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**COMMISSION DECISION**

**of 24 June 2011**

**on establishing the ecological criteria for the award of the EU Ecolabel to lubricants**

*(notified under document C(2011) 4447)*

**(Text with EEA relevance)**

(2011/381/EU)

(OJ L 169, 29.6.2011, p. 28)

Amended by:

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**COMMISSION DECISION****of 24 June 2011****on establishing the ecological criteria for the award of the EU Ecolabel to lubricants***(notified under document C(2011) 4447)***(Text with EEA relevance)****(2011/381/EU)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 66/2010 of the European Parliament and of the Council of 25 November 2009 on the EU Ecolabel <sup>(1)</sup>, and in particular Article 8(2) thereof,

After consulting the European Union Ecolabelling Board,

Whereas:

- (1) Under Regulation (EC) No 66/2010, the EU Ecolabel may be awarded to those products with a reduced environmental impact during their entire life cycle.
- (2) Regulation (EC) No 66/2010 provides that specific EU Ecolabel criteria are to be established according to product groups.
- (3) Commission Decision 2005/360/EC <sup>(2)</sup> has established the ecological criteria and the related assessment and verification requirements for lubricants which are valid until 30 June 2011.
- (4) Those criteria have been further reviewed in light of technological developments. The new criteria, as well as the related assessment and verification requirements, should be valid for 4 years from the date of adoption of this Decision
- (5) Decision 2005/360/EC should be replaced for reasons of clarity.
- (6) A transitional period should be allowed for producers whose products have been awarded the EU Ecolabel for lubricants on the basis of the criteria set out in Decision 2005/360/EC, so that they have sufficient time to adapt their products to comply with the revised criteria and requirements. Producers should also be allowed to submit applications based on the criteria set out in Decision 2005/360/EC or on the criteria set out in this Decision until the lapse of validity of that Decision.

<sup>(1)</sup> OJ L 27, 30.1.2010, p. 1.<sup>(2)</sup> OJ L 118, 5.5.2005, p. 26.

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- (7) The measures provided for in this Decision are in accordance with the opinion of the Committee established by Article 16 of Regulation (EC) No 66/2010,

HAS ADOPTED THIS DECISION:

*Article 1*

The product group ‘lubricants’ shall comprise the following categories:

Category 1: hydraulic fluids and tractor transmission oils

Category 2: greases and stern tube greases

Category 3: chainsaw oils, concrete release agents, wire rope lubricants, stern tube oils and other total loss lubricants

Category 4: two-stroke oils

Category 5: industrial and marine gear oils.

*Article 2*

For the purpose of this Decision, the following definitions shall apply:

- (1) ‘lubricant’ means a preparation consisting of base fluids and additives;
- (2) ‘basefluid’ means a lubricating fluid whose flow, ageing, lubricity and anti-wear properties, as well as its properties regarding contaminant suspension, have not been improved by the inclusion of additive(s);
- (3) ‘substance’ means a chemical element and its compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the products and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition;
- (4) ‘thickener’ means one or more substances in the base fluid used to thicken or modify the rheology of a lubricating fluid or grease;
- (5) ‘main component’ means any substance accounting for more than 5 % by weight of the lubricant;
- (6) ‘additive’ means a substance or mixture whose primary functions are the improvement of the flow, ageing, lubricity, anti-wear properties or of contaminant suspension;

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- (7) ‘grease’ means a solid to semi-solid mixture which consists of a ‘thickener’ and may include other ingredients imparting special properties in a liquid lubricant.

*Article 3*

In order to be awarded the EU Ecolabel under Regulation (EC) No 66/2010 a product shall fall within the product group ‘lubricants’ as defined in Article 1 of this Decision and shall comply with the criteria as well as the related assessment and verification requirements set out in the Annex to this Decision.

**▼M1***Article 4*

The ecological criteria for the product group ‘lubricants’ and the related assessment and verification requirements, shall be valid until 31 December 2018.

**▼B***Article 5*

For administrative purposes, the code number assigned to the product group ‘lubricants’ shall be ‘027’.

*Article 6*

Decision 2005/360/EC is repealed.

*Article 7*

1. By derogation from Article 6, applications for the EU Ecolabel for products falling within the product group ‘lubricants’ submitted before the date of adoption of this Decision shall be evaluated in accordance with the conditions laid down in Decision 2005/360/EC.
2. Applications for the EU Ecolabel for products falling within the product group ‘lubricants’ submitted from the date of adoption of this Decision but by 30 June 2011 at the latest may be based either on the criteria set out in Decision 2005/360/EC or on the criteria set out in this Decision. Those applications shall be evaluated in accordance with the criteria on which they are based.
3. Where the EU Ecolabel is awarded on the basis of an application evaluated according to the criteria set out in Decision 2005/360/EC, that EU Ecolabel may be used for 12 months from the date of adoption of this Decision.

*Article 8*

This Decision is addressed to the Member States.

*ANNEX***FRAMEWORK****The aims of the criteria**

These criteria aim in particular at promoting products that have a reduced impact on the water and soil during its use and contain a large fraction of biobased material.

**CRITERIA**

1. Excluded or limited substances and mixtures
2. Exclusion of specific substances
3. Additional aquatic toxicity requirements
4. Biodegradability and bioaccumulative potential
5. Renewable raw materials
6. Minimum technical performance
7. Information appearing on the EU Ecolabel

**Assessment and verification requirements****(a) Requirements**

The specific assessment and verification requirements are indicated within each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria to the competent body, it is understood that these may originate from the applicant and/or his supplier(s) and/or their supplier(s), etc. as appropriate.

The supplier of the additive, thickener or base fluid may provide the relevant information directly to the competent body.

Where possible, the testing should be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

The general scheme for the assessment of any constituent substance in a lubricant product is given in Table 1.

**(b) Measurement thresholds**

All constituent substances that are present above 0,010 % (w/w) and which are intentionally added and/or are formed intentionally after any chemical reaction in the applied lubricant shall be unambiguously stated giving their names and the mass concentrations in which they are present and where applicable, their CAS Registry and EC registry number.

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The criteria shall apply as follows:

- to the applied lubricant for criteria 1(a), 6 and 7,
- to each stated substance intentionally added or formed above 0,010 % (w/w) for criterion 1(b) and 2,
- to each stated substance intentionally added or formed above 0,10 % (w/w) for criteria 3, 4 and 5.

In addition the total fraction of the stated substances where the formulated criteria 3 and 4 do not apply shall remain below 0,5 % (w/w).

### EU ECOLABEL CRITERIA

#### Criterion 1 – Excluded or limited substances and mixtures

##### (a) Hazardous substances and mixtures

According to the Article 6(6) of Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any part of it shall not contain substances (in any forms, including nanoforms) meeting the criteria for classification with the hazard statements or risk phrases specified below in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council <sup>(1)</sup> or Council Directive 67/548/EEC <sup>(2)</sup> nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council <sup>(3)</sup>. The risk phrases below generally refer to substances. Nanoforms intentionally added to the product shall prove compliance with this criterion for any concentration.

List of hazard statements and risk phrases:

Hazard Statement <sup>(1)</sup>	Risk Phrase <sup>(2)</sup>
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60; R61; R60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60-R63
H360Df May damage the unborn child. Suspected of damaging fertility	R61-R62

<sup>(1)</sup> OJ L 353, 31.12.2008, p. 1.

<sup>(2)</sup> OJ 196, 16.8.1967, p. 1.

<sup>(3)</sup> OJ L 396, 30.12.2006, p. 1.



Hazard Statement <sup>(1)</sup>	Risk Phrase <sup>(2)</sup>
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23; R39/24; R39/25; R39/26; R39/27; R39/28
H371 May cause damage to organs	R68/20; R68/21; R68/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25; R48/24; R48/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20; R48/21; R48/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41

<sup>(1)</sup> As provided for in Regulation (EC) No 1272/2008.

<sup>(2)</sup> As provided for in Directive 67/548/EEC.

This criterion shall also apply to the following hazard statements and risk phrases:

Hazard Statement <sup>(1)</sup>	Risk Phrase <sup>(2)</sup>
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43
H314 Causes severe skin burns and eye damage	R34; R35
H319 Causes serious eye irritation	R36
H315 Causes skin irritation	R38
EUH066 Repeated exposure may cause skin dryness or cracking	R66
H336 May cause drowsiness and dizziness	R67

<sup>(1)</sup> As provided for in Regulation (EC) No 1272/2008.

<sup>(2)</sup> As provided for in Directive 67/548/EEC.

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Substances or mixtures which change their properties upon processing (e.g. become no longer bioavailable, undergo chemical modification) so that the identified hazard no longer applies are exempted from the above requirement.

Concentration limits for substances meeting criteria of Article 57(a), (b) or (c) of Regulation (EC) No 1907/2006 shall not exceed 0,010 % (w/w). If specific concentration limits are referred to for substances meeting criteria of Article 57(a), (b) or (c) they should remain below one tenth (1/10) of the lowest specific concentration value indicated unless this value falls below 0,010 % (w/w).

Derogations from Criterion 1(a) are listed in Table 1.

*Assessment and verification of criterion:* the applicant shall provide the exact formulation of the product to the competent body. The applicant shall demonstrate compliance with this criterion for substances in the product on the basis of information consisting as a minimum of that specified in Annex VII to the Regulation (EC) No 1907/2006. Such information shall be specific to the particular form of the substance, including nanoforms, used in the product. For that purpose, the applicant shall provide a declaration of compliance with this criterion, together with a list of ingredients and related Safety Data Sheets in accordance with Annex II to Regulation (EC) No 1907/2006 for the product as well as for all substances listed in the formulation(s). Concentration limits shall be specified in the Safety Data Sheets in accordance with Article 31 of Regulation (EC) No 1907/2006.

Sufficient data shall be available to allow for the evaluation of the environmental hazards (indicated by the hazard statements H400 – H413 or R-phrases: R 50, R 50/53, R 51/53, R 52, R 52/53, R 53), of the product in accordance with Regulation (EC) No 1272/2008 or Directive 67/548/EEC and Directive 1999/45/EC of the European Parliament and of the Council<sup>(1)</sup>.

The evaluation of a product for hazards to the environment shall be performed by the conventional method as indicated in Annex III to Directive 1999/45/EC or by the summation method in Section 4.1.3.5.2 of Regulation (EC) No 1272/2008. However, as defined by Part C of Annex III to Directive 1999/45/EC or by Section 4.1.3.3 of Regulation (EC) No 1272/2008, the results of testing the preparation (either the product preparation or the additive package) as such can be used to modify the classification concerning the aquatic toxicity that would have been obtained using the conventional or summation method.

(b) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 may be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006, when present in mixtures, in concentrations higher than 0,010 % (w/w).

*Assessment and verification:* the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here:

[http://echa.europa.eu/chem\\_data/authorisation\\_process/candidate\\_list\\_table\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp)

<sup>(1)</sup> OJ L 200, 30.7.1999, p. 1.



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Reference to the list shall be made on the date of application.

Concentration limits shall be specified in the Safety Data Sheets according to Annex II, paragraph 3.2.1(c) of Commission Regulation (EU) No 453/2010 <sup>(1)</sup>.

**Criterion 2 – Exclusion of specific substances**

The following stated substances are not allowed in quantities exceeding 0,010 % (w/w) of the final product:

- substances appearing in the Union List of priority substances in the field of water policy in Annex X to Directive 2000/60/EC of the European Parliament and of the Council <sup>(2)</sup> as amended by laid in Decision No 2455/2001/EC of the European Parliament and of the Council <sup>(3)</sup> and the OSPAR List of Chemicals for Priority Action ([http://www.ospar.org/content/content.asp?menu=00950304450000\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00950304450000_000000_000000)),
- organic halogen compounds and nitrite compounds,
- metals or metallic compounds with the exception of sodium, potassium, magnesium and calcium. In the case of thickeners, also lithium and/or aluminium compounds may be used up to concentrations limited by the other criteria included in the Annex to this Decision.

*Assessment and verification:* conformance with these requirements shall be stated in writing and signed by the applicant.

**Criterion 3 – Additional aquatic toxicity requirements**

The applicant shall demonstrate compliance by meeting the requirements of either criterion 3.1 or criterion 3.2.

**Criterion 3.1. – Requirements for the lubricant and its main components**

Acute aquatic toxicity data of the main components and the mixture shall be provided.

Acute aquatic toxicity data for each main component shall be stated on each of the following two trophic levels: algae and daphnia <sup>(4)</sup>. The critical concentration for the acute aquatic toxicity for each main component shall be at least 100 mg/L.

Acute aquatic toxicity data for the applied lubricant shall be stated on each of the following three trophic levels: algae, daphnia and fish. The critical concentration for the acute aquatic toxicity for a lubricant in Category 1 and 5 shall be at least 100 mg/L and for a lubricant in Category 2, 3 and 4 at least 1 000 mg/L.

Table 2 summarises the requirements for the different lubricant categories according to criterion 3.1.

<sup>(1)</sup> OJ L 133, 31.5.2010, p. 1.

<sup>(2)</sup> OJ L 327, 22.12.2000, p. 1.

<sup>(3)</sup> OJ L 331, 15.12.2001, p. 1.

<sup>(4)</sup> Crustacean can substitute for daphnia throughout this Decision where marine data is submitted.

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*Assessment and verification:* either marine or freshwater toxicity data are accepted. The tests are carried out according to and using relevant test species mentioned in the following guidelines: ISO/DIS 10253 or OECD 201 or Part C.3 of the Annex to Council Regulation (EC) No 440/2008 <sup>(1)</sup> for algae, ISO TC 147/SC5/WG2 or OECD 202 or Part C.2 of the Annex to Regulation (EC) No 440/2008 for daphnia and OECD 203 or Part C.1 of the Annex to Regulation (EC) No 440/2008 for fish. Equivalent test methods as agreed with a competent body are also permitted. Only (72hr)E<sub>r</sub>C50 for algae, (48hr)EC50 for daphnia and (96hr)LC50 for fish are accepted.

**Criterion 3.2. – Requirements for each stated substance present above 0,10 % (w/w)**

Chronic toxicity test results in the form of No Observed Effect Concentration (NOEC) data shall be stated on each of the following two aquatic trophic levels: daphnia and fish.

In case chronic toxicity test results are missing, acute aquatic toxicity tests results shall be provided for each of the following two trophic levels; algae and daphnia. One or more substances exhibiting a certain degree of aquatic toxicity are allowed in each of the five lubricant categories for a cumulative mass concentration as indicated in Table 1.

*Assessment and verification:* No Observed Effect Concentration (NOEC) data on the two trophic levels, daphnia and fish, are established by the following test methods: Part C.20 and Part C.14 of the Annex to Regulation (EC) No 440/2008 for daphnia and fish respectively, or equivalent test methods as agreed with a competent body.

Either marine or freshwater acute toxicity data are accepted on algae and daphnia. The tests in marine water are carried out according to and using relevant test species mentioned in the following guidelines: ISO/DIS 10253 or OECD 201 or Part C.3 of the Annex to Regulation (EC) No 440/2008 for algae, ISO TC 147/SC5/WG2 or OECD 202 or Part C.2 of the Annex to Regulation (EC) No 440/2008 for daphnia and OECD 203 or Part C.1 of the Annex to Regulation (EC) No 440/2008 for fish. Equivalent test methods as agreed with a competent body are also permitted. Only (72hr)E<sub>r</sub>C50 for algae and (48hr)EC50 for daphnia are accepted.

*Assessment and verification for Criteria 3.1 and 3.2:* high quality test reports or literature data (testing according to acceptable protocols and GLP) including the references shall be submitted to the competent body demonstrating compliance with the requirements set out for the aquatic toxicity in Table 1.

In the case of slightly soluble substances or preparations (< 10 mg/L) the method of the water-accommodated fraction (WAF) can be used in the aquatic toxicity determination. The established loading level, sometimes referred to as LL50 and related to the lethal loading, may be used directly in the classification criteria. The preparation of a water-accommodated fraction shall follow the recommendations set out according to one of the following guidelines: ECETOC Technical Report No 20 (1986), Annex III to OECD 1992 301 or the ISO Guidance document ISO 10634, or ASTM D6081-98 (Standard practice for Aquatic Toxicity Testing for Lubricants: Sample Preparation and Results Interpretation or equivalent methods). In addition, demonstration of the absence of toxicity for a substance at its limit of water solubility shall be deemed to have met the requirements of this criterion.

<sup>(1)</sup> OJ L 142, 31.5.2008, p. 1.

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An aquatic toxicity study does not need to be conducted when:

- the classification of the substance, base fluid or additive is already stated on the Lubricant Substance Classification list, or
- a valid letter of compliance from a competent body can be submitted, or
- the substance is unlikely to cross biological membranes  $MM > 800$  g/mol or molecular diameter  $> 1,5$  nm ( $> 15$  Å), or
- the substance is a polymer and its molecular weight fraction below 1 000 g/mol is less than 1 %, or
- the substance is highly insoluble in water (water solubility  $< 10$  µg/l),

as such substances are not regarded as toxic for algae and daphnia in the aquatic system.

The water solubility of substances shall be determined where appropriate according to OECD 105 or equivalent test methods.

The molecular weight fraction below 1 000 g/mol of a polymer shall be determined according to Part A.19 of the Annex to Regulation (EC) No 440/2008 or equivalent test methods.

#### **Criterion 4 – Biodegradability and bioaccumulative potential**

Requirements for the biodegradability and bioaccumulative potential shall be fulfilled for each stated substance present above 0,10 % (w/w).

The lubricant shall not contain substances that are both: non-biodegradable and (potentially) bioaccumulative.

However, the lubricant may contain one or more substances with a certain degree of degradability and potential or actual bioaccumulation up to a cumulative mass concentration as indicated in Table 1.

*Assessment and verification:* conformity shall be demonstrated by providing the following information:

High quality test reports or literature data (testing according to acceptable protocols and GLP) including the references on the biodegradability and when required on the (potential) bioaccumulation of each constituent substance.

##### **4.1. Biodegradation**

A substance is considered *ultimately biodegradable* (aerobic) if:

1. In a 28-day biodegradation study according Part C.4 of the Annex to Regulation (EC) No 440/2008, OECD 306, OECD 310 the following levels of biodegradation are achieved:
  - in the ultimately biodegradable tests based upon dissolved organic carbon  $\geq 70$  %,
    - in the ultimately biodegradable tests based upon oxygen depletion or carbon dioxide generation  $\geq 60$  % of the theoretical maxima.

In these ultimately biodegradable tests the 10-day window principle will not necessarily apply. If the substance reaches the biodegradation pass level within 28 days but not within the 10-day time-window, a slower degradation rate is assumed.

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2. The BOD5/ThOD or BOD5/COD ratio  $\geq 0,5$ . The BOD5/(ThOD or COD) ratio can only be used if no data based on Part C.4 of the Annex to Regulation (EC) No 440/2008, OECD 306 or OECD 310 or any other equivalent test methods are available. The BOD5 shall be assessed according to Part C.5 of the Annex to Regulation (EC) No 440/2008 or equivalent methods while the COD shall be assessed according to Part C.6 of the Annex to Regulation (EC) No 440/2008 or equivalent methods.

A substance is considered *inherently biodegradable* if it shows:

- a biodegradation  $> 70$  % in the Part C.9 of the Annex to Regulation (EC) No 440/2008 or OECD 302 C test for inherent biodegradation or equivalent methods, or
- a biodegradation  $> 20$  % but  $< 60$  % after 28 days in Part C.4 of the Annex to Regulation (EC) No 440/2008, OECD 306, OECD 310 tests based on oxygen depletion or carbon dioxide generation or equivalent methods.

The biodegradation test does not need to be conducted when:

- the classification of the substance, base fluid or additive is already stated on the Lubricant Substance Classification list or a valid letter of compliance from a competent body can be submitted,
- a substance is non-biodegradable if it fails the criteria for ultimate and inherent biodegradability.

The applicant may also use read-across data to estimate the biodegradability of a substance. 'Read-across' for the assessment of the biodegradability of a substance shall be acceptable if the reference substance differs by only one functional group or fragment from the substance applied in the product. If the reference substance is readily or inherently biodegradable and the functional group has a positive effect on the aerobic biodegradation then the applied substance may also be regarded as readily or inherently biodegradable. Functional groups or fragments with a positive effect on the biodegradation are: aliphatic and aromatic alcohol [-OH], aliphatic and aromatic acid [-C(=O)-OH], aldehyde [-CHO], Ester [-C(=O)-O-C], amide [-C(=O)-N or -C(=S)-N]. Adequate and reliable documentation of the study on the reference substance should be provided. In case of a comparison with a fragment, not included here above, adequate and reliable documentation of the studies should be provided on the positive effect of the functional group on the biodegradation of structurally similar substances.

#### 4.2. Bioaccumulation

The (potential) bioaccumulation does not need to be established when the substance:

- has a MM  $> 800$  g/mol, or
- has a molecular diameter  $> 1,5$  nm ( $> 15$  Å), or
- has an octanol-water partition coefficient,  $\log K_{ow}$ , value of  $< 3$  or  $> 7$ , or
- has a measured BCF of  $\leq 100$  L/kg, or
- is a polymer and its molecular weight fraction below 1 000 g/mol is less than 1 %.

Since most substances used in lubricants are quite hydrophobic the BCF-value should be based on the lipid weight content and care must be shown to ensure a sufficient exposure time.

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The bioconcentration factor (BCF) shall be assessed according to Part C.13 of the Annex to Regulation (EC) No 440/2008 or equivalent test methods.

The log octanol/water partition coefficient ( $\log K_{ow}$ ) shall be assessed according to Part A.8 of the Annex to Regulation (EC) No 440/2008 or OECD 123 or equivalent test methods. In case of an organic substance other than a surfactant where no experimental value is available, a calculation method can be used. The following calculation methods are allowed: CLOGP, LOGKOW, (KOWWIN) and SPARC. Estimated  $\log K_{ow}$  values by any of these calculation methods  $< 3$  or  $> 7$  indicates that the substance is not expected to bioaccumulate.

$\log K_{ow}$  values are applicable to organic chemicals only. To assess the bioaccumulation potential of non-organic compounds, surfactants, and some organo-metallic compounds, BCF measurements shall be carried out.

**Criterion 5 – Renewable raw materials**

The formulated product shall have a carbon content derived from renewable raw materials that shall be:

- $\geq 50$  % (m/m) for Category 1,
- $\geq 45$  % (m/m) for Category 2,
- $\geq 70$  % (m/m) for Category 3,
- $\geq 50$  % (m/m) for Category 4,
- $\geq 50$  % (m/m) for Category 5.

Carbon content derived from renewable raw material means the mass percentage of component A  $\times$  [number of C-atoms in component A, which are derived from (vegetable) oils or (animal) fats divided by the total number of C-atoms in component A] plus mass percentage of component B  $\times$  [number of C-atoms in component B, which are derived from (vegetable) oils or (animal) fats divided by the total number of C-atoms in component B] plus the mass percentage of component C  $\times$  [number of C-atoms in component C, which are derived from (vegetable) oils or (animal) fats divided by the total number of C-atoms in component C], and so on.

The applicant shall indicate on the application form the type (s), source(s) and origin of the renewable material(s) of the main components.

*Assessment and verification:* the applicant shall provide the competent body with a declaration of compliance with this criterion.

**Criterion 6 – Minimum technical performance**

- (a) For Hydraulic fluids: at least the technical performance criteria as laid down in the current ISO 15380, Tables 2 to 5. The supplier shall list on his product information sheet which 2 elastomers have been tested.
- (b) For Industrial and marine gear oils: at least the technical performance requirements as in the DIN 51517. The supplier shall list on his product information sheet which Section (I, II or III) was selected.
- (c) For chainsaw oils: at least the technical performance criteria as laid down in the RAL UZ 48 of the Blue Angel.

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- (d) For two-stroke oils for marine applications: at least the technical performance criteria laid down in 'NMMA Certification for Two-Stroke Cycle Gasoline Engine Lubricants' of NMMA TC-W3.
- (e) For two-stroke oils for terrestrial applications: at least meet the EGD level of technical performance criteria laid down in ISO 13738:2000.
- (f) For all other lubricants: fit for purpose.

*Assessment and verification:* the applicant shall provide the competent body with a declaration of compliance with this criterion, together with related documentation.

#### **Criterion 7 – Information appearing on the eco-label**

Optional label with text box shall contain the following text:

‘— Reduced harm for water and soil during use

— Contain a large fraction of biobased material’.

The guidelines for the use of the optional label with text box can be found in the 'Guidelines for the use of the EU Ecolabel logo' on the website: [http://ec.europa.eu/environment/ecolabel/promo/logos\\_en.htm](http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm)

*Assessment and verification:* the applicant shall provide the competent body with a sample of the product packaging showing the label, together with a declaration of compliance with this criterion.

*Table 1*

**Criteria for the lubricant and each stated substance**

	Category 1	Category 2	Category 3	Category 4	Category 5
Category					
Criteria	Hydraulic fluids, tractor transmission oils	Greases, stern tube greases	Chain saw oils, concrete release agents, wire rope lubricants and other total loss lubricants	Terrestrial and marine two-stroke oils	Industrial and marine gear oils
Hazard statements and R-phrases indicating environmental and human health hazards (Derogation for Criterion 1(a))	Category 1	Category 2	Category 3	Category 4	Category 5
Health or Environmental Hazard statement or R-phrase of the lubricant at the time of application	None (Lowest classification limit in Regulation (EC) No 1272/2008 or Directive 1999/45/EC)	None (Lowest classification limit in Regulation (EC) No 1272/2008 or Directive 1999/45/EC)	None (Lowest classification limit in Regulation (EC) No 1272/2008 or Directive 1999/45/EC)	None (Lowest classification limit in Regulation (EC) No 1272/2008 or Directive 1999/45/EC)	None (Lowest classification limit in Regulation (EC) No 1272/2008 or Directive 1999/45/EC)

## ▼B

Exclusion of specific substances (Criterion 1(b) and 2)		Category 1	Category 2	Category 3	Category 4	Category 5
OSPAR-listed; the Union list of priority substances in the field of water policy; organic halogens; nitrites; metals and metallic compounds except Na, K, Mg, Ca and for thickeners Li, Al; CMR cat 1,2 (R45, R46, R49, R60 or R61); the candidate list for Annex XIV to Regulation (EC) No 1907/2006		< 0,010 %	< 0,010 %	< 0,010 %	< 0,010 %	< 0,010 %
Aquatic toxicity (Criterion 3.2 only)		Cumulative mass percentages (% w/w) of substances present in				
		Category 1	Category 2	Category 3	Category 4	Category 5
Not toxic (D)	Acute toxicity > 100 mg/L or NOEC > 10 mg/L	Not limited				
Harmful (E)	10 mg/L < Acute toxicity ≤ 100 mg/L or 1 mg/L < NOEC ≤ 10 mg/L	≤ 20	≤ 25	≤ 5	≤ 25	≤ 20
Toxic (F)	1 mg/L < Acute toxicity ≤ 10 mg/L or 0,1 mg/L < NOEC ≤ 1 mg/L	≤ 5	≤ 1	≤ 0,5	≤ 1	≤ 5
Very toxic (G)	Acute toxicity ≤ 1 mg/L or NOEC ≤ 0,1 mg/L	≤ 0,1/M (*)	≤ 0,1/M (*)	≤ 0,1/M (*)	≤ 0,1/M (*)	≤ 1/M (*)
Biodegradation and Bioaccumulation (Criterion 4)		Cumulative mass percentages (%w/w) of substances present in				
		Category 1	Category 2	Category 3	Category 4	Category 5
Ultimately aerobically biodegradable (A)		> 90	> 75	> 90	> 75	> 90
Inherently aerobically biodegradable (B)		≤ 5	≤ 25	≤ 5	≤ 20	≤ 5
Non-biodegradable AND non-bioaccumulative (C)		≤ 5		≤ 5	≤ 10	≤ 5

**▼B**

Biodegradation and Bioaccumulation (Criterion 4)	Cumulative mass percentages (%w/w) of substances present in				
	Category 1	Category 2	Category 3	Category 4	Category 5
Non-biodegradable AND bioaccumulative (X)	$\leq 0,1$	$\leq 0,1$	$\leq 0,1$	$\leq 0,1$	$\leq 0,1$
Fraction not assessed on aquatic toxicity (Criterion 3.2) or biodegradation/bioaccumulation (Criterion 4)	Cumulative mass percentages (%w/w) of substances present in				
	Category 1	Category 2	Category 3	Category 4	Category 5
	$< 0,5$	$< 0,5$	$< 0,5$	$< 0,5$	$< 0,5$
Renewability (Criterion 5)	Cumulative mass percentages (%w/w) of substances present in				
	Category 1	Category 2	Category 3	Category 4	Category 5
Based on carbon	$\geq 50 \%$	$\geq 45 \%$	$\geq 70 \%$	$\geq 50 \%$	$\geq 50 \%$
	Category 1	Category 2	Category 3	Category 4	Category 5
Minimal Technical performance (Criterion 6)	Hydraulic fluids: ISO 15380 Tables 2 to 5 Tractor transmission oils: fit for purpose	Fit for purpose	Chain saw oils: as in RAL UZ 48 Others: fit for purpose	Marine 2T-oils: as in NMMA TC-W3. Terrestrial 2T-oils: as the EGD level in ISO 13738:2000	Industrial and marine gear oils DIN 51517

(\*) M is the multiplication factor of 10 for substances that are very toxic to the aquatic environment as from Table 1b in Commission Directive 2006/8/EC (OJ L 19, 24.1.2006, p. 12).

multiplication factor (M)	LC50 or EC50 value ('L(E)C50') of substance
1	$0,1 < L(E)C50 \leq 1$
10	$0,01 < L(E)C50 \leq 0,1$
100	$0,001 < L(E)C50 \leq 0,01$
1 000	$0,0001 < L(E)C50 \leq 0,001$

For substances with a lower LC50 or EC50 value than 0,0001 mg/L, the corresponding concentration limits are calculated accordingly (in factor 10 intervals).





Table 2

**Aquatic toxicity requirements for the different lubricant categories — Data requirements for the lubricant and its main components**

Criterion 3.1	Category 1	Category 2	Category 3	Category 4	Category 5
Acute aquatic toxicity for the freshly prepared lubricant on three trophic levels, algae, daphnia and fish	> 100 mg/L	> 1 000 mg/L	> 1 000 mg/L	> 1 000 mg/L	> 100 mg/L
Acute aquatic toxicity for each main component on each of two trophic levels, algae and daphnia	> 100 mg/L	> 100 mg/L	> 100 mg/L	> 100 mg/L	> 100 mg/L