

Update of the Detergent Ingredient Database

Final Report

List of Content

1. Introduction.....	2
2. Background	2
3. Collection of data	3
4. Evaluation of data	3
5. Results	4
6. Conclusions	6
Appendix 1. List of data	7
Appendix 2 Quality guidelines for acceptance of test results as source data for the revised DID-list	12
Appendix 3 The updated DID-list	13

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June 2007

1. Introduction

The Detergent Ingredients Database, the DID-list, was revised in 2004 by Ecolabelling Norway after a call for tender issues by The European Commission. The list was finalised in June 2004. However, the industry has continuously tested detergent ingredients on the list, and after several requests the Commission issued a new call for tender for updating the list with this new information.

The European Commission assigned Ecolabelling Norway as project leader for this update. The contract was signed xx November 2006.

The aim of the project was:

- Collect data on chemicals already listed on the DID-list
- Investigate if any new chemicals should be added to the list
- Evaluate the data together with experts, toxicologists, after the same principles as were developed in the revision project in 2004.
- Update the DID-list and the database on which the list is based

2. Background

The DID-list consists of an ingredient database, including test results and references to tests and laboratories, and the DID-list where the evaluated data for use when calculating toxicity and determination of biodegradability are listed.

The first DID-list was developed in 1993-94 when the first criteria for detergents were developed. The list was then revised in 2002-2004.

When the DID-list was revised in 2004, it was perceived as a "living" document, which should be updated regularly. There is a continuously development of new chemicals and detergent products, and the industry is testing new and old chemicals for toxicity and biodegradability. This is important information that must be included in this Ecolabel tool.

However, during the 2004-revision, the framework and scientific principles for how to build up and how to use the DID-list was extensively discussed, and it was decided not to repeat this work, until new chemical legislation or other changes in the European chemical policy made this necessary. The updating has therefore only consisted of evaluation of new data, which was not available to the toxicologists in 2004.

Unfortunately, the capacity for the European Ecolabel and for the Nordic Swan is limited, and the organisations cannot update the list as often as wanted by some stakeholders.

3. Collection of data

The industry was first informed about the project at EUEB in December 2005. A mail was sent out to all Member States and to stakeholders shortly after. This mail contained information on the requirements to the quality of the data, test-methods and requirements to documentation or references needed (see Annex XX). A standard sheet for reporting data was also enclosed. These requirements are identical to the requirements in the 2004-revision. Later, several announcements were made at the Competent Body-meetings in 2006, in order to allow the industry to present their new test-results.

Data on 16 chemicals were sent in from several different interested parties. Of these 4 concerned toxicity-data, 6 new degradation-data, and 5 were data on chemicals that are not on the 2004-list. Some of the data are confidential, and will be treated as such by Ecolabelling Norway. The background database has been updated by the new data, but this detailed database will not be published.

4. Evaluation of data

Two toxicologists, Torben Madsen, DHI, Denmark and Torsten Källqvist, NIVA, Norway, were engaged to evaluate the data. They were also involved in the work for the DID-list in 2004. The new data were evaluated together with old data in the background database, and the new entry for the DID-list, for each chemical were calculated after the same principles as were used in 2004. A detailed description on how this shall be done is given in the final report of the 2004-project, and in the published DID-list.

The changes were presented in the draft at the EUEB-meeting in December 2006.

5. Results

The resulting changes in the DID-list were as follows, changes compared to the 2004-list is given in bold:

		Acute toxicity			Chronic toxicity			Degradation		
DID-no	Ingredient name	LC50/EC50	SF(acute)	TF(acute)	NOEC(*)	SF(chronic)(*)	TF(chronic)	DF	Aerobic	Anaerobic
24	C10 A 5-11 EO	10	1000	0,01			0,01	0,05	R	Y
53	PEG-4 Rapeseed amide	7	1000	0,007			0,007	0,05	R	Y
98	Triclosan	0,0014	1000	0,0000014	0,00069	10	0,000069	0,5	I	0
99	Phenoxy-ethanol	344	1000	0,344	200	100	2	0,05	R	0
117	Nitrilotriacetat (NTA)	494	1000	0,494	64	50	1,28	0,05	R	0
138	Polyethylene glycol MW<4000	1000	10000	0,1			0,1	0,05	R	0
139	Cumene-sulphonates	450	1000	0,45			0,45	0,5	I	N
169	Diethylene glycol	4400	10000	0,44			0,44	0,05	R	Y
170	Diethylene glycol monomethyl ether	500	1000	0,5			0,5	0,15	R	0
185	Glycol distearate	100	5000	0,02			0,02	0,05	R	Y
		Acute toxicity			Chronic toxicity			Degradation		

DID-no	Ingredient name	LC50/ EC50	SF(ac ute)	TF(acute)	NOEC (*)	SF (chro nic) (*)	TF (chronic)	DF	Aerobi c	Anaerobic
200	Xylene-sulphonate	230	1000	0,23	31	100	0,31	0,5	I	N
201	Protein hydrolizates, wheat gluten	113	5000	0,023			0,023	0,05	R	0
202	Fatty acid C6-12 methyl ester	21	1000 0	0,002			0,002	0,05	R	0
203	Mn-Saltren (CAS 61007-89-4)	39	1000	0,039	4,3	100	0,043	0,5	I	0
204	Tri-sodium methylglycine diacetat	100	1000	0,1	16,7	50	0,33	0,05	R	0

In addition to the changes, two substances were discussed and the following statements made:

DID no. 196 Block polymers

The experts concluded that we, based on current knowledge, cannot change the status of aerobic degradation of this entry. However we will allow licence applicants to use their own data instead of the listed data, (similar to perfumes and dyes).

DID no. 119: Phosphonates

According to the experts, there are no known biodegradable phosphonates at the market. The EU criteria were written this way in order to accommodate the industry, which is believed to try to develop these. This will be explained to the Competent Bodies assessing applications. The subject should be discussed again if an applicant claim to use a degradable phosphonate.

6. Conclusions

After presentation of the results of the DID-list update project, the Competent Bodies and the Member States approved the changes. The DID-list was also discussed in connection to the development of criteria for soaps and shampoos. The Commission proposed to issue the DID-list in a separate document and as a Commission Decision. The member States supported this proposal. With the DID-list issued in a separate document, future updating is facilitated.

Ecolabelling Norway is regularly receiving requests from chemical producers concerning new data and new substances which they want to put on the DID-list. However, the financial and human capacity for these kinds of projects is limited, and the requests must be collected for a similar update-project in the future. The industry has been encouraged to send in data to the Commission, and hopefully the list can be updated again in 2008/2009 if this is found necessary.

Appendix 1. List of data

This form should be used when an applicant or a chemical producer wants to send data for the DID-list or in connection with an application.

Name of ingredient:

IUPAC name of ingredient:

CAS-no:

Solubility in water:

Toxicity algae

Preferred test method: OECD 201

		Remarks
Standard or guideline:		
Test laboratory:		
GLP (yes/no):		
Species:		
Test duration (hours):		
EC50, growth rate (mg/l):		
EC50, area under growth curve (mg/l):		
EC50, unknown endpoint:		
NOEC (mg/l):		

Acute toxicity, Daphnia

Preferred test method: OECD 202 part 1

		Remarks
Standard or guideline:		
Test laboratory:		
GLP (yes/no):		
Species:		
Test duration (hours):		
EC ₅₀ :		

Acute toxicity, fish

Preferred test method: OECD 203

		Remarks
Standard or guideline:		
laboratory:		
GLP (yes/no):		
Species:		
Test duration (hours):		
LC ₅₀ :		
Additional remarks:		

Chronic toxicity, Daphnia

Preferred test method: OECD 202 part 2

		Remarks
Standard or guideline:		
Test laboratory:		
GLP (yes/no):		
Species:		
Test duration (days):		
EC ₅₀ (reproduction):		
EC ₅₀ (survival):		
NOEC:		
Additional remarks:		

Chronic/subchronic toxicity, fish

Preferred test methods: OECD 210, OECD 204

		Remarks
Standard or guideline:		
Test laboratory:		
GLP (yes/no):		
Species:		
Test duration (days):		
Test endpoint (e.g. growth, hatching, embryo development):		
EC ₅₀ :		
NOEC:		
Additional remarks:		

Ready degradability

Preferred test method: OECD 301 (a-f)

		Remarks
Standard or guideline:		
Test laboratory:		
GLP (yes/no):		
Test endpoint (Oxygen consumption, CO ₂ evolution, DOC removal):		
Test duration (days):		
Degradation (%):		
Fulfils OECD criteria for ready degradability, including 10-days window (y/n):		
Additional remarks:		

Inherent degradability (only if the ingredient is not ready biodegradable)

Preferred test method: OECD 302 A

		Remarks
Standard or guideline:		
Test laboratory:		
GLP (yes/no):		
Test endpoint:		
Test duration (days):		
Degradation/removal (%):		
Additional remarks:		

Anaerobic degradability

Preferred test method: ISO 11734 (ECETOC)

		Remarks
Standard or guideline:		
Test laboratory:		
GLP (yes/no):		
Test duration (days):		
Degradation (%):		
Additional remarks:		

Octanol/water partition coefficient (P_{ow})

Preferred test methods OECD 107, OECD 117

		Remarks
Standard or guideline or QSAR model:		
Test laboratory:		
GLP (yes/no):		
$\log P_{ow}$:		
Additional remarks:		

Adsorption to activated sludge

Preferred test method: ISO 18749

		Remarks
Standard or guideline:		
Test laboratory:		
GLP (yes/no):		
Removal (%):		
K_d :		
Additional remarks:		

Other relevant toxicity and/or degradation data

		Remarks
Standard or guideline:		
Test laboratory:		
GLP (yes/no):		
Species:		
Test duration (hours):		
Result:		

Appendix 2 Quality guidelines for acceptance of test results as source data for the revised DID-list

A. Required test conditions

Choice of test methods: As a general rule the internationally standardized OECD or ISO test methods are preferred. Some other standardized methods are accepted, on a case-by-case basis.

Test duration: As a general rule only toxicity results with the designated test duration are accepted. Examples are: Acute toxicity for crustaceans: 48 h; and acute toxicity for fish: 96 h. Algae tests with 72 h and those with 96 h are both accepted. However, in algae tests, other factors, and in particular the endpoint that the EC50 refers to, are more important than slight deviations in exposure time. Tests with shorter test duration than 72 h may in some cases be accepted but tests with much longer test duration than 96 h are not accepted.

GLP: As a general rule tests done in recent years after 1995 must be done in a laboratory that conforms to GLP Guidelines. If this is not the case a full test report is required.

Results: Ideally the test result should be given as one number. If the result of a toxicity test is given as a range (bounded or unbounded) the reason for this should be indicated. E.g.: range of results from repeated tests or uncertainty in determination of LC50. The result of a biodegradability test should be given as the percentage biodegradation of the theoretical maximum and not only by use of general indications like, e.g., >60% or >70%.

B. Required information

Test substance: The chemical identity of the test substance must be adequately described by chemical name and average lengths of, e.g., alkyl, ethoxylate or propoxylate chains of surfactants.

Test method: The test method must be indicated for relatively new tests. For older tests the result must be indicated in such a way that we have strong reason to believe that one of the approved methods have been used, e.g. 96h LC50 for fish, 48h EC50 for daphnia or 72 h EC50 for algae, concentration of inoculums and duration of biodegradability, etc.

Test duration: As a general rule the test duration must be given. If it is stated that a standard method has been used and the submitter of the data knows that the test duration is as specified in the test protocol it is not absolutely necessary to specify the test duration.

Reference: The data must be traceable. Hence a reference to the source of the test result is needed. The reference must be specific enough to enable us to find the original data source.

Test laboratory: As a general rule the test laboratory must be named. Exceptions are made if the name of the test laboratory can be found in the reference.

Appendix 3 The updated DID-list

Detergents Ingredients Database

Part A. List of ingredients.

DID-no	Ingredient name	Acute toxicity		Chronic toxicity	Degradation		TF (chronic)	DF	Aerobic	Anaerobic
		LC50/EC50	SF(acute)	TF(acute)	NOEC (*)	SF (chronic) (*)				
	Anionic surfactants									
1	Linear alkyl benzene sulphonates 11,5 - 11,8 (LAS)	4,1	1000	0,0041	0,69	10	0,069	0,05	R	N
2	LAS (C10-13 alkyl) triethanolamine salt	4,2	1000	0,0042	3,4	100	0,034	0,05	R	O
3	C 14/17 Alkyl sulphonate	6,7	5000	0,00134	0,44	10	0,044	0,05	R	N
4	C 8/10 Alkyl sulphate	132	5000	0,0264			0,0264	0,05	R	Y
5	C 12/14 Alkyl sulphate (AS)	2,8	1000	0,0028	2	100	0,02	0,05	R	Y
6	C 12/18 Alkyl sulphate (AS) (#)			0,0149			0,027	0,05	R	Y
7	C 16/18 Fatty alcohol sulphate (FAS)	27	1000	0,027	1,7	50	0,034	0,05	R	Y
8	C 12/15 A 1-3 EO sulphate	4,6	1000	0,0046	0,1	10	0,01	0,05	R	Y
9	C 16/18 A 3-4 EO sulphate	0,57	10000	0,000057			0,000057	0,05	R	Y
10	Dialkyl sulpho succinate	15,7	1000	0,0157			0,0157	0,5	I	N
11	C 12/14 Sulpho- fatty acid methylester	9	10000	0,0009	0,23	50	0,0046	0,05	R	N
12	C 16/18 Sulpho- fatty acid methylester	0,51	5000	0,000102	0,2	50	0,004	0,05	R	N
13	C 14/16 alfa Olefin sulphonate	3,3	10000	0,00033			0,00033	0,05	R	N
14	C 14/18 alfa Olefin sulphonate	0,5	5000	0,0001			0,0001	0,05	R	N
15	Soap C>12-22	22	1000	0,022	10	100	0,1	0,05	R	Y
16	Lauroyl Sarcosinate	56	10000	0,0056			0,0056	0,05	R	Y

17	C9/11 2-10 EO Carboxymethylated, sodium salt or acid	100	10000	0,01			0,01	0,05	R	O
18	C12/18 2-10 EO Carboxymethylated, sodium salt or acid	8,8	1000	0,0088	5	100	0,05	0,05	R	O
19	C 12/18 Alkyl phosphate esters	38	1000	0,038			0,038	0,05	R	N

Non-ionic surfactants

20	C8 A 1-5 EO	7,8	1000	0,0078			0,0078	0,05	R	Y
21	C 9/11 A, >3-6 EO predominantly linear	5,6	1000	0,0056			0,0056	0,05	R	Y
22	C 9/11 A, >6-10 EO predominantly linear	5	1000	0,005			0,005	0,05	R	Y
23	C 9/11 A, 5-11 EO multibranched	1	1000	0,001			0,001	0,05	R	O
24	C10 A, 5-11 EO multibr.(Trimer-propen-oxo-alcohol)	10	1000	0,01			0,01	0,05	R	Y
25	C 12/15 A, 2-6 EO predominantly linear	0,43	1000	0,00043	0,18	50	0,0036	0,05	R	Y
26	C12/14 5-8 EO 1 t-BuO (endcapped)	0,23	1000	0,00023	0,18	100	0,0018	0,05	R	O
27	C 12/15 A, 3-12 EO multibranched	1	1000	0,001	3,2	100	0,032	0,05	R	O
28	C 12/15 (mean value C<14) A, >6-9 EO	0,63	1000	0,00063	0,24	10	0,024	0,05	R	Y
29	C 12/15 (mean value C>14) A, >6-9 EO	0,4	1000	0,0004	0,17	10	0,017	0,05	R	Y
30	C 12/15 A, >9-12 EO	1,1	1000	0,0011			0,017	0,05	R	Y
31	C 12/15 A >12-20 EO	0,7	1000	0,0007			0,0007	0,05	R	O
32	C 12/15 A >20-30 EO	13	1000	0,013	10	100	0,1	0,05	R	O
33	C 12/15 A, >30 EO	130	1000	0,13			0,13	0,5	I	O
34	C 12/18 A, 0-3 EO	0,3	1000	0,0003			0,0003	0,05	R	Y
35	C 12/18 A, 5-10 EO	1	1000	0,001	0,35	100	0,0035	0,05	R	O
36	C 12/18 A, >10-20 EO	1	1000	0,001			0,0035	0,05	R	O
37	C 16/18 A, 2-8 EO	3,2	1000	0,0032	0,4	100	0,004	0,05	R	Y
38	C 16/18 A, >9-18 EO	0,72	1000	0,00072	0,32	10	0,032	0,05	R	Y
39	C 16/18 A, 20-30 EO	4,1	1000	0,0041			0,0041	0,05	R	Y
40	C 16/18 A, >30 EO	30	1000	0,03			0,03	0,5	I	Y
41	C12-15 A 2-6 EO 2-6 PO	0,78	1000	0,00078	0,36	100	0,0036	0,05	R	O
42	C10-16 A 0-3 PO 6-7 EO	3,2	5000	0,00064	1	100	0,01	0,05	R	O

43	Glycerin (1-5 EO) cocoate		16	1000	0,016	6,3	100	0,063	0,05	R	Y
44	Glycerin (6-17 EO) cocoate		100	1000	0,1			0,1	0,05	R	Y
45	C 12/14 Glucose amide		13	1000	0,013	4,3	50	0,086	0,05	R	Y
46	C 16/18 Glucose amide		1	1000	0,001	0,33	50	0,0066	0,05	R	Y
47	C 8/10 Alkyl polyglycoside		28	1000	0,028	5,7	100	0,057	0,05	R	Y
48	C8/12 Alkyl polyglycoside, branched		480	1000	0,48	100	100	1	0,05	R	N
49	C 8/16 or C12-14 Alkyl polyglycoside		5,3	1000	0,0053	1	10	0,1	0,05	R	Y
50	Coconut fatty acid monoethanolamide		9,5	1000	0,0095	1	100	0,01	0,05	R	Y
51	Coconut fatty acid monoethanolamide 4-5 EO		17	10000	0,0017			0,0017	0,05	R	Y
52	Coconut fatty acid diethanolamide		2	1000	0,002	0,3	100	0,003	0,05	R	O
53	PEG-4 Rapeseed amide		7	1000	0,007			0,007	0,05	R	Y

Amphoteric surfactants

60	C12/15 Alkyl dimethylbetaine		1,7	1000	0,0017	0,1	100	0,001	0,05	R	O
61	Alkyl C12/18 amidopropylbetaine		1,8	1000	0,0018	0,09	100	0,0009	0,05	R	Y
62	C12/18 Alkyl amine oxide		0,3	1000	0,0003			0,0003	0,05	R	Y

Cationic surfactants

70	Alkyl trimethyl ammonium salts		0,1	1000	0,0001	0,046	100	0,00046	0,5	I	O
71	Alkyl ester ammonium salts		2,9	1000	0,0029	1	10	0,1	0,05	R	Y

Preservatives

80	1,2-Benzisothiazol-3-one		0,15	1000	0,00015			0,00015	0,5	I	N
81	Benzyl alcohol		360	1000	0,36			0,36	0,05	R	Y
82	5-bromo-5-nitro-1,3-dioxane		0,4	5000	0,00008			0,00008	1	P	O
83	2-bromo-2-nitropropane-1,3-diol		0,78	1000	0,00078	0,2	100	0,002	0,5	I	O

84	Chloroacetamide	55,6	10000	0,00556			0,00556	1	O	O
85	Diazolinidylurea	35	5000	0,007			0,007	1	P	O
86	Formaldehyde	2	1000	0,002			0,002	0,05	R	O
87	Glutaraldehyde	0,31	1000	0,00031			0,00031	0,05	R	O
88	Guanidine, hexamethylene-, homopolymer	0,18	1000	0,00018	0,024	100	0,00024	1	P	O
89	CMI + MIT in mixture 3:1 (§)	0,0067	1000	0,0000067	0,0057	50	0,000114	0,5	I	O
90	2-Methyl-2H-isothiazol-3-one (MIT)	0,06	1000	0,00006			0,00006	0,5	I	O
91	Methyldibromoglutaronitrile	0,15	1000	0,00015			0,00015	0,05	R	O
92	e-phtaloimidoperoxyhexanoic acid	0,59	5000	0,000118			0,000118	1	P	O
93	Methyl-, Ethyl- and Propylparaben	15,4	5000	0,00308			0,00308	0,05	R	N
94	o-Phenylphenol	0,92	1000	0,00092			0,00092	0,05	R	O
95	Sodium benzoate	128	1000	0,128			0,128	0,05	R	Y
96	Sodium hydroxy methyl glycinate	36,5	5000	0,0073			0,0073	1	O	O
97	Sodium Nitrite	87	10000	0,0087			0,0087	1	NA	NA
98	Triclosan	0,0014	1000	0,0000014	0,00069	10	0,000069	0,5	I	O
99	Phenoxy-ethanol	344	1000	0,344	200	100	2	0,05	R	O

Other ingredients

110	Silicon	250	1000	0,25			0,25	1	P	N
111	Paraffin	1000	10000	0,1			0,1	1	P	O
112	Glycerol	4400	5000	0,88			0,88	0,05	R	Y
113	Phosphate, as STPP	1000	1000	1			1	0,15	NA	NA
114	Zeolite (Insoluble Inorganic)	1000	1000	1	175	50	3,5	1	NA	NA
115	Citrate and citric acid	825	1000	0,825	80	50	1,6	0,05	R	Y
116	Polycarboxylates	200	1000	0,2	106	10	10,6	1	P	N
117	Nitrilotriacetat (NTA)	494	1000	0,494	64	50	1,28	0,05	R	O
118	EDTA	121	1000	0,121	22	50	0,44	0,5	I	N
119	Phosphonates	650	1000	0,65	25	50	0,5	1	P	N
120	EDDS	320	1000	0,32	32	50	0,64	0,05	R	N
121	Clay (Insoluble Inorganic)	1000	1000	1			1	1	NA	NA

122	Carbonates		250	1000	0,25			0,25	0,15	NA	NA
123	Fatty acids C _≥ 14		3,7	5000	0,00074			0,00074	0,05	R	Y
124	Silicates		250	1000	0,25			0,25	1	NA	NA
125	Polyasparaginic acid, Na-salt		410	1000	0,41			0,41	0,05	R	N
126	Perborates (as Boron)		14	1000	0,014			0,014	1	NA	NA
127	Percarbonate (See carbonate)		250	1000	0,25			0,25	0,15	NA	NA
128	Tetraacetylenediamine (TAED)		250	1000	0,25	500	100	5	0,05	R	O
129	C1-C4 alcohols		1000	1000	1			1	0,05	R	Y
130	Mono-, di- and triethanol amine		90	1000	0,09	0,78	100	0,0078	0,05	R	Y
131	Polyvinylpyrrolidon (PVP)		1000	1000	1			1	0,5	I	N
132	Carboxymethylcellulose (CMC)		250	5000	0,05			0,05	0,5	I	N
133	Sodium and magnesium sulphate		1000	1000	1	100	100	1	1	NA	NA
134	Calcium- and sodiumchloride		1000	1000	1	100	100	1	1	NA	NA
135	Urea		1000	5000	0,2			0,2	1	NA	NA
136	Silicon dioxide, quartz (Insoluble inorganic)		1000	1000	1			1	1	NA	NA
137	Polyethylene glycol, MW>4000		1000	10000	0,1			0,1	1	P	N
138	Polyethylene glycol, MW<4000		1000	10000	0,1			0,1	0,05	R	O
139	Cumene sulphonates		450	1000	0,45			0,45	0,5	I	N
140	Na-/Mg-/KOH		30	1000	0,03			0,03	0,05	NA	NA
141	Enzymes/proteins		25	5000	0,005			0,005	0,05	R	Y
142	Perfume, if not other specified (**)		2	1000	0,002			0,002	0,5	I	N
143	Dyes, if not other specified (**)		10	1000	0,01			0,01	1	P	N
144	Starch		100	1000	0,1			0,1	0,05	R	Y
145	Anionic polyester		655	1000	0,655			0,655	1	P	N
146	PVNO/PVPI		530	1000	0,53			0,53	1	P	N
147	Zn Ftalocyanin sulphonate		0,2	1000	0,0002	0,16	100	0,0016	1	P	N
148	Iminodisuccinat		81	1000	0,081	17	100	0,17	0,05	R	N
149	FWA 1		11	1000	0,011	10	100	0,1	1	P	N
150	FWA 5		10	1000	0,01	1	10	0,1	1	P	N
151	1-decanol		2,3	5000	0,00046			0,00046	0,05	R	O

152	Methyl laurate		1360	10000	0,136			0,136	0,05	R	O
153	Formic acid (Ca salt)		100	1000	0,1			0,1	0,05	R	Y
154	Adipic acid		31	1000	0,031			0,031	0,05	R	O
155	Maleic acid		106	1000	0,106			0,106	0,05	R	Y
156	Malic acid		106	1000	0,106			0,106	0,05	R	O
157	Tartaric acid		200	10000	0,02			0,02	0,05	R	O
158	Phosphoric acid		138	1000	0,138			0,138	0,15	NA	NA
159	Oxalic acid		128	5000	0,0256			0,0256	0,05	R	O
160	Acetic acid		30	1000	0,03			0,03	0,05	R	Y
161	Lactic acid		130	1000	0,13			0,13	0,05	R	Y
162	Sulphamic acid		75	1000	0,075			0,075	1	NA	NA
163	Salicylic acid		46	1000	0,046			0,046	0,15	R	O
164	Glycollic acid		141	5000	0,0282			0,0282	0,05	R	O
165	Glutaric acid		208	5000	0,0416			0,0416	0,05	R	O
166	Malonic acid		95	5000	0,019			0,019	0,05	R	O
167	Ethylene glycol		6500	1000	6,5			6,5	0,05	R	Y
168	Ethylene glycol monobutyl ether		747	5000	0,1494			0,1494	0,05	R	O
169	Diethylene glycol		4400	10000	0,44			0,44	0,05	R	Y
170	Diethylene glycol monomethyl ether		500	1000	0,5			0,5	0,15	R	O
171	Diethylene glycol monoethyl ether		3940	5000	0,788			0,788	0,05	R	O
172	Diethylene glycol monobutyl ether		1254	1000	1,254			1,254	0,05	R	O
173	Diethylene glycol dimethylether		2000	10000	0,2			0,2	0,5	I	O
174	Propylene glycol		32000	1000	32			32	0,15	R	Y
175	Propylene glycol monomethyl ether		12700	5000	2,54			2,54	0,05	R	O
176	Propylene glycol monobutylether		748	5000	0,1496			0,1496	0,05	R	O
177	Dipropylene glycol		1625	10000	0,1625			0,1625	0,05	R	O
178	Dipropylene glycol monomethyl ether		1919	5000	0,3838			0,3838	0,05	R	O
179	Dipropylene glycol monobutylether		841	5000	0,1682			0,1682	0,05	R	O
180	Dipropylene glycol dimethylether		1000	5000	0,2			0,2	0,5	I	O
181	Triethylene glycol		4400	1000	4,4			4,4	0,5	I	O

182	Tall oil		1,8	1000	0,0018			0,0018	0,5	I	O
183	Ethylenebisstearamides		140	5000	0,028			0,028	0,5	I	O
184	Sodium gluconate		10000	10000	1			1	0,05	R	O
185	Glycol distearate		100	5000	0,02			0,02	0,05	R	Y
186	Hydroxyl ethyl cellulose		209	5000	0,0418			0,0418	1	P	O
187	Hydroxy propyl methyl cellulose		188	5000	0,0376			0,0376	1	P	O
188	1-methyl-2-pyrrolidone		500	1000	0,5			0,5	0,05	R	O
189	Xanthan gum		490	1000	0,49			0,49	0,05	R	O
190	Trimethyl Pentanediol mono-isobutyrate		18	1000	0,018	3,3	100	0,033	0,05	R	O
191	Benzotriazole		29	1000	0,029			0,029	1	P	O
192	Piperidinol-propanetricarboxylate salt		100	1000	0,1	120	100	1,2	0,5	I	O
193	Diethylaminopropyl-DAS		120	1000	0,12	120	100	1,2	1	P	O
194	Methylbenzamide-DAS		120	1000	0,12	120	100	1,2	0,5	I	O
195	Pentaerythritol-tetrakis-phenol-propionate		38	1000	0,038			0,038	1	P	O
196	Block polymers (***)		100	5000	0,02			0,02	1	P	N
197	Denatonium benzoate		13	5000	0,0026			0,0026	1	O	O
198	Succinate		374	10000	0,0374			0,0374	0,05	R	O
199	Polyaspartic acid		528	1000	0,528			0,528	0,05	R	N
200	Xylene Sulphonate		230	1000	0,23	31	100	0,31	0,5	I	N
201	Proteinhydrolyzates, wheatgluten		113	5000	0,023			0,023	0,05	R	O
202	Fatty acid, C ₆₋₁₂ methyl ester		21	10000	0,0021			0,0021	0,05	R	O
203	Mn-Saltren (CAS 61007-89-4)		39	1000	0,039	4,3	100	0,043	0,5	I	O
204	Tri-Sodium methylglycine diacetat		100	1000	0,1	16,7	50	0,334	0,05	R	O

Insoluble inorganic Inorganic ingredient with very low, or no ability to dissolve in water.

(*) If no acceptable chronic toxicity data was found, these columns are empty. In that case TF(chronic) is defined as equal to TF(acute)

(**) As a general rule licence applicants must use the data on the list. Perfumes and dyes are exceptions. If toxicity data is submitted by the licence applicant the submitted data shall be used to calculate the TF and determine the degradability. If not, the values on the list shall be used.

(***) The applicants data on aerobic degradability of DID no. 196 Block polymers will be accepted after presentation of test-report.

(#) Due to a lack of toxicity results the TF has been calculated as an average of the values of C 12/14 Alkyl sulphate (AS) and C 16/18 Alkyl sulphate (AS).

(§) 5-Chloro-2-Methyl-4-isothiazolin-3-one and 2-Methyl-4-isothiazolin-3-one
in mixture 3:1

List of abbreviations:

SF(acute)	Safety factor for acute toxicity.
TF(acute)	Toxicity factor based on acute toxicity on aquatic organisms.
SF(chronic)	Safety factor for chronic toxicity.
TF(chronic)	Toxicity factor based on chronic toxicity on aquatic organisms.
DF	Degradation factor
Aerobic degradation:	
R	Readily biodegradable according to OECD guidelines.
I	Inherently biodegradable according to OECD guidelines.
P	Persistent. The ingredient has failed the test for inherent biodegradability.
O	The ingredient has not been tested.
NA	Not applicable
Anaerobic degradation:	
Y	Biodegradable under anaerobic conditions.
N	Not biodegradable under anaerobic conditions.
O	The ingredient has not been tested.
NA	Not applicable