EN

ANNEX

FRAMEWORK

EU ECOLABEL CRITERIA

Criteria for awarding the EU Ecolabel to lubricants

CRITERIA

- 1. Excluded or limited substances
- 2. Aquatic toxicity
- 3. Biodegradability and bioaccumulative potential
- 4. Raw materials
- 5. Origin and traceability of renewable raw materials
- 6. Packaging
- 7. Minimum technical performance
- 8. Consumer information regarding use and disposal
- 9. Information appearing on the EU Ecolabel

ASSESSMENT AND VERIFICATION

(a) Requirements

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

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

Competent bodies shall preferentially recognise attestations which are issued by bodies accredited in accordance with the relevant harmonised standard for testing and calibration laboratories and verifications by bodies that are accredited in accordance with the relevant harmonised standard for bodies certifying products, processes and services. Accreditation shall be carried out in accordance with Regulation (EC) No 765/2008 of the European Parliament and of the Council¹.

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

¹ Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93 (OJ L 218, 13.8.2008, p. 30).

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

As a prerequisite, the product shall meet all applicable legal requirements of the country or countries in which the product is intended to be placed on the market. The applicant shall declare the product's compliance with this requirement.

The Lubricant Substance Classification list (LuSC list), available on the EU Ecolabel website, contains substances and brands that have been assessed by a competent body on its biodegradation/bioaccumulation, aquatic toxicity, renewability and non-presence of excluded substances which data can be used directly in the application process.

The list of all ingoing substances at or above the concentration of 0,010% weight by weight shall be provided to the competent body, indicating the trade name (if existing), the chemical name, the CAS no., the ingoing quantity, the function and the form present in the final product formulation.

All ingoing substances present in the form of nanomaterials shall be clearly indicated in the list with the word 'nano' written in brackets.

For each ingoing substance listed, the Safety Data Sheets (SDS) in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council² shall be provided. Where an SDS is not available for a single substance because it is part of a mixture, the applicant shall provide the SDS of the mixture.

(b) Measurement thresholds

Compliance with the ecological criteria is required for the final product and its constituent substances that are intentionally added and/or are formed intentionally after any chemical reaction in the applied lubricant, as specified below:

- to the applied lubricant for criteria xxx (to be completed in a final stage);
- to each stated substance intentionally added or formed at or above 0,010 % (w/w) for criteria xxx (to be completed in a final stage);
- to each stated substance intentionally added or formed above 0,10 % (w/w) for criteria xxx (to be completed in a final stage).

In addition the total fraction of the stated substances where the formulated criteria x and y do not apply shall remain below 0.5 % (w/w).

Note: Where grease can be used in both, TLL and PLL applications (as in the case of multifunctional grease), criteria applicable to TLL sub-group shall apply. If grease can be used as PLL and ALL, but not as TLL, then the criteria applicable to PLL sub-group shall apply.

² Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (OJ L 396, 30.12.2006, p. 1).

Criterion 1 – Excluded or limited substances

1 (a) Hazardous substances

(*i*) *Final product*

The final product shall not be classified and labelled as being acutely toxic, a specific target organ toxicant, a respiratory or skin sensitiser, carcinogenic, mutagenic or toxic for reproduction, or hazardous to the aquatic environment, as defined in Annex I to Regulation (EC) No 1272/2008 and in accordance with the entire list of hazards categories included in Table 1.

(*ii*) Substances

The product shall not contain substances that meet the criteria for classification as acutely toxic, hazardous to the aquatic environment, respiratory or skin sensitiser, carcinogenic, mutagenic or toxic for reproduction in accordance with Annex I to Regulation (EC) No 1272/2008 at a concentration limit as specified in Table 1 columns a) and b) for each hazard category.

Where stricter, the generic or specific concentration limits determined in accordance with Article 10 of Regulation (EC) No 1272/2008 shall take precedence.

Hazard categories	a) Concentration limit	b) Concentration limit
	of or above 0,010 %	of or below the half of
	weight by weight per	the relevant
	substance in the final	concentration* that
	product	would lead to
		classification of the
		final product ³
Carcinogenic, mutagenic or toxic for reproduction		
Category 1A and 1B		
H340 May cause genetic defects	\checkmark	
H350 May cause cancer	\checkmark	
H350i May cause cancer by inhalation	\checkmark	
H360F May damage fertility	\checkmark	
H360D May damage the unborn child	\checkmark	
H360FD May damage fertility. May damage the unborn child	✓	
H360Fd May damage fertility. Suspected of damaging the unborn	\checkmark	
child		
H360Df May damage the unborn child. Suspected of damaging	\checkmark	
fertility		
Category 2	•	

 Table 1. Restricted hazard classifications and their categorisation

 $^{^{3}}$ The concentration limit allowed corresponds to the concentration limit of or below the half of the generic cut-off values and/or concentration limits triggering classification of the mixture in accordance with the guidelines in Regulation (EC) No 1272/2008.

H341 Suspected of causing genetic defects	\checkmark	
H351 Suspected of causing genere defects	✓	
H361f Suspected of damaging fertility	\checkmark	
H361d Suspected of damaging the unborn child	✓	
H361fd Suspected of damaging fertility. Suspected of damaging	✓	
the unborn child		
H362 May cause harm to breast fed children	✓	
Acute toxicity		
Category 1 and 2		
H300 Fatal if swallowed	✓	
H310 Fatal in contact with skin	\checkmark	
H330 Fatal if inhaled	✓	
H304 May be fatal if swallowed and enters airways		\checkmark^{4}
Category 3		•
H301 Toxic if swallowed	✓	
H311 Toxic in contact with skin		
H311 Toxic if inhaled	\checkmark	
EUH070 Toxic by eye contact		
Specific target organ toxicity (STOT)	·	
Category 1		
H370 Causes damage to organs	✓	
H372 Causes damage to organs through prolonged or repeated	·	
exposure		
Category 2		
H371 May cause damage to organs		✓
		\checkmark
H373 May cause damage to organs through prolonged or repeated		\checkmark
H373 May cause damage to organs through prolonged or repeated exposure		✓
H373 May cause damage to organs through prolonged or repeated exposure Category 3		
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation		√ ⁵
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness		
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable)		√ ⁵
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B		√ ⁵ √ ⁵
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction		√ ⁵
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing		✓ ⁵
 H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled 		✓ ⁵
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation		✓ ⁵
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation Category 1		✓ ⁵
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H334: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation Category 1 H314 Causes severe skin burns and eye damage		✓ ✓ ✓
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H334: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation Category 1 H314 Causes severe skin burns and eye damage Category 2		✓ ✓ ✓
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation Category 1 H314 Causes severe skin burns and eye damage Category 2 H315 Causes skin irritation		✓ ✓ ✓ ✓
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation Category 1 H314 Causes severe skin burns and eye damage Category 2 H315 Causes skin irritation Serious eye damage/eye irritation		✓ ✓ ✓ ✓
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation Category 1 H314 Causes severe skin burns and eye damage Category 2 H315 Causes skin irritation Serious eye damage/eye irritation Category 1		✓ ✓ ✓ ✓
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation Category 1 H314 Causes severe skin burns and eye damage Category 2 H315 Causes skin irritation Serious eye damage/eye irritation Category 1 H318: Causes serious eye damage		✓ ✓ ✓ ✓ ✓
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation Category 1 H314 Causes severe skin burns and eye damage Category 2 H315 Causes skin irritation Serious eye damage/eye irritation Category 1 H318: Causes serious eye damage Category 2		✓ ✓ ✓ ✓ ✓
H373 May cause damage to organs through prolonged or repeated exposure Category 3 H335 May cause respiratory irritation H336 May cause drowsiness or dizziness Respiratory and skin sensitisation (where applicable) Category 1A/1/1B H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled Skin corrosion/irritation Category 1 H314 Causes severe skin burns and eye damage Category 2 H315 Causes skin irritation Serious eye damage/eye irritation Category 1 H318: Causes serious eye damage		✓ ✓ ✓ ✓ ✓ ✓

⁴ In the allocation of this H-phrase to a mixture (final product in the sense of this criterion), the CLP Regulation considers both the viscosity of the mixture and also the concentration of the component. The consideration of the viscosity is omitted from the criteria for the EU Ecolabel and only the concentration is considered.

⁵ According to section 3.8.3.4.5 to CLP Regulation, care shall be exercised when extrapolating toxicity of a mixture that contains Category 3 ingredient(s) specific Target Organ Toxicant after single exposure. The reference value for the extrapolation of the toxicity of mixtures in Category 3 has been set at 20%.

Category 1 and 2		
H400 Very toxic to aquatic life	\checkmark	
H410 Very toxic to aquatic life with long-lasting effects	✓	
H411 Toxic to aquatic life with long-lasting effects		\checkmark
Category 3 and 4	-	
H412 Harmful to aquatic life with long-lasting effects		\checkmark
H413 May cause long-lasting effects to aquatic life		\checkmark
Hazardous to the ozone layer		
H420 Harms public health and the environment by destroying	\checkmark	
ozone in the upper atmosphere		
Supplemental hazard information – Health hazards		
EUH029 Contact with water liberates toxic gas	✓	
EUH031 Contact with acids liberates toxic gas	✓	
EUH032 Contact with acids liberates very toxic gas	✓	
EUH066 Repeated exposure may cause skin dryness or cracking	~	

* Total concentration of the relevant classified substances.

This criterion does not apply to substances covered by Article 2(7)(a) and (b) of Regulation (EC) No 1907/2006 which set out criteria for exempting substances within Annexes IV and V to that Regulation from the registration, downstream user and evaluation requirements. In order to determine whether that exclusion applies, the applicant shall screen any ingoing substance present at a concentration above 0,010% weight by weight.

Assessment and verification: the applicant shall demonstrate compliance with this criterion for the final product and for any ingoing substance present at a concentration of or above 0,010% weight by weight in the final product. The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, or SDS confirming that none of these substances meets the criteria for classification with one or more of the hazard statements listed in Table 1 in the form(s) and physical state(s) in which they are present in the product.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under points (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply.

The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, or SDS confirming the presence of ingoing substances that fulfil the derogation conditions.

1 (b) Specified restricted substances

The substances listed below shall not be included in the product formulation above the concentration of 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 Council6 as amended by laid in Decision No 2455/2001/EC of the European

⁶ OJ L 327, 22.12.2000, p. 1.

Parliament and of the Council⁷ and the OSPAR List of Chemicals for Priority Action (http://www.ospar.org/work-areas/hasec/chemicals/priority-action);

- 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: the applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the listed substances are not present in the product formulation above the limits set.

1 (c) Substances of very high concern (SVHCs)

The final product shall not contain any ingoing substances that have been identified in accordance with the procedure described in Article 59(1) of Regulation (EU) No 1907/2006, which establishes the candidate list for substances of very high concern.

Assessment and verification: the applicant shall provide a signed declaration of compliance supported by declarations from their suppliers, if appropriate, or SDS confirming the non-presence of all the candidate list substances. Reference to the latest list of substances of very high concern shall be made on the date of application.

Criterion 2 – Aquatic toxicity

The applicant shall demonstrate compliance by meeting the requirements of either criterion 2.1. or 2.2.

2.1. Requirement for the lubricant and its main components

The critical concentration for the aquatic toxicity for both the freshly prepared lubricant and for each main components shall not exceed values specified in Table 2:

		ALL	PLL	TLL
Aquatic toxicity for the freshly	Acute aquatic toxicity OR	>100 mg/L	>1000 mg/L	>1000 mg/L
prepared lubricant	Chronic aquatic toxicity	>10 mg/L	>100 mg/L	>100 mg/L
Aquatic toxicity for each main	Acute aquatic toxicity OR	>100 mg/L		
component	Chronic aquatic toxicity		> 10 mg/L	

Table 2. Aquatic toxicity values for both freshly prepared lubricant and for each main component

Acute aquatic toxicity data for each main component shall be provided on each of the following two trophic levels:

- crustacean (preferred species Daphnia),

⁷ OJ L 331, 15.12.2001, p 1.

- aquatic plants (algae preferred) 8 .

In case acute aquatic toxicity data for each main component is missing, existing chronic aquatic toxicity tests shall be accepted for each of the following two trophic levels:

- crustacean (preferred species Daphnia)
- fish.

Acute aquatic toxicity data for the lubricant shall be provided on each of the following three trophic levels:

- crustacean (preferred species Daphnia),
- aquatic plants (algae preferred),
- and fish.

In case acute aquatic toxicity data for the applied lubricants is missing, existing chronic aquatic toxicity test shall be accepted for each of the following two trophic levels:

- crustacean (preferred species Daphnia),
- fish.

2.2. Requirement for each substance present above 0,10 % (w/w)

Substances exhibiting a certain degree of aquatic toxicity are allowed up to a cumulative mass concentration indicated in Table 3.

		Cumulative m weight	ass percentage in the final pr	
		ALL	PLL	TLL
Substance classified as not hazardous to the aquatic environment according to CLI			Not limited	
Substance classified as chronic aquatic hazard category 3 according to CLP	Acute aquatic toxicity >10 to \leq 100 mg/L or 1 mg/L < Chronic aquatic toxicity \leq 10 mg/L	≤10	≤20	≤2
Substance classified as chronic aquatic hazard category 2 according to CLP	Acute aquatic toxicity >1 to ≤ 10 mg/L or 0,1 mg/L < Chronic aquatic toxicity ≤ 1 mg/L	≤2,5	≤ 0,6	≤ 0,4
Substance classified as chronic aquatic hazard category 1 according to CLP Substance classified as acute aquatic hazard category 1 according to CLP	Acute aquatic toxicity≤1 mg/L or Chronic aquatic toxicity ≤ 0,1 mg/L	≤0,1/M (*)	≤ 0,1/M (*)	≤ 0,1/M (*)

Table 3. Aquatic toxicity values for substances present above 0,10% (w/w) in the final product

(*) M-factors for highly toxic components of mixtures shall be applied in accordance with Article 10 of Regulation (EC) No 1272/2008 as described in section 4.1.3.5.5.5.

Chronic aquatic toxicity for each substance present above 0,10% (w/w) shall be provided on each of the following two trophic levels:

⁸ The aquatic plant growth inhibition tests are normally considered as chronic tests but the EC50s are treated as acute values for classification purposes.

- crustacean (preferred species Daphnia),
- and fish

In case chronic aquatic toxicity data is missing, acute aquatic toxicity tests shall be provided for each of the following two trophic levels:

- crustacean (preferred species Daphnia),
- aquatic plants (algae preferred).

Assessment and verification: the applicant shall provide high quality test reports or literature data (testing according to acceptable protocols and GLP) including the references demonstrating compliance with the requirements set in sub-criteria 2.1 or 2.2.

For determining acute aquatic toxicity data, the tests carried out according to and using relevant test species mentioned in the following guidelines shall be accepted:

- ISO/DIS 10253 or OECD Test Guideline 201 or Part C.3 of the Annex to Council Regulation (EC) No 440/2008 (1) for algae,
- ISO TC 147/SC5/WG2 or OECD Test Guideline 202 or Part C.2 of the Annex to Regulation (EC) No 440/2008 for daphnia,
- OECD Test Guideline 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,
- According to Annex XI of REACH regulation, if no experimental data exists, results of (Q)SARs⁹ may be used. QSARs shall be accepted to fill data gap in only one of the three trophic levels rather having to perform the test.

Only acute aquatic toxicity (72 or 96 hr)Er C50 for algae¹⁰, (48hr)EC50 for daphnia and (96hr)LC50 for fish are accepted.

For determining chronic aquatic toxicity data, the tests carried out according to and using relevant test species mentioned in the following guidelines shall be accepted:

- Part C.20 of the Annex to Regulation (EC) No 440/2008 or OECD Test Guideline 211 for daphnia,
- Part C.14 or OECD Test Guideline 215 for fish ,
- Equivalent test methods as agreed with a competent body are also permitted,

⁹ Practical guide How to and report (Q)SARs is available on-line webpage: use at https://echa.europa.eu/documents/10162/13655/pg report gsars en.pdf/407dff11-aa4a-4eef-a1ce-9300f8460099 and Chapter R.6: QSARs of chemicals, available on-line webpage: and grouping at https://echa.europa.eu/documents/10162/13632/information_requirements_r6_en.pdf/77f49f81-b76d-40ab-8513-4f3a533b6ac9.

 $^{^{10}}$ For algae, test duration is normally 72 hours. However, shorter or longer test durations may be used provided that all validity criteria can be met. The test period may be shortened to at least 48 hours to maintain unlimited, exponential growth during the test as long as the minimum multiplication factor of 16 is reached. The aquatic plant growth inhibition tests are normally considered as chronic tests but the EC50s are treated as acute values for classification purposes.

 According to Annex XI of REACH regulation, if no experimental data exists, results of (Q)SARs⁹ may be used. QSARs shall be accepted to fill data gap in only one of the three trophic levels rather having to perform the test.

Only chronic toxicity test results in the form of No Observed Effect Concentration (NOEC) data shall be accepted.

Either marine or freshwater toxicity data are accepted for determining acute or chronic aquatic toxicity. The tests in marine water are carried out according to and using relevant test species mentioned in the above guidelines.

In the case of slightly soluble substances or preparations (< 10 mg/L) the method of the wateraccommodated 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 301 (1992) and the OECD 310 test guidelines or the ISO Guidance document 10634 (1995), 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. 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 (LuSC-list), or
- a valid letter of compliance from a competent body can be submitted, or
- the substance is unlikely to cross biological membranes MM > 700 g/mol or a 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 $< 10 \mu g/l$),

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 Test Guideline 105 or Part A.6 of the Annex to Regulation (EC) No 440/2008 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 OECD Test Guideline 119 or equivalent test methods.

Criterion 3 – Biodegradability and bioaccumulative potential

Requirements for the biodegradability of organic compounds and bioaccumulative potential shall be fulfilled by each substance present above 0,10 % weight by weight in the final product.

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 4.

	ALL	PLL	TLL
Readily aerobically biodegradable	> 90	> 75	> 95
Inherently aerobically biodegradable	≤ 10	≤ 25	≤ 5
Non-biodegradable and non-bioaccumulative	≤ 5	≤ 20	≤ 5
Non-biodegradable and bioaccumulative	≤ 0,1	≤ 0,1	$\leq 0,1$

Table 4. Cumulative mass percentage (% w/w) of substances present in the product

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion supported by a 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.

Biodegradation

Readily biodegradable shall be measured in accordance with the following tests:

- Regulation (EC) No 440/2008 (Part C.4, C.5 and C.6 of the Annex), OECD 301, OECD 310, or equivalent methods.

Inherently biodegradable shall be measured in accordance with the following tests:

- Regulation (EC) No 440/2008 (Part C.9 of the Annex), OECD 302 C or equivalent methods
- Tests based on oxygen depletion or carbon dioxide generation: Regulation (EC) No 440/2008 (Part C.4 of the Annex), OECD 306, OECD 310, 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.

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.

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 and >10, or
- has a measured BCF of ≤ 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. 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 Kow) 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 Kow values by any of these calculation methods < 3 or > 10 indicates that the substance is not expected to bioaccumulate.

Log Kow 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 4 – Raw materials

The lubricant product shall have a minimum content of:

a)carbon derived from renewable raw materials; or

b)synthetic esters, poly-alphaolefins (PAOs) or poly-alkylene glycols (PAGs); or

c) a combination of a) and b),

at percentage

 \geq 60% (m/m) for lubricants under ALL group, ≥65% (m/m) for lubricants under PLL group, ≥70% (m/m) for lubricants under TLL group.

Assessment and verification: The applicant shall indicate on the application form the type (s), source(s) and origin of the material(s) of the main components. The applicant shall provide the competent body with a declaration of compliance with this criterion supported by the test results in case of renewable origin raw materials and data sheets of the product, from the supplier or applicant, as appropriate.

ASTM D6866 test method or equivalent (e.g. ISO 16620-2) shall be used to determine the renewable carbon content.

Criterion 5 - Origin and traceability of renewable raw materials

The renewable raw materials used in the lubricant shall be produced in a way that at least satisfies the minimum mandatory sustainability requirements for the production of biofuels and bioliquids from bio-based renewable materials (including biomass) as documented in the European Union Renewable Energy Directive 2009/28/EC¹¹ and, or equivalent standards. For this purpose, the renewable raw material sourced shall be certified as sustainable via recognized international third party voluntary schemes with a membership base that includes NGOs, industry and government, and offers credible certification of products from various economic sectors extending beyond the biofuel sector to the food, feed, energy and bio-based products sector.

Assessment and verification: The applicant shall demonstrate through the provision of a valid certificate issued by a body or organisation accredited to offer third-party certification services against a relevant and internationally recognized standard and or certification scheme that the renewable raw material(s) used in the manufacturing of the product are sustainable. This includes valid certification against ISCC Plus, RSPO (for segregated and mass balance models), or similar schemes, which are based on the specific multi-stakeholder sustainability criteria, that confirms the purchase of the claimed renewable raw material(s) content and substantiate traceability.

Criterion 6 – Packaging

In the case of lubricants designed to be sold to private end consumers

a) Design: a dispenser closure system avoiding spillage shall be made available to the users as part of the packaging.

¹¹ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

b) Recycled content: all types of plastic packaging shall be made on a minimum of 25% of recycled material.

In the case of business to business lubricants

- a) The take-back system needs to be provided (to be discussed)
- b) Recycled content: all types of plastic packaging shall be made on a minimum of 25 % of recycled material.

Assessment and verification: The applicant shall provide a declaration including the commercial use of the lubricant specifying that the product is marketed for private end consumer and a description of the dispenser closure, along with photos or technical drawings of the dispenser closure system.

The applicant or packaging supplier, as appropriate, shall provide a declaration of compliance specifying the material composition of the packaging and the shares of recycled and virgin material.

Criterion 7 – Minimum technical performance

The quality of the lubricant product must be equal to or better than the quality of a reference lubricant, or within the tolerances, as specified in Table 5.

Lubricant family	Minimum technical performance	
Chainsaw oils	Based on RAL-UZ 178	
Wire rope lubricants, stern tube lubricants and other total loss lubricants	At least one relevant OEM approval	
Concrete release agents	At least one relevant OEM approval	
Gear lubricants	Enclosed gear oils. DIN 51517 section (I, II or III) Open gears: At least one relevant OEM approval	
2-stroke oils	2-stroke marine: NMMA TC-W3 2-stroke terrestrial: ISO 13738:2011 (EGD)	
Hydraulic systems	ISO 15380 (Tables 2 to 5) <u>Fire resistant hydraulic fluids</u> : ISO 12922 or Factory Mutual Approval	
Metalworking fluids	At least one relevant OEM approval	
Temporary protection against corrosion	ISO/TS 12928:1999	
Greases	Greases for temporary protection against corrosion: ISO/TS 12928:1999	

 Table 5. Minimum technical performance for lubricant products

Greases for closed gear: DIN 51826
All other greases: "Fit for purpose"

Note: Multipurpose greases that include any of the above specified applications among their potential uses shall be tested according to the corresponding specific test of the relevant specified application.

Assessment and verification: the applicant shall provide a declaration of compliance with this criterion supported by testing results, where appropriate. The testing laboratories confirming compliance with the requirements could be manufacturer's own laboratory which has a quality assurance system encompassing sampling and analysis and has been certified according to ISO 9001 or ISO 9002 or independent third party testing laboratories.

For hydraulic systems, it shall be indicated on the product information sheet which elastomers have been tested.

Criterion 8 - Consumer information regarding use and disposal

In the case of lubricants designed to be sold to private end consumers, the following information shall be present in the label of the package:

"Lubricating oil may contain substances harmful to health and environment, therefore be mindful and avoid any spillage to the environment. Product residue must be managed by an authorized waste manager".

Assessment and verification: the applicant shall provide a sample of the product packaging or its artwork where the above information appears.

Criterion 9 – Information appearing on the EU Ecolabel

The logo shall be visible and legible. The EU Ecolabel registration/licence number shall appear on the product and it shall be legible and clearly visible.

The applicant may choose to include an optional text box on the label that contains the following text:

- "Limited amount of hazardous substances",
- "Limited impact on the aquatic environment",
- "Verified performance/As effective as the average product on the market"

Assessment and verification: the applicant shall provide a signed declaration of compliance along with a sample of the product label or artwork of the packaging where the EU Ecolabel is placed, together with a signed declaration of compliance.