kg	Onco Develop Repro Neuro
265	Low	Low-mod	None	Liver-inc wt, clinchem NOEL = 30mg/kg LOAEL = 100mg/kg	
267	Low	Low	None	nd	
268	Low-mod	Low	Liver Kidney Blood	Kidney-micros path, clinchem, urinalysis Liver-micros path, clinchem NOEL = 250mg/kg LOAEL = 1000mg/kg	Neuro
269	Low	Low-mod	None	Liver-micros path, clinchem, inc wt NOEL < 100mg/kg	
270	Mod	Low-mod	Liver Spleen Thymus	Liver-micros path Spleen-micros path Heart-micros path NOEL = 46-52mg/kg LOAEL = 120-133mg/kg	Neuro Develop

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Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
271	Low	Low-mod	None	Liver-micros path, clinchem Kidney-inc wt NOEL = 40mg/kg LOAEL = 200mg/kg	
275	Mod	Low	Blood Liver	None	Onco Develop
278	Low	Low-mod	None	Liver-micros path, inc wt Kidney-inc wt Blood-dec #RBCs NOEL = 100mg/kg LOAEL = 500mg/kg	
281	Low	Mod R48	None	Liver-micros path, inc wt, clinchem Kidney-inc wt, clinchem Blood-dec platelets, WBC Acute-oral LD ₅₀ = 850mg/kg NOEL = 5-10mg/kg LOAEL = 15mg/kg	
283/429	Low	Low	None	None	
286	Low	Low	None	None	
287	Low	Low	None	None	
289	Low-mod	Low	Liver Blood	Liver-inc wt (m) Kidney-inc wt (m) NOEL = 200mg/kg LOAEL = 1000mg/kg	Develop Onco
291	Low	Low	None	None	

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity.	MPD target organ toxicity	SAR concern not tested
292	Mod-high	Mod-high	Multiple	Adrenals, liver, blood, NOEL < 50mg/kg	Product lit
300	Low	Mod	None	Liver-micros path, clinchem Blood-dec/RBC, clot factor, inc proth time, PTT Neuro-clin signs NOEL = 20mg/kg LOAEL = 100mg/kg	
307	Mod	Mod	Blood Liver	Blood-dec platelets, WBC, lym; inc RBC, neutro NOEL = 11mg/kg LOAEL = 45mg/kg Acute LD ₅₀ = 88mg/kg	Develop Repro Onco
309	Low-mod	Low	Liver	NOEL = 41,500ppm	Onco
312	Low-mod	Low-mod	Blood	Liver-micros path, inc wt Kidney-inc wt Blood-hemolysis, dec RBC, hemosiderosis, extramedullary hemotoposis NOEL = 100mg/kg LOAEL = 300mg/kg	Develop Onco
318	Low	Low	None	None	Develop Neuro Onco

A14-12

Chem. No.	SAR level for organ toxicity	MPPD level for organ toxicity	SAR concern organ toxicity	MPPD target organ toxicity	SAR concern not tested
320	Low	Low	None	Clinchem NOEL = 250mg/kg LOAEL = 1000mg/kg	None
321	Low	Low-mod	None	Undefined NOEL = 50mg/kg	Develop
330	Mod	Mod	Kidney Liver	Kidney-Clinchem Dec lymphocytes NOEL = 1mg/kg LOAEL = 10mg/kg Acute-LD ₅₀ = 104mg/kg	Develop Neuro Onco
335	Low	Low-mod		Liver-clin chem Blood-inc#WBC & reticulocytes NOEL = 50mg/kg LOAEL = 200mg/kg	Onco Develop Neuro
336	Low	Low	None	Dec organ ratio wts-liver/body, liver/brain. NOEL = 250mg/kg LOAEL = 1000mg/kg	Develop
337	nd	Low-mod	nd	NOEL = 160mg/kg/90-days Liver-inc wt Thyroid-micros Kidney-tyraline droplets	

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
340	Mod	Low	Bone marrow CNS effects	Liver-clinchem, inc wt NOEL = 80mg/kg LOAEL = 400mg/kg	Develop Neuro
341	Low	Low	None	None	Develop Onco
342	Low	Low	None	Kidney-clinchem Blood-WBC-dec lymphocytes Neuro-clin: sign NOEL = 500mg/kg LOAEL = 1000mg/kg	
344	Low	Low	None	None	Develop Onco
348	Low	Low	None	None	
349	Low	Mod	None	Liver-micros path, clinchem Kidney-micros path, clinchem Spleen-micros path, clinchem Blood-dec#RBC, hemosiderin NOEL = 10mg/kg LOAEL = 100mg/kg	
354	Low	Low	None	Liver-micros path, inc wt Blood-dec #RBC NOEL = 78-90mg/kg(1000ppm) LOAEL = 234-272mg/kg (3000ppm)	Develop Neuro
355	Low	Low	None	None	

A14-14

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
360	Low-mod	Low-mod	Blood	Liver-micros path, clinchem Blood-inc/RBC, micros NOEL = 50mg/kg LOAEL = 300mg/kg	Develop Neuro
361	Low	Low	None	None	
362	Mod	Low-mod	Blood Liver	Undefined effects NOEL = 50mg/kg LOAEL = 150mg/kg	Develop Onco
364	Low-mod	Low	Liver Blood	Kidney-micros path, clinchem, urinalysis Liver-clin chem NOEL = 200mg/kg LOAEL = 1000mg/kg	Develop Neuro
366	Low	Low	None	None	
368	Low-mod	Low-mod	Kidney Liver	Liver-inc wt Kidney-micros path, inc wt, urinalysis NOEL = 40mg/kg LOAEL = 200mg/kg	
369	Low	Low	None	Undefined NOEL = 200mg/kg LOAEL = 1000mg/kg	
370	Mod	Mod	Liver Kidney	Liver-clin chem Stomach-micros path NOEL = 50mg/kg LOAEL = 170mg/kg 1/12 died at 170mg/kg	Develop Onco Neuro

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ	MPD target organ toxicity	SAR concern not tested
373	Low-mod	Low-mod	Liver Kidney	Liver-inc wt, clin chem NOEL = 50mg/kg LOAEL = 250mg/kg	Develop Neuro
376	Low	Low	None	None	
379	Low	Low-mod	None	Kidney-micros path, clinchem, inc wt Liver-inc wt clin chem Blood-micros RBC NOEL = 80mg/kg LOAEL = 250mg/kg	Repro Onco Neuro
381	Low	Low	None	None	
383	Low	Low	None	None	
386	Low-mod	Low-mod	Liver Kidney	Kidney-inc BUN NOEL = 10mg/kg-90 day study LOAEL = 50mg/kg-90 day study	
393	Low	Low	None	Adrenal rel wt inc LOAEL = 1000mg/kg	
394	Low-mod	Low-mod	Blood	Liver-clin chem NOEL = 83mg/kg LOAEL = 333mg/kg	Develop
396	Low	Low	None	None	
398	Low-mod	Low	Kidney Liver Lung	Liver-inc wt NOEL = 250mg/kg LOAEL = 1000mg/kg	

A14-16

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
401	Low-mod	Low-mod	CNS	Blood-clot fact, increase in prothrom time, dec globulin NOEL = 40mg/kg LOAEL = 200mg/kg	
406	Mod	Low	Liver	None NOEL > 20,000ppm	Repro Onco
411	Low	Low	None	None	
413	Low	Low-mod	None	Liver-micros path Stomach-micros path Testes-micros path Thymus-micros path NOEL = 50mg/kg LOAEL-200mg/kg	
414	Mod	Mod R48	Cataracts	Liver-micros path Thyroid-inc wt (dose related) NOEL < 2mg/kg-90-day study LOAEL = 20mg/kg-90-day study	Develop
415	Low	Low	None	None	
416	Low	Low	None	None	
417	Low	Low	None	None	
420	Low	Mod	None	Liver-micros path, clinchem, inc wt Kidney-micros path, clinchem, inc wt NOEL = 15mg/kg LOAEL = 60mg/kg	

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
421	Low	Low-mod	None	Liver-micros path, clinchem, inc wt Kidney-micros path, clinchem, inc wt NOEL ₅ =50mg/kg LOAEL=200mg/kg	
425	Low	Low	None Develop Neuro Testes	Liver inc wt() NOEL=100mg/kg LOAEL=500mg/kg	Develop Neuro Repro
431	Low	Low-mod	None	Neuro-clin signs Bone marrow-dec platelets, serum Hb NOEL=30mg/kg LOAEL=200mg/kg	
436	Low	Mod	None	Lung-clin signs Kidney-micros path NOEL=15mg/kg LOAEL=50mg/kg	
437	Low-mod	Low-mod	Blood	Skin-micros path, clin signs NOEL<25mg/kg	
439	Low	Low	None	None	
441	Low	Mod	None	Liver-inc wt, clinchem Bone marrow-hematology NOEL=12mg/kg LOAEL=60mg/kg	Develop Onco

A14-18

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
442	Low-mod	Low	Liver	Liver-clinchem NOEL = 75mg/kg LOAEL = 750mg/kg	Develop Onco
443	Low	Low	None	Liver-clin chem Kidney-clin chem Testes-hemorrhage Brain-hemorrhage Lung-micros path Nose-micros path GI-micro path Acute-LC ₅₀ = 7.6mg/L NOEL < 1.5mg/L Corrosive	
444	Low	Mod	None	Liver-inc wt, clinchem Kidney-micros path, inc wt Neuro-clin sign Skin-gross path NOEL = 50mg/kg LOAEL = 225mg/kg	Repro Onco
445	Low	Low	None	nd	
446	Low	Mod	None	Liver-micros path, clinchem Kidney-micros path NOEL = 0.6-0.7mg/kg(8ppm) LOAEL 3.2-3.3mg/kg	Onco

Chem. No.	SAR level for organ toxicity	MPD level for organ toxicity	SAR concern organ toxicity	MPD target organ toxicity	SAR concern not tested
451	Low	Low	CNS Depression	Liver-inc wt, clinchem Stomach-micros path NOEL = 50mg/kg LOAEL = 500mg/kg	
472	Low	Low	None	None	

micros path = microscopic pathology

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