

Sustainable Public Procurement-fiche

Product / service

Compost bins

Version Advanced

December 2010

Date

Scope

The scope of the following criteria applies to private external composters; those are compost bins intended for the composting of household organic wastes from kitchen garbage or from garden work.

The compost bins are "All year-round"-bins, no matter the season; the composting process generates biochemical heat; if the composter is big enough or insulated, the composter will remain at working warmth in the core of the bin.

Those are insulated bins, or large bins, which can work efficiently, even by -3°C for several months.

Typical examples are:

- -Plastic compost bins
- -Wooden made compost bins
- -Metallic compost bins with or without metallic mesh on some sides.
- -Thermo-compost bins

The following are excluded from the present scope:

-Compost bins with a capacity to cater for > 19 persons.

-Composting toilets and closed toilet systems.

-Compost bins for exterior use without contact with the ground (also no rotary compost bins)

-Composting systems for inside home use (balcony, kitchen composter)

-Energy consuming composters (with fuel or electricity)

-Fully or partly buried composters.

-Compost bins which only can operate during the warmer part of the year





1) Subject matter

Compost bins made out of recycled plastic provided with environmentally friendly materials and processes and produced in a socially responsible way.

1.1. The subject matter in the framework of the organizations policy.

"For <.....> (name of the public authority), the care for the environment and social aspects is important. It is stated in her <strategic policies>, <mission>, <vision>, <procurement policy>, ..."

1.2. "Reserved contracts"

This category of contract is handled separately in Article 19 of Directive 2004/18/EC. This article permits the member states to "reserve" the right to participate in public contract award procedures. It includes contracts awarded to sheltered workshops or awarded in the context of sheltered employment programs restricted to handicapped persons who cannot conduct professional activities under normal conditions. Paragraph 2 of Article 18a of the Law of 24 December 1993 has already taken a step in this direction by enabling, within the European thresholds, an identical strategy.

2) Exclusion criteria

2.1. Social aspects:

Buyers can take account of social aspects in there procurement. For more information about the different possibilities see: http://www.gidsvoorduurzameaankopen.be/en/node/108

3) Technical capacity
4) Market information



AND AND A

5) Technical specifications

a) Wooden parts (FSC, PEFC)

If wooden parts are used in the compost bin, the wood originates from sustainable managed forests.

b) Recycled plastic content of plastic composters (NF Environment, Nordic)

For compost bins made of polymeric material, minimum 10% by weight of the container frame shall consists of recycled material, excluding insulation

c) Forbidden plastic additives (NF Environment, Nordic)

Additives (pigments ...) based on cadmium or mercury, may not be present in the plastic material.

d) Passive aeration system (NF Environment, Nordic)

Composter must display aeration holes in a way to sustain the aerobic biochemical processes implied in the composting/decay of organic matter. That way fresh air from the outside can reach the compost by diffusion.

e) Access holes for tiny animals and insects (NF Environment, Nordic Swan)

The compost bin must have gaps between 5 to 7 mm of diameter: -On the sides to exclude rodents (*Nordic Swan*) -On the bottom to allow the movement of small animals needful for a correct composting process (earthworms, larvae...) (*NF Environment*)

f) Assembly instructions (NF Environment, Nordic Swan)

The assembly and disassembly instructions are provided in an illustrated guide that shows and explains clearly how the bin is to be put together (or disassembled) with help of common tools.

Evidence:

The compliance with all the criteria mentioned above can be proved with the following label:







In case that the tendering company can present this label, any further proof is not necessary. Any other suitable evidence from a recognized body can also be used.

For criterion a, the FSC or PEFC labels can be used (

6) Awarding the contract:

	Criteria For example	Weight
1	Price	e.g. 60%
	<i>Calculation (e.g.):</i> Lowest offered price/ stated price x 0,60	
2	Environmental criteria (The public authority formulates the points it wants to assign to the below mentioned criteria)	e.g. 35%
	Calculation (e.g.): Total scored points / maximum number of points x 0,35	
3		e.g. 5 %
4		e.g

In above mentioned table, the weight of the environmental criteria shall be stated by the buyer in function of its particular procurement. Representatives of several sectors federations mention often to not underestimate this weight to give sustainability in the awarding phase a chance at all.

The environmental criteria in the above mentioned table concern the following issues:

a) Recycled plastic content of plastic composters (NF Environment)

For all compost bins parts over 50g and made of polymeric material:
 The container frame shall consist of at least 40% by weight of recycled material.

- The plastic parts must be permanently marked according to ISO 1043 (about plastic various topics) or to ISO 11-469 ⁽¹⁾; this to help for the recycling at the end of life.

Example: $\begin{array}{c} \underline{PET} \\ \underline{PET} \\ \underline{PET} \\ \underline{PET} \\ \underline{PE-HD} \\ \underline{PVC} \\ \underline{PVC} \\ \underline{PE-LD} \\ \underline{PE-LD} \\ \underline{PF} \\ \underline{PF}$

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⁽¹⁾ISO 11-469: 1994, Plastics- Generic identification and marking.

b) Insulation material prohibited materials (Nordic Swan)

Gases classified as harmful to the ozone layer may not be used in the manufacture of expanded insulation materials.

c) Wood treatment

-NF Environment:

If wood is treated by specific treatment products, those must have been subjected to evaluation studies to assess toxicological and eco-toxicological risks. This is true for amongst others: paints, varnishes, biocides (like pentachlorophénol derivatives ...). Material/product safety data sheets of all used product must be provided.

-Nordic Swan:

- The wood preservative used in a composting container may not contain more than 2 % by weight of chemical substances classified as hazardous to the environment according to the EU Directive 67/548/EEC.

- The chemicals used in the production of the composting bin (such as wood preservatives) may not be classified as teratogenic (T (toxic), Xn (harmful); R60, R61, R62 or R63), mutagenic (T, Xn; R40 or R46) or carcinogenic (T, Xn; R45, R49 or R25).

<u>Note:</u> For details about R phrases, see Annex 1 and 2.

d) Plastic compost bins technical properties (Nordic Swan)

If the composting bin is made out of polyethylene (PE); polyethylene must have a density in excess of 935 kg/m3. This does not apply to cross linked polymers.

e) Forbidden Plastic ingredients

-Nordic Swan:

Additives based on the following ingredients cannot enter the composition of the plastic material:

- Lead
- Flame retardants (chlorinated or brominated paraffin, brominated diphenyl ether (BDPE))
- Phtalates may not be present in the plastic material.

-NF Environment:

Additives based on Chromium (VI) ingredients cannot enter the composition of the plastic material.

f) User friendly structure

-NF Environment:

-The composter must have a top opening large enough and at the right height so that compost mixing can be effected easily. The accepted maximum height is 1,30 meter. The minimum size of the opening matches a circle of diameter 50,0 cm inscribed in geometric figure chosen for the cover lid.

-Extraction of compost must be easy, and either be done:

- Through an extraction trap easily maneuverable and with wide enough opening.
- Out of a pan or a face, easily removable and sufficiently large to work at ease.
- By the uplift of the composter walls.

The minimum size of the trap must allow passing a shovel or any other tool to remove the mature compost.

-Nordic Swan:

It must be possible to close the lid of a composting bin in such a way that it cannot be blown open by the wind.

It must be possible to secure a hinged lid in the open position when adding compost.

g) Insulation material protection (Nordic Swan)

Any insulation material/part should be protected from mechanical damage and from water penetration because a wet insulating material is no more efficient.

h) Thermometer (Nordic Swan)

If a thermometer is installed for temperature control of the composter; then it should never be a Mercury thermometer.

i) Metallic components (Nordic Swan)

Metal parts such as hinges and screws which are exposed to a corrosive medium (such as compost, seepage, rain and air) must be acid-resistant and treated to avoid corrosion.

7) Performance clauses:

7.1. Environmental aspects:

a) Warranty (NF Environment, Nordic)

The composting bin should be given a 2-year guarantee covering everything except parts subject to heavy wear or when the directions of use (notice) are not well respected. The parts subject to heavy wear shall be listed in the user instructions and

they must be permanently available during the warranty period, i.e. minimum 2 years after the last sale of a compost bin.

b) Information fabricant for consumer claim and info to consumer (NF Environment)

To allow consumer to put a claim or to ask for information's, address and telephone number of the fabricant must be written on the composter, or at least in the user manual.

c) User information (NF Environment, Nordic Swan)

Composting instructions must be appended to the user manual. They shall describe the following points:

- The general principles of composting.

- The type of composting bin in question and composting capacity in terms of the number of people it is intended to serve for (pe).

- Appropriate location for the composting container with regards to hygiene and security.

- How to add wastes and composting material to the composter.
- Correct mixing of the compost material.
- Examples of suitable and non-suitable wastes.
- Best working temperature range and suitable moisture level for composting.
- How to assess the readiness of the compost.

- To make easier recycling and reuse of the waste bins, the user instructions must state the materials used in the different parts of the bin and how they shall be disposed off in waste disposal areas.

d) Information on wooden treatment (NF Environment)

- For composter made out of wood, user manual shall state the products used for the wood treatment. If wood is pretreated, that information should be accessible to the consumer while buying.

e) Information on elimination of bin at end of life (NF Environment)

- Correct information concerning elimination of compost bin at end of life shall be foreseen. Obligatory mention: " The compost bins at end of life need to be eliminated correctly"

e) Heavy wear spare parts (Nordic Swan)

A list of spare parts subject to heavy wear, which are available, shall be listed in the user manual.

f) Packaging (Nordic Swan)

Packaging materials containing chlorine or chlorine combinations (PVC (polyvinyl chloride), PVDC (polyvinydyl dichloride) and flame retardants) may not be used.

g) Working conditions (Nordic Swan)

The licensees are responsible for ensuring that ecolabelled products and the production thereof fulfil all prevailing working environment provisions, legislation and licences in the various production countries.

7.2. Social aspects:

Buyers can take account of social aspects in their procurement. For more information about the different possibilities see: http://www.gidsvoorduurzameaankopen.be/en/node/108

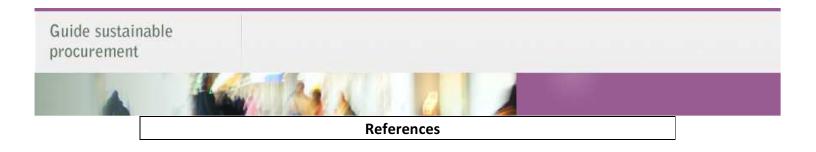
7.3. Ethical aspects:

"The tenderer undertakes, until the contract has been executed in full, to respect the 8 Basic Conventions of the ILO:

- 1. The prohibition of forced labour (C29 Forced Labour Convention, 1930, and C105 Abolition of Forced Labour Convention, 1957);
- 2. The right to freedom of association (C87 Freedom of Association and Protection of the Right to Organise, 1948);
- 3. The right to organise and collective bargaining (C98 Right to Organise and Collective bargaining, 1949);
- The prohibition of any discrimination in terms of labour and remuneration (C100 Equal Remuneration, 1951 and C111 Discrimination (Employment and Occupation), 1958);
- 5. The minimum age for child labour (C138 Minimum Age Convention, 1973), together with the prohibition of the worst forms of child labour (C182 Worst Forms of Child Labour Convention, 1999).

The non-respect of this undertaking may, by virtue of Article 20, §1, 4° of the general specifications annexed to the Royal Decree of 26 September 1996, give rise to the application of the official measures described in § 6 of the same article, including unilateral termination of the contract."





[Information of the public authority that used these clauses in a procurement case]



Annex 1: R-PHRASES:

(R-phrases are mentioned on product labels and in product safety datasheets. It can be a useful tool for verification-procedures.)

<u>R1</u> :	Explosive when dry.
<u>R2</u> :	Risk of explosion by shock, friction, fire or other sources of ignition.
<u>R3</u> :	Extreme risk of explosion by shock, friction, fire or other sources of ignition.
<u>R4</u> :	Forms very sensitive explosive metallic compounds.
<u>R5</u> :	Heating may cause an explosion.
<u>R6</u> :	Explosive with or without contact with air.
<u>R7</u> :	May cause fire.
<u>R8</u> :	Contact with combustible material may cause fire.
<u>R9</u> :	Explosive when mixed with combustible material.
<u>R10</u> :	Flammable
<u>R11</u> :	Highly flammable
<u>R12</u> :	Extremely flammable
R13 (obsolete):	Extremely flammable liquid gas (This R-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)
<u>R14</u> :	Reacts violently with water.
<u>R15</u> :	Contact with water liberates extremely flammable gases.
Merck R15.1	Contact with acid liberates extremely flammable gases.
<u>R16</u> :	Explosive when mixed with oxidizing substances.
<u>R17</u> :	Spontaneously flammable in air.
<u>R18</u> :	In use, may form flammable/explosive vapour-air mixture.
<u>R19</u> :	May form explosive peroxides.
<u>R20</u> :	Harmful by inhalation.
<u>R21</u> :	Harmful in contact with skin.
<u>R22</u> :	Harmful if swallowed.
<u>R23</u> :	Toxic by inhalation.
Riedel-de Haen R23K:	Also toxic by inhalation.
<u>R24</u> :	Toxic in contact with skin.
Riedel-de Haen R24K:	Also toxic in contact with skin.
<u>R25</u> :	Toxic if swallowed.
Riedel-de Haen R25K:	Also toxic if swallowed.
<u>R26</u> :	Very toxic by inhalation.
Riedel-de Haen R26K:	Also very toxic by inhalation.
<u>R27</u> :	Very toxic in contact with skin
Riedel-de Haen R27A:	Very toxic in contact with eyes.
Riedel-de Haen R27K:	Also very toxic in contact with skin.
Riedel-de Haen R27AK:	Also very toxic in contact with eyes.
<u>R28</u> :	Very toxic if swallowed.
Riedel-de Haen R28K:	Also very toxic if swallowed.
<u>R29</u> :	Contact with water liberates toxic gas.

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<u>R30</u> :	Can become highly flammable in use.
<u>R31</u> :	Contact with acids liberates toxic gas.
Merck R31.1	Contact with alkalies liberates toxic gas.
<u>R32</u> :	Contact with acids liberates very toxic gas.
<u>R33</u> :	Danger of cumulative effects.
<u>R34</u> :	Causes burns.
<u>R35</u> :	Causes severe burns.
<u>R36</u> :	Irritating to eyes.
Riedel-de Haen R36A:	Lacrimating
R37:	Irritating to respiratory system.
<u>R38</u> :	Irritating to skin.
<u>R39</u> :	Danger of very serious irreversible effects.
<u>R40</u> :	Possible risk of cancer. CAUTION: Until 2001 this R-phrase was used for possible mutagenic or teratogenic risks as well. These risks are now labelled with R68!
<u>R41</u> :	Risk of serious damage to eyes.
<u>R42</u> :	May cause sensitization by inhalation.
<u>R43</u> :	May cause sensitization by skin contact.
<u>R44</u> :	Risk of explosion if heated under confinement.
<u>R45</u> :	May cause cancer.
<u>R46</u> :	May cause heritable genetic damage.
R47(obsolete):	May cause deformities. (This R-phrase is no longer designated by the version of the GefStoffV published on 26.10.93.)
<u>R48</u> :	Danger of serious damage to health by prolonged exposure.
<u>R49</u> :	May cause cancer by inhalation.
<u>R50</u> :	Very toxic to aquatic organisms.
<u>R51</u> :	Toxic to aquatic organisms.
<u>R52</u> :	Harmful to aquatic organisms.
<u>R53</u> :	May cause long-term adverse effects in the aquatic environment.
<u>R54</u> :	Toxic to flora.
<u>R55</u> :	Toxic to fauna.
<u>R56</u> :	Toxic to soil organisms.
<u>R57</u> :	Toxic to bees.
<u>R58</u> :	May cause long-term adverse effects in the environment.
<u>R59</u> :	Dangerous for the ozone layer.
<u>R60</u> :	May impair fertility.
<u>R61</u> :	May cause harm to the unborn child.
<u>R62</u> :	Possible risk of impaired fertility.
<u>R63</u> :	Possible risk of harm to the unborn child.
<u>R64</u> :	May cause harm to breastfed babies.
<u>R65:</u>	Harmful: may cause lung damage if swallowed.
<u>R66:</u>	Repeated exposure may cause skin dryness or cracking.
<u>R67:</u>	Vapours may cause drowsiness and dizziness.
<u>R68:</u>	Possible risks of irreversible effects.

COMBINATIONS OF R-PHRASES:

R14/15:	Reacts violently with water, liberating extremely flammable gases.
R15/29:	Contact with water liberates toxic, extremely flammable gas.
R20/21:	Harmful by inhalation and in contact with skin.
R21/22:	Harmful in contact with skin and if swallowed.
R20/22:	Harmful by inhalation and if swallowed.
R20/21/22:	Harmful by inhalation, in contact with skin and if swallowed.

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This sheet is a product of the Federal Public Planning Service Sustainable Development (http://www.guidesustainableprocurement.be)

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R21/22:	Harmful in contact with skin and if swallowed.
R23/24:	Toxic by inhalation and in contact with skin.
R24/25:	Toxic in contact with skin and if swallowed.
R23/25:	Toxic by inhalation and if swallowed.
R23/24/25:	Toxic by inhalation, in contact with skin and if swallowed.
R24/25:	Toxic in contact with skin and if swallowed.
R26/27:	Very toxic by inhalation and in contact with skin.
R27/28:	Very toxic in contact with skin and if swallowed.
R26/28:	Very toxic by inhalation and if swallowed.
R26/27/28:	Very toxic by inhalation, in contact with skin and if swallowed.
R36/37:	Irritating to eyes and respiratory system.
R37/38:	Irritating to respiratory system and skin.
R36/38:	Irritating to eyes and skin.
R36/37/38:	Irritating to eyes, respiratory system and skin.
R39/23:	Toxic: danger of very serious irreversible effects through inhalation.
R39/24:	Toxic: danger of very serious irreversible effects in contact with skin.
R39/25:	Toxic: danger of very serious irreversible effects if swallowed.
R39/23/24:	Toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
R39/23/25:	Toxic: danger of very serious irreversible effects through inhalation and if swallowed.
R39/24/25:	Toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
R39/23/24/25:	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R39/26:	Very toxic: danger of very serious irreversible effects through inhalation.
R39/27:	Very toxic: danger of very serious irreversible effects in contact with skin.
R39/28:	Very toxic: danger of very serious irreversible effects if swallowed.
R39/26/27:	Very toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
R39/26/28:	Very toxic: danger of very serious irreversible effects through inhalation and if swallowed.
R39/27/28:	Very toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
R39/26/27/28:	Very toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R42/43:	May cause sensitization by inhalation and skin contact.
R48/20:	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R48/21:	Harmful: danger of serious damage to health by prolonged exposure in contact with skin.
R48/22:	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R48/20/21:	Harmful: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
R48/20/22:	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R48/21/22:	Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
R48/20/21/22:	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R48/23:	Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R48/24:	Toxic: danger of serious damage to health by prolonged exposure in contact with skin.
R48/25:	Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R48/23/24:	Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
R48/23/25:	Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R48/24/25:	Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
R48/23/24/25:	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R50/53:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53:	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53:	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R68/20:	Harmful: possible risk of irreversible effects through inhalation.
R68/21:	Harmful: possible risk of irreversible effects in contact with skin.
R68/22:	Harmful: possible risk of irreversible effects if swallowed.
R68/20/21:	Harmful: possible risk of irreversible effects through inhalation and in contact with skin.
R68/20/22:	Harmful: possible risk of irreversible effects through inhalation and if swallowed.
R68/21/22:	Harmful: possible risk of irreversible effects in contact with skin and if swallowed.
	Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
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Annex 2: translation between classification in accordance with Directive 67/548/EEC and Directive 1272/2008/EEC. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:353:0001:1355:EN:PDF

Classification under	Physical state of the substance when rele-vant	Classification under 1272/2008/EEC		
Directive 67/ 548/EEC		Hazard Class-and- Category	Hazard statement	Note
E; R2		No direct translation possible.		
E; R3		No direct translation possible.		
O; R7		Org. Perox. CD H242		
		Org. Perox. EF	H242	
O; R8	gas	Ox. Gas 1	H270	
O; R8	liquid, solid	No direct translation po	ssible.	
O; R9	liquid	Ox. Liq. 1	H271	
O; R9	solid	Ox. Sol. 1	H271	
R10	liquid	No direct translation possible.		
		 Correct translation of R10, liquid is: Flam. Liq. 1, H224 if flashpoint < 23 °C and initial boiling point ≤ 35 °C Flam. Liq. 2, H225 if flashpoint < 23 °C and initial boiling point > 35 °C Flam. Liq. 3, H226 if flashpoint ≥ 23 °C 		
F; R11	liquid	No direct translation possible.		
		Correct translation of F; R11, liquid is: • Flam. Liq. 1, H224 if initial boiling point ≤ 35 °C • Flam. Liq. 2, H225 if initial boiling point > 35 °C		
F; R11	solid	No direct translation possible.		
F+; R12	gas	No direct translation possible.		
		Correct translation of F+; R12, gaseous results either in Flam. Gas 1, H220 or Flam. Gas 2, H221.		
F+; R12	liquid	Flam. Liq. 1	H224	
F+; R12	liquid	Self-react. CD	H242	
		Self-react. EF	H242	
		Self-react. G	none	
F; R15		No translation possible.		
F; R17	liquid	Pyr. Liq. 1	H250	
F; R17	solid	Pyr. Sol. 1	H250	
Xn; R20	gas	Acute Tox. 4	H332	(1)
Xn; R20	vapours	Acute Tox. 4	H332	(1)
Xn; R20	dust/mist	Acute Tox. 4	H332	
Xn; R21		Acute Tox. 4	H312	(1)

Xn; R22		Acute Tox. 4	H302	(1)
T;R23	gas	Acute Tox. 3	H331	(1)
T;R23	vapour	Acute Tox. 2	H330	
T;R23	dust/mist	Acute Tox. 3	H331	(1)
T;R24		Acute Tox. 3	H311	(1)
T;R25		Acute Tox. 3	H301	(1)
T+; R26	gas	Acute Tox. 2	H330	(1)
T+; R26	vapour	Acute Tox. 1	H330	
T+; R26	dust/mist	Acute Tox. 2	H330	(1)
T+; R27		Acute Tox. 1	H310	
T+; R28		Acute Tox. 2	H300	(1)
R33		STOT RE 2	H373	(3)
C; R34		Skin Corr. 1B	H314	(2)
C; R35		Skin Corr. 1A	H314	
Xi; R36		Eye Irrit. 2	H319	
Xi; R37		STOT SE 3	H335	
Xi; R38		Skin Irrit. 2	H315	
T;R39/23		STOT SE 1	H370	(3)
T;R39/24		STOT SE 1	H370	(3)
T;R39/25		STOT SE 1	H370	(3)
T+; R39/26		STOT SE 1	H370	(3)
T+; R39/27		STOT SE 1	H370	(3)
T+; R39/28		STOT SE 1	H370	(3)
Xi; R41		Eye Dam. 1	H318	
R42		Resp. Sens. 1	H334	
R43		Skin Sens. 1	H317	
Xn; R48/20		STOT RE 2	H373	(3)
Xn; R48/21		STOT RE 2	H373	(3)
Xn; R48/22		STOT RE 2	H373	(3)
T;R48/23		STOT RE 1	H372	(3)
T;R48/24		STOT RE 1	H372	(3)
T;R48/25		STOT RE 1	H372	(3)
R64		Lact.	H362	(-)
Xn; R65		Asp. Tox. 1	H304	
R67		STOT SE 3	H336	
Xn; R68/20		STOT SE 2	H371	(3)
Xn; R68/21		STOT SE 2	H371	(3)
Xn; R68/22		STOT SE 2	H371	(3)

Carc. Cat. 1; R45	Carc. 1A	H350	
Carc. Cat. 2; R45	Carc. 1B	H350	
Carc. Cat. 1; R49	Carc. 1A	H350i	
Carc. Cat. 2; R49	Carc. 1B	H350i	
Carc. Cat. 3; R40	Carc. 2	H351	
Muta. Cat. 2; R46	Muta. 1B	H340	
Muta. Cat. 3; R68	Muta. 2	H341	
Repr. Cat. 1; R60	Repr. 1A	H360F	(4)
Repr. Cat. 2; R60	Repr. 1B	H360F	(4)
Repr. Cat. 1; R61	Repr. 1A	H360D	(4)
Repr. Cat. 2; R61	Repr. 1B	H360D	(4)
Repr. Cat. 3; R62	Repr. 2	H361f	(4)
Repr. Cat. 3; R63	Repr. 2	H361d	(4)
Repr. Cat. 1; R60-61	Repr. 1A	H360FD	
Repr. Cat. 1; R60 Repr. Cat. 2; R61	Repr. 1A	H360FD	
Repr. Cat. 2; R60 Repr. Cat. 1; R61	Repr. 1A	H360FD	
Repr. Cat. 2; R60-61	Repr. 1B	H360FD	
Repr. Cat. 3; R62-63	Repr. 2	H361fd	
Repr. Cat. 1; R60 Repr. Cat. 3; R63	Repr. 1A	H360Fd	
Repr. Cat. 2; R60 Repr. Cat. 3; R63	Repr. 1B	H360Fd	
Repr. Cat. 1; R61 Repr. Cat. 3; R62	Repr. 1A	H360Df	
Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B	H360Df	
N; R50	Aquatic. Acute 1	H400	
N; R50-53	Aquatic Acute 1 Aquatic Chronic 1	H400 H410	
N; R51-53	Aquatic Chronic 2	H411	
R52-53	Aquatic Chronic 3	H412	
R53	Aquatic Chronic 4	H413	
N; R59	Ozone	EUH059	