



Chemical List

**Appendix to
chemical/technical criteria documents**

15 June 2004

Edition 2.5

Chemical list

Nordic Ecolabelling chemical list contains parameters for:

- **Toxl** (Toxicity index)
- **SF** (Safety factor)
- **NF** (Biodegradation factor)
- **ILN** (Not readily biodegradable)
- **IPN** (Not ultimately biodegradable)
- **IAN** (Not anaerobically biodegradable)
- **log Kow** (Distribution factor octanol/water)
- **SOO** (Poorly soluble inorganic compounds)
- **LOO** (Easily soluble inorganic compounds)

and also a list of the chemicals assessed in accordance with these parameters.

The chemical list is included as an appendix to chemical/technical criteria documents and applies to the following product groups:

- All purpose cleaners
- Car care products
- Film-forming floor care products
- Hand washing up liquid
- Dishwasher detergent
- Sanitary cleaning agents
- Shampoo, shower-shampoo and soap
- Hand towel roll services
- Detergents for textiles

The Nordic Ecolabelling Board sets the chemical list after a consultative process. It is reviewed, where appropriate, every third year. New chemicals may be added in the interim period at SLM's discretion in the form of supplements.

15-16 June 2000 the Nordic Ecolabelling Board (Nordiska Miljömärkningsnämnden, NMN) decided some editorial adjustment as well as an elucidation concerning anaerobic biodegradability, edition 2.1.

30-31 August the managers of each secretariat (SLM) decided to expand the chemical list with Lactic acid no 157, edition 2.2.

11 October 2001 the SLM decided to expand the chemical list with Imino disuccinic acid, sodium salt no 158 and add information about lactic acid (SOO=LOO=O) as well as introduce traceability of the editions, edition 2.3

2 May 2002 the SLM decided to add information on anaerobic degradation for no 40 and no 41 and add the formulation "linear or single branched" for no 23 and no 24. In addition the NMN decided to prolong the validity of the Chemical List with 2 years until 14 June 2004.

15 June 2004 the NMN decided to prolong the chemical list with expiration date since the time of validity depends of the validity of the criteria documents. Further in the

sections on degradation possibility of referring to the DID-list dated 10 June 2004 has been given.

The chemical list which was in force when the approval of the criteria document with the editions 1.0, 2.0, 3.0, 4.0 was taken will be valid at the time of application. In the criteria documents there is information of which chemical list that is valid for each criteria document. The applicant may choose any later version of the chemical list other than stated in the criteria document

The values in the chemical list are for use in performing the calculations required in the calculation matrixes in the various documents. Chemicals not found on the list must be documented in accordance with the requirements of the individual criteria document.

The chemicals are evaluated in accordance with specified parameters. The applicant is responsible for evaluating any other harmful effects.

The chemical list is not an instrument of classification for assessing the environmental harmfulness of chemicals. Such evaluations must be performed in accordance with national legislation.

Proposals for supplements to the list with full documentation may be submitted to the national secretariats for evaluation.

Toxicity index, Toxl

The acute toxicity of a chemical may be investigated using various aquatic species. These species represent different levels in the food chain so-called trophic levels. The toxic effect can be measured on the basis of parameters such as reduced survival rate, the achievement of a certain effect or when certain functions are retarded. These values known as LC₅₀, EC₅₀ and IC₅₀ can be tested in accordance with OECD guidelines 201, 202 or 203.

Nordic Eco-labelling uses a Toxl value to express acute toxicity. The Toxl value is the median value from the most sensitive trophic level. To ensure that small variations in the median value are not ascribed an excessively high significance, a toxicity window has been formulated. Dividing median LC₅₀ values into ranges and allocating a Toxl value to each range as follows has created ten windows of this type:

Toxicity windows LC ₅₀	Toxl-value
<0,25	0,1
0,25-<0,45	0,3
0,45-<0,9	0,6
0,9-<1,8	1,2
1,8-<3,6	2,5
3,6-<7,2	5,0
7,2-<14	10

14-<58	30
58-<150	100
>150	300

This ensures that Toxl value will be between 0.1 mg/l or more than 300 mg/l.

In the case of chemicals not found on the Chemical List, the lowest LC₅₀-, EC₅₀-, IC₅₀-value shall be used as Toxl for the purpose of the calculation formulae in the various criteria documents.

Exception to the rule will be made for chemicals that will meet the following definition: "Naturally occurring inert chemicals in an aquatic environment" For those chemicals Toxl may be set at 1000 mg/l on conditions that the real acute toxicity will be 1000 mg/l or higher.

Safety factor, SF

SF is a safety factor for toxicity values. The fewer trophy levels that has been tested the higher the safety factor, SF will be in accordance with the following system:

- SF is 1 if toxicity data is available from three trophy levels, i.e. Daphnia, fish and algae.
- SF is 5 if one of these values is missing.
- SF is 10 if two of these values are missing.

As an alternative the SF value may be set at 1 if scientifically supported documentation can be submitted showing that the most sensitive organism was tested.

Degradation factor, NF

Each chemical also has a degradation factor, NF, which is defined as follows:

- NF=1 if the chemical is readily biodegradable in accordance with OECD guidelines 301 A-F.
- NF=5 if the chemical is potentially (ultimately) biodegradable but not readily biodegradable in accordance with OECD guidelines 302 A-C.
- NF=10 if the chemical is not ultimately biodegradable or if it is an inorganic chemical.

Not readily biodegradable, ILN

Not readily biodegradable chemicals.

These are chemicals that do not fulfil the criteria for easily biodegradability in accordance with OECD 301 A-F:

Documentation on aerobic biodegradation can also be found in the DID-list dated 10 June 2004.

Non potentially biodegradable, IPN

Non potentially (ultimately) biodegradable chemicals:

These are chemicals that do not fulfil the requirements for potential (ultimate) biodegradability in accordance with OECD 302 A-C.

Documentation on potentially (ultimately) biodegradation can also be found in the DID-list dated 10 June 2004.

Not anaerobically biodegradable, IAN

Not anaerobically biodegradable chemicals:

These are chemicals that do not fulfil the test for anaerobic biodegradability in accordance with ISO 11734 and/or ECETOC No. 28 June 1988 or some other scientifically accepted method. To fulfil the test the demand is 60% biodegradability under anaerobically conditions.

When documentation is missing in accordance to the demands mentioned above, the chemical may be excepted from the demand of anaerobically biodegradation if one of the following alternatives will be fulfilled.

1. Readily biodegradable and low adsorption ($A < 25\%$) or
2. Readily biodegradable and high desorption ($D > 75\%$) or
3. Readily biodegradable and not bioaccumulating.

Absorption/desorption can be tested in accordance with OECD guidelines 106. Documentation on anaerobic biodegradation can also be found in the DID-list dated 10 June 2004.

Partition coefficient, Log K_{ow}

One means of determining the bioaccumulation of a chemical is to measure their partition between octanol and water. This partition is expressed as K_{ow} and is often expressed as $\log K_{ow}$. The test is described in OECD guidelines No. 107 or 117.

Poorly soluble inorganic compounds, SOO

Poorly soluble inorganic compounds.

With poorly soluble inorganic compounds means inorganic chemicals with a water solubility of:

- ≤ 10 g/l

Easily soluble inorganic compounds, LOO

Easily soluble inorganic compounds

With easily soluble inorganic compounds means inorganic chemicals with a water solubility of:

- >10g/l

The list also contains CAS numbers for use where specific chemicals are sought. Some compounds on the list are not unambiguously defined chemicals but rather represent groups within a range. These have not been allocated CAS numbers.

	J=Ja (yes)			ILN= Icke lättnedbrytbar (Non ready biodeg)					SOO= Svårlöslig oorganisk komponent (Poorly soluble inorganics)				
	N=Nej (no)			IPN= Icke potentiellt (ultimately) nedbrytbar (Non ultimat. biodeg.)					LOO= Lättlöslig oorganisk komponent (Easily soluble inorganics)				
	O= Ej tillämbart (not applicable)			IAN= Icke anaerobt nedbrytbar (non anaerob biodeg.)									
K- nr	Component	CAS- number	Toxl	SF	NF	ILN	IPN	IAN		Log Kow		SOO	LOO
	Anionic surfactants												
1	Linear alkyl benzene sulfonates 11,5 - 11,8 (LAS)		5	1	1	N	N	J		O		O	O
3	C 14/17 Alkyl sulfonate		2,5	1	1	N	N	J		O		O	O
4	C 12/15 Alkyl sulfate (AS)		2,5	1	1	N	N	N		O		O	O
5	C 12/18 Alkyl sulfate (AS)		2,5	1	1	N	N	N		O		O	O
6	C 16/18 Fatty acid alkyl sulfate (FAS)		5	1	1	N	N	N		O		O	O
7	C 12/15 A 1-3 EO sulfate		2,5	1	1	N	N	N		O		O	O
8	C 16/18 A 3-4 EO sulfate		0,3	1	1	N	N	N		O		O	O
9	Dialkyl sulfo succinate		30	1	5	J	N			O		O	O
10	C 12/14 Sulfo- fatty acid methylester		10	1	1	N	N			O		O	O
11	C 16/18 Sulfo- fatty acid methylester		0,3	1	1	N	N			O		O	O
12	C 14/16 alfa Olefin sulfonate		5	1	1	N	N			O		O	O
13	C 14/18 alfa Olefin sulfonate		0,6	1	1	N	N			O		O	O
14	Soap C>14		30	1	1	N	N	N		O		O	O
15	C 8/10 Alkyl sulfate		2,5	1	1	N	N	N		O		O	O

K-nr	Component	CAS-number	Toxl	SF	NF	ILN	IPN	IAN	Log Kow	SOO	LOO
	Non-ionic surfactants										
20	C 9/11 A, >3-6 EO linear or single branched		1,2	1	1	N	N	N	O	O	O
21	C 9/11 A, >6-9 EO linear or single branched		10	1	1	N	N	N	O	O	O
22	C 12/15 A, 2-6 EO linear or single branched		0,6	1	1	N	N	N	O	O	O
23	C 12/15 (mean value C<14) A, >6-9 EO linear or single branched		1,2	1	1	N	N	N	O	O	O
24	C 12/15 (mean value C>14) A, >6-9 EO linear or single branched		0,3	1	1	N	N	N	O	O	O
25	C 12/15 A, >9-12 EO		2,5	1	1	N	N	N	O	O	O
26	C 12/15 12<A, <20 EO		5	1					O	O	O
27	C 12/15 A, 20-30 EO		10	1	1	N	N	N	O	O	O
28	C 12/15 A, >30 EO		100	2	10	J	J	N	O	O	O
29	C 12/18 A, 0-3 EO		0,3	1	1	N	N	N	O	O	O
30	C 16/18 A, 2-6 EO		2,5	1	1	N	N	N	O	O	O
31	C 16/18 A, >9-12 EO		1,2	1	1	N	N	N	O	O	O
32	C 16/18 A, 20-30 EO		5	1	1	N	N	N	O	O	O
33	C 16/18 A, >30 EO		30	2	10	J	J	N	O	O	O
34	C12/18 Alkyl amine oxide		0,3	1	1	N	N	N	O	O	O
35	Block polymers		100	2	10	J	J		O	O	O
36	Glycerin (6-17 EO) cocoate		100	1	1	N	N	N	O	O	O
37	C 12/14 Glucose amide		10	1	1	N	N	N	O	O	O
38	C 16/18 Glucose amide		1,2	1	1	N	N	N	O	O	O
39	C 12/14 Alkyl polyglycoside		2,5	1	1	N	N	N	O	O	O
40	C 8/10 Alkyl polyglycoside		30	1	1	N	N	N	O	O	O
41	Coconut fatty acid diethanolamide		2,5	1	1	N		N	3,52	O	O

K-nr	Component	CAS-number	Toxl	SF	NF	ILN	IPN	IAN	Log Kow	SOO	LOO
	Amphoteric surfactants										
50	C12/15 Alkyl dimethylbetain		0,6	1	1	N	N		O	O	O
51	C12/15 Alkyl amidopropylbetain		2,5	1	1	N	N	N	O	O	O
	Others components										
100	Silicon		300	1	10	J	J		<3	O	O
101	Paraffin		300	1	10	J	J	N	<3	O	O
102	Glycerol	56-81-5	300	1	1	N	N	N	<2	O	O
103	Phosphate		1 000	1	10	O	O	O	O	N	J
104	Zeolite		1 000	1	10	O	O	O	O	J	N
105	Citrate		100	1	1	N	N	N	<2	O	O
106	Polycarboxylate		300	1	10	J	J		<2	O	O
107	Clay		1 000	1	10	O	O	O	O	J	N
108	Carbonate		1 000	1	10	O	O	O	O	N	J
109	Fatty acids C>=14		5	5	1	N	N	N	>4	O	O
110	Silicate, water glass		300	1	10	O	O	O	O	N	J
111	Nitrilotriacetat (NTA)	139-13-9	300	1	5	J	N	N	<2	O	O
112	Perborate		30	1	10	O	O	O	O	N	J
113	Percarbonate		300	1	10	O	O	O	O	O	J
114	Tetraacetylenediamine (TAED)	10543-57-4	300	1	1	N	N	N	<2	O	O
115	C1-C4 alcohol's		300	1	1	N	N	N	<2	O	O
116	Monoethanol amine	141-43-5	100	1	1	N	N	N	<2	O	O
117	Diethanol amine	111-42-2	100	1	1	N	N	N	<2	O	O
118	Triethanol amine	102-71-6	300	1	1	N	N	N	<2	O	O
119	Polyvinylpyrrolidon (PVP)	9003-39-8	300	1	5	J	N		<3	O	O
120	Carboxymethylcellulose (CMC)	9004-32-4	300	1	10	J	J		<3	O	O
121	Sodium sulfate	7757-82-6	1 000	1	10	O	O	O	O	N	J

K- nr	Component	CAS- number	Toxl	SF		NF	ILN	IPN	IAN		Log Kow	SOO	LOO	
122	Mg sulfate	7587-88-9	1 000	1		10	O	O	O		O	N	J	
123	Potassium- and sodiumchloride		1 000	1		10	O	O	O		O	N	J	
124	Urea	57-13-6	300	1		1	N	N	N		<3	O	O	
125	Maleic acid	110-16-7	100	1		1	N	N	N		<3	O	O	
126	Formic acid (Ca salt)		100	1		1	N	N	N		<3	O	O	
127	Silicon dioxide, quartz		1 000	1		10	O	O	O		O	J	N	
128	Polyethylene glycol, MW>4000		300	1		10	J	J			<3	O	O	
129	Polyethylene glycol, MW<4000		300	1		1		N			<3	O	O	
130	Na-/Mg-/KOH		100	1		10	O	O	O		O	N	J	
131	Enzymes		100	1		1	N	N	N		<2	O	O	
132	Perfume, if not other specified:		2,5	1		10	J	J			>4	O	O	
133	Phosponates		300	1		5	J	N			<2	O	O	
134	C 12/18 Alkyl phosphate esters		30	1		1	N	N				O	O	
135	Starch		300	1		1	N	N	N		<3	O	O	
136	Anionic polyester		300	1		10	J	J			<3	O	O	
137	PVNO/PVPI *		300	1		10	J	J			<3	O	O	
138	Zn Ftalocyanin sulfonate		0,1	1		10	J	J			<3	O	O	
139	1,2-Benzothiazolin-3-one	2634-33-5	1,2	5					N		1,3	O	O	
140	Adipic acid	124-04-9	30	1		1	N				0,08	O	O	
141	Diethylene glycol	111-46-6	300	5				N	N			O	O	
142	Diethylene glycol monobutyl ether	112-34-5	300	5		1	N	N			0,91	O	O	
143	Diethylene glycol monomethyl ether	111-77-3	300	1		1	N	N			-0,9--2,4	O	O	
144	Diethylene glycol monoethyl ether	111-90-0	300	5		1	N	N			-0,8	O	O	
145	Dipropylene glycol	110-98-5	300	10		5	J				-0,7--1,4	O	O	
146	Dipropylene glycol monomethyl ether	34590-94-8	300	5		1	N	N			-0,064	O	O	

K-nr	Component	CAS-number	ToxI	SF		NF	ILN	IPN	IAN		Log Kow	SOO	LOO	
147	Ethylene glycol	107-21-1	300	1		1	N		N		-1,36	O	O	
148	Ethylene glycol monobutyl ether	111-76-2	300	5		1	N	N			0,83	O	O	
149	Phosphoric acid	7664-38-2	100	10										
150	Methyl laurate	111-82-0	300	10		1	N				5,4-6,0	O	O	
151	Oxalic acid	144-62-7	100	5		1	N				-0,81	O	O	
152	Propylene glycol	57-55-6	300	1		1	N		N		-0,92	O	O	
153	Propylene glycol monomethyl ether	107-98-2	300	5		1	N				-0,44	O	O	
154	Tall oil	8002-26-4	2,5	1		5	J				3,5-8,2	O	O	
155	Malic acid	6915-15-7				1	N				-1,26	O	O	
156	Acetic acid	64-19-7	30	5		1	N	N			-0,17	O	O	
157	Lactic acid	79-33-4	300	1		1	N	N	N		-0,62	O	O	
158	Imino disuccinic acid, sodium salt, (IDS Sodium salt)	144538-83-0	100	1		1	N	N	J		-3,93	O	O	

* Polyvinylpyrrolidone-N-oxide/Polyvinylimidazole/vinyl pyrrolidone copolymer