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## ADDITIVES ON THE LUBRICANT SUBSTANCE CLASSIFICATION LIST (LUSC LIST)

Additives on the LuSC list meet the relevant EU Ecolabel (“EU Marguerite”) criteria for Lubricants (Commission Decision 2011/381/EU). If used as a component, the additives qualify for application in final products eligible for EU Ecolabel certification, up to the point of their maximum treat rate.

| Brand name <sup>a)</sup> | Proposed maximum treat rate <sup>b)</sup> [%]        |                                      |  |   |  | Based on 100 % treat rate                                   |  |              | Remarks |
|--------------------------|--|--------------------------------------|--|---|--|---|--|--------------|---------|
|                          | Cat 1<br>Hydraulic fluids, tractor transmission oils | Cat 2<br>Greases, stern tube greases | Cat 3<br>Chain saw oils, concrete release agents, wire rope lubricants and other total loss lubricants | Cat 4<br>Terrestrial and marine two-stroke oils | Cat 5<br>Industrial and marine gear oils | EEL Biodegradation <sup>c)</sup><br>A/B/C/X/- <sup>e)</sup> | EEL Aquatic Toxicity <sup>d)</sup><br>D/E/F/G(M)/- <sup>e)</sup> | Renewability |         |
| LUBIO <sup>®</sup> AO 17 | 0.35   | 0.35                                 | 0.35   | 0.35  | 0.35                                     | -   | -(M = 1)   | 0 %          | A       |
| LUBIO <sup>®</sup> AS 12 | 3  | 3                                    | 3  | 3   | 3  | 97 % C  | 97 % D   | 0 %          | -       |
| LUBIO <sup>®</sup> AW 11 | 5  | 5                                    | 5  | 5   | 5  | 100 % C   | 100 % D  | 0 %          | -       |
| LUBIO <sup>®</sup> AW 15 | 4  | 4                                    | 4  | 4   | 4  | 75 % A<br>25 % B  | 75 % D<br>25 % F   | 77 %         | -       |
| LUBIO <sup>®</sup> CI 10 | 20   | 25                                   | 5  | 25  | 20                                       | 100 % A   | 100 % E  | 0 %          | -       |
| LUBIO <sup>®</sup> EP 13 | 5  | 20                                   | 5  | 15  | 5  | 100 % B   | 100 % D  | 65 %         | -       |
| LUBIO <sup>®</sup> MD 6  | 5  | 25                                   | 5  | 10  | 5  | 100 % C   | 100 % E  | 0 %          | -       |
| LUBIO <sup>®</sup> MD 7  | 1.2  | 1.2                                  | 1.2  | 1.2   | 1.2                                      | 92 % C  | 100 % E  | 0 %          | -       |
| LUBIO <sup>®</sup> TF 1  | 50   | 100                                  | 50   | 100   | 50                                       | 90 % A<br>10 % C  | 100 % D  | 100 %        | -       |

**Remark A:** A mixture of different substances, where no substance exceeds 0.10% in the final formulation.

- Notes:**
- a) Substances that are excluded by the EU Ecolabel criteria according to Criterion 1b and 2 are not present above 0.010% in the final composition.
  - b) The treat rate is usually set by the supplier before the assessment. The maximum treat rate is valid only if no other substance with the same or worse EU Ecolabel classification is present in the final product.
  - c) If classification of the biodegradation has not been set at 100% but at a smaller fraction, e.g. 30%, then the total fraction with the specific classification is equal to the fraction of the treat rate multiplied by the indicated fraction of the classification; e.g. 0.6% (applied treat rate) \* 80% C (assessed fraction of biodegradation) = 0.48% C. The value of 0.48% must be used in the application form for the brand name on biodegradation. The fraction not assessed on biodegradation is then automatically 0.60 – 0.48 = 0.12%.
  - d) If classification of the aquatic toxicity has not been set at 100% but at a smaller fraction, e.g. 30%, then the total fraction with the specific classification is equal to the fraction of the treat rate multiplied by the indicated fraction of the classification, e.g. 0.6% (applied treat rate) \* 80% E = 0.48% E for the brand name. The value of 0.48% must be used in the application form. The fraction not assessed on aquatic toxicity is then automatically 0.60 – 0.48 = 0.12%.
  - e) (A) Ultimately aerobically biodegradable • (B) Inherently aerobically biodegradable • (C) Non-biodegradable AND non-bioaccumulative • (X) Non-biodegradable AND bioaccumulative • (D) Non-toxic • (E) Harmful • (F) Toxic • (G) Very toxic • (M) Multiplication factor for a substance that has an acute aquatic toxicity classified as very toxic (G) • – Where it was not necessary to assess the substance(s) in the lubricant based on the stated maximum treat rate and the 0.1% limit in the ecolabel criteria for biodegradation, aquatic toxicity and renewability.
  - f) The values in this table are valid until 31.12.2018.

## ADDITIVES LISTED ON RAL-UZ 178 ("BIODEGRADABLE LUBRICANTS AND HYDRAULIC FLUIDS")

Additives listed in RAL-UZ 178 fulfill the award criteria of the Blue Angel („Der Blaue Engel“). When applying for the Blue Angel, no further data must be submitted for products listed in RAL-UZ 178.

| Brand name   | Maximum treat rate [%] <sup>a)</sup> |            |      |      |      |      | Based on 100 % treat rate   |   | Remarks |
|--------------|--------------------------------------|------------|------|------|------|------|---|---|---------|
|              | 2.1. • 1                             | 2.1. • 2-4 | 2.2. | 2.3. | 2.4. | 2.5. | Biodegradation / Bioaccumulation potential<br>A/B/C/BX/CX/- <sup>b)</sup> | Aquatic Toxicity<br>D/E/F/G/- <sup>b)</sup> |         |
| LUBIO® AW 15 | 4                                    | 4          | 4    | 4    | 4    | 4    | 75 % A<br>25 % B  | 75 % D<br>25 % E                            | -       |
| LUBIO® TF 1  | 100                                  | 20         | 20   | 100  | 20   | 100  | 90 % A<br>10 % C*   | 100 % D                                     | -       |

**Notes:**

- a) The maximum treat rates of the listed components are only valid, if no other substance with the same or worse Blue Angel classification is used in the final product.
  - 2.1. • 1 Lubricants where lubricant loss occurs during their intended use. This includes those lubricants that primarily escape into the environment during their intended use e.g. point and rail lubricants and lubricants for open bearings, guides or sealing purposes (incl. stern tube greases).
  - 2.1. • 2-4 Lubricants where lubricant loss occurs during their intended use. This includes lubricants for the glass industry, concrete release agents used in formwork, and release agents used in asphalt paving work.
  - 2.2. Hydraulic fluids (pressure fluids), particularly in environmentally sensitive hydraulic systems and tractor transmission oils.
  - 2.3. Chain lubricants for motor saws.
  - 2.4. Gear lubricants for industrial use and shipping.
  - 2.5. Greases.
- b) (A) Readily biodegradable • (B) Inherently biodegradable • (C) Non-biodegradable • (X) Bioaccumulative • (D) Non-toxic • (E) Harmful • (F) Toxic • (G) Very toxic.

If you are looking for environmentally friendly additives for your application, do not hesitate to contact us. More detailed information about “Ecolabel” can also be found on our website. We would be pleased to register other products on the LuSC list or under RAL-UZ 178 for you when possible. Together with you we will find solutions – **Solutions that work.**