

Sensitivity of *Daphnia magna* Straus Against Eight Chemotherapeutic Agents and Two Dyes

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A major requirement for ecotoxicological testing of chemical substances with *Daphnia magna* is the constant availability of healthy animals. Unfortunately, sometimes bacterial and fungal diseases in *D.*-cultures occur and this not seldom leads to the loss of the test strain. As new test strains sometimes differ in their sensitivity in comparison with the original strain and because of the considerable delay in routine testing it often seems to be preferable not to culture a new strain but to cure the animals. The following table is intended to give information to those encountered with problems from unhealthy *D.* These substances proved to be efficient in some bacterial or fungal diseases. The suitability of a substance for treatment of diseases depends on the germs involved, but because of the rather poor knowledge about diseases in cultures and as there is normally not enough time to find out, the appropriate chemotherapeutic parallel use of the substances listed below with different parts of the *D.*-culture is recommended. The toxicity values are obtained by using the German standard method DIN 38 412 part 11 (draft). They can be helpful in finding the appropriate concentration of the substances for medical treatment, but care should be taken in maintaining correct values on important test parameters like temperature or water hardness.

Table 1

Toxicity Values Substance Name	24 h		48 h		72 h	
	EC 0	EC 50	EC 0	EC 50	EC 0	EC 50
	mg/L		mg/L		mg/L	
Acriflavine HCl (Serva 10 671)	0,35	0,73	0,25	0,51	0,25	0,45
Aureomycin	45	>128	45	128	11	88

Table 1 (continued)

Substance Name	24 h		48 h		72 h	
	EC 0	EC 50	EC 0	EC 50	EC 0	EC 50
	mg/L		mg/L		mg/L	
Chloramphenicol USP XVIII (Serva 16 785)	200	600	100	345	100	227
Griseofulvin	>1 000	>1 000	>1 000	>1 000	>1 000	>1 000
Kanamycin-sulphate	>128	>128	45	115	32	57
Penicillin G-K-salt 15 96 U/mg	>1 000	>1 000	>1 000	>1 000	>1 000	>1 000
Streptomycin-sul- phate 750 U/mg	200	650	100	363	50	110
Sulfadiazine	64	112	64	88	32	57
Methyleneblue	2,50	4,93	0,63	2,26	0,63	1,33
Malachitgreen-oxa- late	0,13	0,73	0,13	0,29	0,13	0,22

REFERENCES

DEUTSCHES INSTITUT FÜR NORMUNG:
Bestimmung der biologischen Wirkung von Wasserinhalts-
stoffen auf Kleinkrebse
DIN 38 412 Part 11 (Draft) (1981)