CRITERIA FOR THE ENVIRONMENTAL LABELING OF HARD SURFACE CLEANING PRODUCTS

ARTICLE 1- These criteria are regulated within the scope of Environmental Label Regulation dated 19.10.2018 and numbered 30570.

ARTICLE 2- The product group of hard surface cleaners includes all kinds of all-purpose cleaners, kitchen cleaners, window cleaners and sanitary cleaners for both domestic and industrial use, which are designed and marketed to be used for the following purposes:

a) **All-purpose cleaners:** Cleaners containing detergent products for routine indoor cleaning of hard surfaces such as walls and floors.
b) **Kitchen cleaners:** Cleaners containing detergent products for routine cleaning and degreasing of hard surfaces in the kitchen, such as countertops, stovetops, sinks and surfaces of kitchen appliances.
c) **Window cleaners:** Cleaners containing detergent products for routine cleaning of windows, glass and other polished surfaces.
d) **Sanitary cleaners:** Cleaners containing detergent products for routine cleaning, including the scrubbing and removal of dirt and deposits in indoor areas such as toilets, bathrooms, showers and laundry rooms.

The following products are not included in the hard surface cleaning product group:

- Products that are not mixtures of chemical substances,
- Products for special use containing microorganisms intentionally added by the manufacturer,
- Products not covered by the Regulation on Detergents published in the Official Gazette dated 27.01.2018 and numbered 30314,
- Products not intended for cleaning building interiors (e.g. products for washing cars, boats, etc.),
- Products that are not routinely used (e.g. paint remover) or are used only for certain types of surfaces (e.g. wood floor cleaner, metal cleaner) or special uses (e.g. oven cleaner),
- Products for cleaning textile surfaces,
- Toilet blocks.

ARTICLE 3- Within the scope of the Environmental Label Regulation, the criteria specified in this document must be fulfilled in order to be given an environmental label for the products in the hard surface cleaner product group.

ARTICLE 4- The assessment and verification requirements regarding the environmental label criteria determined for the hard surface cleaner product group will be valid for 5 (five) years. The criteria may be updated when deemed necessary by the Environmental Labeling Board within five years. The criteria's validity period can be extended with the Environmental Labeling Board's approval.

DEFINITIONS

Ingoing Substances: By-products and impurities resulting from raw materials intentionally added in the formulation of the final product (including water-soluble foil, if used);

Undiluted Product: Product that should be diluted in water prior to use;

Ready-to-use product: Product that is not diluted with water before use and can be used directly;

Primary packaging (sales packaging): Packaging sold to the target consumer that comes into direct contact with the product;

Microplastic: Insoluble macromolecular plastic with a particle size below 5 mm, obtained through one of the following processes:

- a polymerization process such as polyaddition or polycondensation or similar process using monomers or other starting substances;
- chemical modification of natural or synthetic macromolecules;
- microbial fermentation.

Nanomaterial: A naturally or synthetically produced material containing particles in an unbound state or as agglomerated state and where, for 50% or more of the particles in the number size distribution, one or more external dimensions in the size range 1-100 nm.

CRITERIA

The criteria for granting the Environmental Label to the hard surface cleaners product group are as follows:

1. Dosage requirements
2. Toxicity to aquatic organisms
3. Biodegradability
4. Sustainable sourcing of palm oil, palm kernel oil, and derivatives
5. Excluded and restricted substances
6. Packaging
7. Fitness for use
8. User information
9. Information appearing on the Turkish Environmental Label

ASSESSMENT AND VERIFICATION REQUIREMENTS

(a) Requirements

The assessment and verification requirements for each criterion have been determined.

When a statement, document, analysis, test report, or other evidence is requested from the applicant to prove its compliance with the criteria, these documents requested in accordance with the current situation can be issued by the applicant and/or his/her supplier/suppliers and/or their supplier/suppliers.

In accordance with the situation, a method different from the test methods determined for each criterion may be used if the equivalence is accepted by the Ministry.

The tests should be carried out in laboratories that meet the general requirements of the ISO 17025 standard and are duly accredited, as stated in Annex-1 of the Regulation on Detergents published in the Official Gazette dated 27/01/2018 and numbered 30314. The Ministry recognizes the tests performed by laboratories accredited by an accreditation body that is a party to the International Laboratory Accreditation Association (ILAC) Mutual Recognition Agreement (MRA) according to TS EN ISO/IEC 17025. TÜRKAK accredited organizations can be accessed at https://secure.turkak.org.tr/kapsam/search. If it is proved that there is no accredited institution for the test technique, which is mandatory within the scope of assessment and verification criteria, TS EN ISO/IEC 17025 accreditation criterion is not required. If deemed appropriate, the Ministry may request supporting documents and perform independent verification.

When generating data for the classification of substances or mixtures, the second 28848 published in the Official Gazette dated 11.12.2013 'of substances and mixtures physicochemical, toxicological, and ecotoxicological test methods to be applied in determining the properties on the regulations' provisions or procedures in accordance with internationally recognized scientific principles or internationally validated methods shall be taken into consideration.

The applicant shall have fulfilled the necessary obligations within the scope of the Product Safety and Technical Regulations Law No. 7223, as well as the Environmental Law and the current legislation enacted based on this law. In this respect, it is obliged to submit the EIA Decision, Environmental Permit, Zero Waste Certificate, Waste Management Plan, and other documents requested by the Ministry.

It is necessary to demonstrate the toxicity and biodegradability effects of the chemicals and mixtures used in this product group on aquatic environments. For this, the "EU Commission Detergent Ingredient Database" (DID list) has been developed and includes the most used substances in detergent and cosmetic formulations. This list will be used to derive the necessary data for calculations of the Critical Dilution Volume (CDV) and to evaluate the biodegradability of the substances used in the product. For substances not on the DID list, guidance is provided on how to obtain relevant data.

List of all substances used in the product; chemical name, CAS no., DID no. (obtained from the DID list), and the amount in the final product formulation, indicating its function and form (including water-soluble films if used) shall be submitted to the competent authority. In the studies to be carried out on this subject, the content data document stipulated in the C section

of Annex-7 of the Regulation on Detergents published in the Official Gazette on 27/01/2018 and numbered 30314 shall be acted upon.

Preservatives, fragrances, and coloring agents shall be specified regardless of their concentration. Other substances used in the product should be specified when in concentrations of 0.010% by weight or higher. All ingoing substances present in the form of nanomaterials shall be clearly indicated in the list with the word 'nano' written in brackets.

In accordance with the Regulation on the Registration, Evaluation, Authorization, and Restriction of Chemicals, published in the Official Gazette dated 23/06/2017 and numbered 30105, a Safety Data Sheet (SDS) shall be provided for each listed substance. 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 criteria is required for all ingoing substances/concentrations for substances that may be present in hard surface cleaning products as presented in Table 1.

Table 1. Threshold Levels by Criteria for Ingoing Substances Used in Hard Surface Cleaning Products (% weight by weight)

Criterion name		**Surfactants**	**Preservatives**	**Coloring agents**	**Fragrances**	**Other (e.g. enzymes)**
Toxicity to aquatic organisms		≥ 0,010	no limit*	no limit*	no limit*	≥ 0,010
Biodegradability	Surfactants	≥ 0,010	N/A	N/A	N/A	N/A
	Organics	≥ 0,010	no limit*	no limit*	no limit*	≥ 0,010
Sustainable sourcing of palm oil		≥ 0,010	N/A	N/A	N/A	≥ 0,010
Excluded or limited substances	Specified excluded and limited substances	no limit*	no limit*	no limit*	no limit*	no limit*
	Hazardous substances	≥ 0,010	≥ 0,010	≥ 0,010	≥ 0,010	≥ 0,010
	Substances of high concern (SVHCs)	no limit*	no limit*	no limit*	no limit*	no limit*
	Fragrances	N/A	N/A	N/A	no limit*	N/A
	Preservatives	N/A	no limit*	N/A	N/A	N/A
	Coloring agents	N/A	N/A	no limit*	N/A	N/A
	Enzymes	N/A	N/A	N/A	N/A	no limit*
	Microorganisms	N/A	N/A	N/A	N/A	≥ 0,010

**"no limit" means: all substances intentionally added, by-products, and impurities from raw materials (analytical limit of detection) regardless of the concentration.*
N/A: Not Applicable

***Note:** For example, if the concentration of a surfactant in hard surface cleaning product is greater than or equal to 0.010% by weight, the criterion of "aquatic toxicity" will apply to that surfactant. On the other*

hand, for preservatives, the criterion of "toxicity to aquatic organisms" will be met regardless of the concentration of the preservatives.

c) Product Group Specificities

If a product can be found in both ready-to-use and undiluted forms and both forms are sold as part of a single lot, both types of product shall meet the requirements set out in all the criteria for their respective types.

Undiluted products in packaging designed for the sole purpose of refilling trigger sprays shall meet the packaging requirements for ready-to-use products.

REFERENCE DOSAGE

The following dosage will be taken as reference dosage for the calculation aimed at documenting compliance with the Turkish Environmental Label criteria and for testing the cleaning capability:

Ready-to-use products	1 liter of ready-to-use product
Undiluted products	The highest dosage recommended by the manufacturer is to prepare 1 liter of cleaning solution for cleaning soiled surfaces (indicated in g/L cleaning solution or ml/L cleaning solution)

Assessment and verification: The applicant shall provide the product label or user instruction sheet that includes the dosing instructions.

CRITERIA AND REQUIREMENTS

CRITERION 1. Toxicity to the Aquatic Organisms

The critical dilution volume ($CDV_{chronic}$) of the product estimates the impact of a product on aquatic freshwater ecosystems by calculating the natural water volume required to dilute some amount of the product (or functional unit) to the concentration at which it does not cause any foreseeable detrimental effects on the water. The critical dilution volume of the product shall not exceed the limit values presented in Table 2 for the reference dosage.

Table 2. CDV Limit Values

Product Category	Limit CDV (L/L cleaning solution)
All-purpose hard surface cleaner, ready-to-use	350 000
All-purpose hard surface cleaner, undiluted	18 000
Kitchen surface cleaner, ready-to-use	600 000

Product Category	Limit CDV (L/L cleaning solution)
Kitchen surface cleaner, undiluted	45 000
Window surface cleaner, ready-to-use	48 000
Window surface cleaner, undiluted	18 000
Sanitary surface cleaner, ready-to-use	600 000
Sanitary surface cleaner, undiluted	45 000

Assessment and verification: The applicant shall provide the $CDV_{chronic}$ calculation of the product. The $CDV_{chronic}$ value is calculated for all ingredients (i) in the product using the following equation:

$$CDV_{chronic} = \sum CDV(i) = 1000\ x \sum Dosage(i)\ x \frac{DF(i)}{TF_{chronic}(i)}$$

Where;

- Dosage (i): Weight (g) of the substance (i) in the reference dosage,
- DF(i): Degradation factor for the substance (i),
- $TF_{chronic}$ (i): Chronic toxicity factor for the substance (i).

The values of DF(i) and $TF_{chronic}$ (i) shall be as given in the most updated Part A of the DID list[1]. If an ingoing substance is not included in Part A, the applicant shall calculate these values following the approach described in the "Guidance on Procedures When a Substance is Not Included in the DID List" and attaching the relevant documentation.

CRITERION 2. Biodegradability

Criterion 2.1. Biodegradability of Surfactants

All surfactants shall be readily (aerobically) degradable.

In addition, all surfactants are classified as hazardous to the aquatic environment (Acute Category 1 (H400), Aquatic Chronic) according to the “Regulation on Classification, Labeling and Packaging of Substances and Mixtures” published in the Official Gazette dated 11.12.2013 and reiterated number 28848. Category 1 (H410), Aquatic Chronic Category 2 (H411), and Aquatic Category 3 (H413) or Aquatic Chronic Category 3 (H412) shall also be anaerobically biodegradable.

[1]The latest version of the DID list is available from the links below.
https://ec.europa.eu/environment/ecolabel/documents/DID%20List%20PART%20A%202016%20FINAL.pdf
https://ec.europa.eu/environment/ecolabel/documents/DID_List_PART_B_2016_FINAL.pdf

Criterion 2.2. Biodegradability of Organic Compounds

The content of organic substances in the product that are aerobically non-biodegradable (non-biodegradable, aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the limit values presented in Table 3 for the reference dosage.

Table 3. aNBO and anNBO Limit Values for Hard Surface Cleaning Product Group

Product Category	aNBO (g/L cleaning solution)	anNBO (g/L cleaning solution)
All-purpose hard surface cleaner, ready-to-use	3,00	55,00
All-purpose hard surface cleaner, undiluted	0,20	0,50
Kitchen surface cleaner, ready-to-use	5,00	35,00
Kitchen surface cleaner, undiluted	0,20	0,50
Window surface cleaner, ready-to-use	2,00	20,00
Window surface cleaner, undiluted	0,20	0,50
Sanitary surface cleaner, ready-to-use	5,00	35,00
Sanitary surface cleaner, undiluted	0,20	0,50

Assessment and verification: The applicant shall provide the necessary documentation for the degradability of surfactants and the calculation of aNBO and anNBO in the product.

For the degradability of surfactants and the aNBO and anNBO values of organic compounds, reference shall be made to the most recent DID list.

For ingoing substances not included in Part A of the DID list, information from the literature or other sources showing that they are aerobic and anaerobically biodegradable as described in Part B of that list or appropriate test results shall be provided. In the tests to be applied to determine the biodegradability of surfactants, the methods specified in the Annex-3 of the Regulation on Detergents were published in the Official Gazette on 27/01/2018 and numbered 30314 shall be followed.

In the absence of the degradability documentation described above, ingoing substances other than surfactants may be exempted from the anaerobic degradability requirement if one of the following three alternatives is fulfilled:

- it is readily degradable and has low adsorption (A < %25);
- it is readily degradable and has high desorption (D > %75);
- it is readily degradable and non-bioaccumulating[2].

For adsorption/desorption tests, the Adsorption/Desorption method using the Equilibrium Model, which is provided in C.18 in Annex-I Section C of the Regulation on the Test Methods to

[2] A substance is considered to be not bio-accumulating if the BCF is < 100 or log Kow is < 3,0. If both the BCF and log Kow values are available, the highest measured BCF value shall be used.

be Applied in Determining the Physico-Chemical, Toxicological and Ecotoxicological Properties of Substances and Mixtures published in the Official Gazette dated 11.12.2013 and numbered 28848 with the second repetition, shall be followed.

CRITERION 3. Sustainable Sourcing of Palm Oil, Palm Kernel Oil, and Their Derivatives

Ingoing substances used in the products which are derived from palm oil or palm kernel oil shall be sourced from plantations that meet the requirements of a certification scheme for sustainable production that is based on multi-stakeholder organizations that has a broad membership, including NGOs, industry, and government and that addresses environmental impacts including on soil, biodiversity, organic carbon stocks and conservation of natural resources.

Assessment and verification: The applicant shall provide evidence through third-party certificates and chain of custody that palm oil and palm kernel oil used in the manufacturing of the ingoing substances originates from sustainably managed plantations. Certificates accepted shall include Roundtable for Sustainable Palm Oil (RSPO) (by identity-preserved segregated or mass balance) or any equivalent or stricter sustainable production scheme.

For chemical derivatives of palm oil and palm kernel oil, it shall be acceptable to demonstrate sustainability through the book and claim systems such as GreenPalm certificates or equivalent by providing the Annual Communications of Progress (ACOP) declared amounts of procured and redeemed GreenPalm certificates during the most recent annual trading period.

CRITERION 4. Excluded and Restricted Substances

Criterion 4.1. Specified excluded and restricted substances

The substances indicated below shall not be included in the product formulation regardless of concentration:

- Alkyl phenol ethoxylates (APEOs) and other alkyl phenol derivatives
- Atranol
- Chloroatranol
- Diethylenetriaminepentaacetic acid (DTPA)
- Ethylenediaminetetraacetic acid (EDTA) and its salts
- Formaldehyde and its releasers (e.g. 2-bromo-2-nitropropane-1,3-diol, 5-bromo-5-nitro-1,3-dioxane, sodium hydroxyl methyl glycinate, diazolidinylurea); excluding formaldehyde impurities in surfactants based on polyalkoxy chemistry up to a concentration of 0,010 wt%;
- Glutaraldehyde
- Hydroxyisohexyl 3-cyclohexene (HICC)
- Microplastics

- Nano-silver
- Nitromusks and polycyclic musks
- Phosphates
- Perfluorinated alkylates
- Non-biodegradable quaternary ammonium salts
- Reactive chlorine compounds
- Rhodamine B
- Triclosan
- 3-iodo-2-propynyl butylcarbamate
- Aromatic hydrocarbons
- Halogenated hydrocarbons

Assessment and verification: The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the listed substances have not been included in the product formulation regardless of concentration.

Criterion 4.2. Restricted substances

The substances listed below shall not be included in the product formulation above the concentrations indicated:

- 2-methyl-2H-isothiazol-3-one: 0.0015% weight by weight
- 1,2-Benzisothiazol-3(2H)-one: 0.0050 % weight by weight
- 5-chloro-2-methyl-4-isothiazolin-3-one/2-methyl-4-isothiazolin-3-one: 0.0015% weight by weight

Fragrance substances included in Annex-3 of the "Cosmetics Regulation" dated 23.05.2005 and numbered 25823 and subject to the declaration requirement shall not be at or above the concentration limit of 0.010% by weight per substance.

Assessment and verification: The applicant shall provide the following documents:

- If isothiazolinones are used, a signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the content of isothiazolinones used is equal to or lower than the limits set;
- If appropriate, signed declarations of conformity, supported by the declarations received from suppliers, confirming that the fragrance allergens included in Annex-3 of the Cosmetic Regulation dated 23.05.2005 and numbered 25823 are not present in more than the determined limits.

Criterion 4.3. Elemental Phosphorus Content

Total phosphorus (P) content calculated as Elemental P shall not exceed the limit values presented in Table 4 for the reference dosage.

Table 4. Total Phosphorus Content for Hard Surface Cleaning Product Group

Product Category	Total Phosphorus Content
All-purpose hard surface cleaner, ready-to-use	0,02 g/L ready-to-use product
All-purpose hard surface cleaner, undiluted	0,02 g/L cleaning solution
Kitchen surface cleaner, ready-to-use	1,00 g/L ready-to-use product
Kitchen surface cleaner, undiluted	1,00 g/L cleaning solution
Window surface cleaner, ready-to-use	0,00 g/L ready-to-use product
Window surface cleaner, undiluted	0,00 g/L cleaning solution
Sanitary surface cleaner, ready-to-use	1,00 g/L ready-to-use product
Sanitary surface cleaner, undiluted	1,00 g/L cleaning solution

Assessment and verification: The applicant shall provide the following documents:

Signed declarations of conformity shall be provided, supported by statements from suppliers confirming that the total phosphorus (P) content, calculated as elemental P, is equal to or lower than the established limits. The declaration shall be supported by calculations of the total phosphorus content of the product.

Criterion 4.4. Volatile Organic Compound Content

Volatile Organic Compounds (VOCs) are organic compounds with a boiling point below 150 °C. VOC content will be limited to the limit values specified in Table 4.

Table 5. VOC Content for Hard Surface Cleaning Product Group

Product Category	VOC Limit
All-purpose hard surface cleaner, ready-to-use	30 g/L ready-to-use product
All-purpose hard surface cleaner, undiluted	30 g/L cleaning solution
Kitchen surface cleaner, ready-to-use	60 g/L ready-to-use product
Kitchen surface cleaner, undiluted	60 g/L cleaning solution
Window surface cleaner, ready-to-use	100 g/L ready-to-use product
Window surface cleaner, undiluted	100 g/L cleaning solution
Sanitary surface cleaner, ready-to-use	60 g/L ready-to-use product
Sanitary surface cleaner, undiluted	60 g/L cleaning solution

Assessment and verification: The applicant shall provide the following documents:

Signed declarations of conformity shall be provided, supported by statements from suppliers confirming that the calculated total amount of VOCs is equal to or lower than the established limits. The declaration shall be supported by test reports or calculations of the VOC content based on the list of ingredients.

Criterion 4.5. Hazardous Substances

i. Final Product

The final product, as defined within the scope of Regulation on Classification, Labeling and Packaging of Substances and Mixtures Published in Official Gazette dated 11/12/2013 and numbered 28848 and according to the list in Table 6, shall not be classified and labeled as acutely toxic, a specific target organ toxicant, a respiratory or skin sensitizer, carcinogenic, mutagenic or toxic for reproduction, or hazardous to the aquatic environment.

ii. Ingoing Substances

The product, as defined within the scope of Regulation on Classification Annex-I, Labeling and Packaging of Substances and Mixtures Published in Official Gazette dated 11/12/2013 and numbered 28848 and according to the list in Table 6, shall not contain any substance at a concentration limit of 0.010% by weight or above, shall not be meeting the criteria for classification or labeling as acutely toxic, certain target organ toxicity, respiratory or skin sensitizer, hazardous to the aquatic environment, carcinogenic and mutagenic or toxic to reproduction.

In cases where stricter controls are required, the concentration limits determined within the scope of the Regulation on Classification, Labeling and Packaging of Substances and Mixtures published in the Official Gazette dated 11/12/2013 and numbered 28848 shall apply.

Table 6. Restricted hazard classifications and their categorization

Acute toxicity	
Categories 1 and 2	**Category 3**
H300 Fatal if swallowed	H301 Toxic if swallowed
H310 Fatal in contact with skin	H311 Toxic in contact with skin
H330 Fatal if inhaled	H331 Toxic if inhaled
H304 May be fatal if swallowed and enters the airways	EUH070 Toxic by eye contact
Specific target organ toxicity	
Category 1	**Category 2**
H370 Causes damage to organs	H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure	H373 May cause damage to organs through prolonged or repeated exposure
Respiratory and skin sensitization	
Category 1A/1	**Category 1B**
H317 May cause allergic skin reaction	H317 May cause allergic skin reaction

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
Carcinogenic, mutagenic, or toxic for reproduction	
Categories 1A and 1B	**Category 2**
H340 May cause genetic defects	H341 Suspected of causing genetic defects
H350 May cause cancer	H351 Suspected of causing cancer
H350i May cause cancer by inhalation	
H360F May damage fertility	H361f Suspected of damaging fertility
H360D May damage the unborn child	H361d Suspected of damaging the unborn child
H360FD May damage fertility. May damage the unborn child.	H361fd Suspected of damaging fertility. Suspected of damaging the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child.	H362 May cause harm to breastfed children
H360Df May damage the unborn child. Suspected of damaging fertility	
Hazardous to the aquatic environment	
Categories 1 and 2	**Categories 3 and 4**
H400 Very toxic to aquatic life	H412 Harmful to aquatic life with long-lasting effects
H410 Very toxic to aquatic life with long-lasting effects.	H413 May cause long-lasting effects to aquatic life
H411 Toxic to aquatic life with long-lasting effects	
Hazardous to the ozone layer	
H420 Harms public health and the environment by destroying the ozone layer in the upper atmosphere	

This criterion is excluded from the registry within the scope of Clauses (a) and (b) of the Fifth Clause of Article 2 of the Regulation on the Registration, Evaluation, Authorization, and Restriction of Chemicals, which was published in the Official Gazette dated 23/06/2017 and secondly numbered 30105. It does not apply to substances that are exempted and included in Annex-4 and Annex-5 of the same Regulation. To determine if this exemption applies, the applicant shall screen for substances present at a concentration above 0.010% by weight.

Substances and mixtures in Table 7 are exempt from Item (b) of Criterion 4.5.

Table 7. Derogated Substances

Substance	**Hazard statement**	**Hazard class and category[a]**
Surfactants	H400 Very toxic to aquatic life	Aquatic toxic 1
	H412 Harmful to aquatic life with long-lasting effects	Aquatic chronic 3
Enzymes[b]	H317 May cause allergic skin reaction	Skin sensitive 1
	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled	Respiration sensitive 1
Nitrilotriacetic acid (NTA) as an impurity in	H351 Suspected of causing cancer	Carcinogen 2

Substance	Hazard statement	Hazard class and category[a]
methylglycindiacetic acid (MGDA) and L-glutamic acid-N,N-diacetic acid (GLDA)[c]		

[a] *Regulation on Classification, Labeling, and Packaging of Substances and Mixtures" published in the Official Gazette dated 11.12.2013 and reiterated number 28848.*
[b] *Including stabilisers and other auxiliary substances in the preparations.*
[c] *In concentrations lower than 0,2 % in the raw material as long as the total concentration in the final product is lower than 0,10 %.*

Assessment and verification: The applicant shall demonstrate compliance with this criterion for the final product and any ingoing substance at a concentration greater than 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 7 in the form(s) and physical state(s) in which they are present in the product.

Listed in Annex 4 and Annex 5 of the Regulation on the Registration, Evaluation, Authorization, and Restriction of Chemicals, which entered into force by being published in the Official Gazette dated 23/06/2017 and numbered 30105 with repetition, for substances exempted from registration, a declaration to that effect by the applicant shall suffice for eligibility.

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 fulfill the derogation conditions.

Criterion 4.6. Substances of Very High Concern

The final product shall not contain substances of high concern as defined in Article 49 of the "Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals" published in the Official Gazette dated 23.06.2017 and numbered 30105.

Assessment and verification: The applicant shall provide a signed declaration of conformity, supported by declarations from suppliers and SDSs, confirming that the product does not contain substances on the list of candidate substances of high concern as defined in Article 49 of the "Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals".

Criterion 4.7. Fragrances

All ingoing substances added to the product as fragrance shall be produced and processed in accordance with the International Fragrance Association (IFRA) [3] code of practice.

[3] http://www.ifraorg.org

Recommendations of IFRA standards regarding prohibition, restricted use and purity criteria specified for substances will be followed by the manufacturer.

Fragrance substances included in Annex 3 of the "Cosmetics Regulation" dated 23.05.2005 and numbered 25823 and subject to the declaration requirement shall not be at or above the concentration limit of 0.010% by weight per substance.

Assessment and verification: The supplier or fragrance manufacturer, as appropriate, shall provide a signed declaration of compliance.

Criterion 4.8. Preservatives

i. The product may only include preservatives in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants which may also have biocidal properties.
ii. The product may contain preservatives provided that they are not bio-accumulating. A preservative is considered to be not bio-accumulating if the BCF is < 100 or log K_{ow} is < 3.0. If both the BCF and log K_{ow} values are available, the highest measured BCF value shall be used
iii. It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial or disinfecting effect.

Assessment and verification: The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, along with the SDS of any preservative added and information on its BCF or log K_{ow} values. The applicant shall also provide artwork of the packaging.

Criterion 4.9. Coloring Agents

Coloring agents in the product shall not be bio-accumulating.

Colorants with BCF < 100 or log K_{ow} < 3.0 are considered non-bioaccumulating. If both BCF and log K_{ow} values are available, the highest measured BCF value shall be used. In the case of coloring agents approved for use in foods, documentation of the potential for bioaccumulation is not required.

Assessment and verification: The applicant shall provide a signed declaration of conformity or documentation showing that the coloring agents are suitable for food use, providing information on all coloring agents added to the product and their BCF or log K_{ow} values, supported by declarations from suppliers as well as SDSs.

Criterion 4.10. Enzymes

Only enzyme encapsulated (in solid form) and enzyme liquids/slurries shall be used.

Assessment and verification: the applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, along with the SDS of any enzyme added.

Criterion 4.11. Microorganisms

i. Identification: All intentionally added microorganisms must have an American Type Culture Collection (ATCC) number, belong to an International Depository Authority (IDA) collection, or have their DNA identified according to a strain identification protocol (using 16S ribosomal DNA sequencing or equivalent).

ii. Safety: all intentionally added microorganisms should be included in both of the following groups.
   - Microorganisms within the scope of subparagraph (a) of Article 5 of the "Regulation on Prevention of Risks of Exposure to Biological Agents" published in the Official Gazette dated 15.06.2013 and bis numbered 28678 - group 1 biological agents,
   - List of Qualified Presumption of Safety (QPS)[4] published by the European Food Safety Authority (EFSA).

iii. Absence of contaminants: the pathogenic microorganisms identified below shall not be present in any of the strains present in the finished product when screened using the specified test methods or equivalent:
   - E. coli, test method TS EN ISO 16649-3,
   - Streptococcus (Enterococcus), test method TS EN ISO 21528-1,
   - Staphylococcus aureus, test method TS EN ISO 6888-1,
   - Basil cereus, test method TS EN ISO 7932 or TS EN ISO 21871,
   - Salmonella, test method TS EN ISO 6579-1 or TS EN ISO 19250.

iv. Genetically modified micro-organism (GMM): Intentionally added groups of microorganisms shall not contain GMMs.

v. Antibiotic susceptibility: All intentionally introduced microorganisms shall be susceptible to each of the five major classes of antibiotics (aminoglycosides, macrolides, beta-lactams, tetracyclines and fluoroquinolones), except for intrinsic resistance according to the EUCAST disk diffusion method or equivalent.

vi. Microbial count: The ready-to-use product shall have at least 1×10^5 colony forming units (CFU) per mL according to the results of the test (Plate Count Agar) according to TS EN ISO 4833-1.

[4] https://zenodo.org/record/6902983/files/Appendix%20E%20Updated%20list%20of%20QPS%20recommended%20biological%20agents_Jul22%20PS16.xlsx?download=1

vii. Shelf life: According to TS EN ISO 4833-1, the minimum shelf life of the product shall not be less than 24 months and the number of microorganisms shall not decrease by more than 10% every 12 months.

viii. Fitness for use: The product shall meet all the requirements set out in Criterion 6 on fitness for use and all claims made by the manufacturer regarding the function of microorganisms present in the product shall be documented through third party testing.

ix. Claims: The product cannot be claimed or suggested to have an antimicrobial or disinfecting effect on the packaging or through any communication.

x. User information: the product label shall contain the following information:
- that the product contains microorganisms,
- that the product shall not be used with a spray trigger mechanism,
- the product should not be used on surfaces in contact with food,
- an indication of the shelf life of the product.

Assessment and verification: The applicant shall ensure the following items.

i. Documents showing that all microorganisms present in the product have been identified by ATCC or IDA numbers or by DNA according to a strain identification protocol.

ii. Documents showing that all microorganisms are included in the lists of microorganisms - group 1 biological agents within the scope of subparagraph (a) of Article 5 of the "Regulation on Prevention of Risks of Exposure to Biological Agents" and in the QPS lists published by EFSA.

iii. Test documents showing that the product does not contain any pathogenic microorganisms.

iv. Documents showing that the product does not contain GMMs.

v. Test documents showing that all microorganisms present in the product are susceptible to each of the five main classes of antibiotics specified, except for intrinsic resistance.

vi. Test documents showing the SME per mL of cleaning solution in ready-to-use form (for undiluted products, the recommended dilution rate for 'normal' cleaning will be used).

vii. For a product stored until the end of its shelf life, test documentation showing the SMB per mL of solution in use every 12 months.

viii. Test results from a third-party laboratory showing the alleged actions of the microorganisms and label information highlighting the claims regarding the actions of the microorganisms.

ix. Artwork of the packaging or a copy of the product label.

CRITERION 5. Packaging

(i) Products Sold in Spray Bottles

Sprays containing propellants will not be used. Spray bottles will be refillable and reusable.

Assessment and verification: The applicant shall submit a signed declaration of conformity together with relevant documentation explaining or demonstrating how the spray bottles can be refilled.

(i) Packaging Take-back Systems

If the product is delivered in packaging that is retrieved after delivery, this product is exempted from the requirements set out in Criteria 5.1 and 5.2.

Assessment and verification: The applicant shall submit a signed declaration of compliance together with relevant documentation describing or demonstrating that a take-back packaging system has been put in place for the packaging.

Criterion 5.1. Weight/Utility Ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values (Table 8) for the reference dosage. Primary packaging made of more than 50 % recycled materials is exempted from this requirement.

Table 8. Weight/Utility Ratio Limit Values

Product Category	WUR (g/L cleaning solution)
Undiluted products	15
Ready-to-use products	150
Ready-to-use products sold in bottles with trigger spray	200

Assessment and verification: The applicant shall provide the AFO calculation of the product. If the product is sold in different packages (i.e. different volumes), the calculation shall be made and submitted for each package size for which the Turkish Environmental Label will be issued.

WUR is calculated as follows:

$$WUR = \sum((W_i + U_i)/(D_i + R_i))$$

Where;

- W_i: weight (g) of the primary packaging (i);
- U_i: weight (g) of non-post-consumer recycled packaging in the primary packaging (i). U_i = W_i unless the applicant can prove otherwise;
- D_i: number of reference doses contained in the primary packaging (i);
- R_i: refill index. R_i = 1 (packaging is not reused for the same purpose) or R_i = 2 (if the applicant can document that the packaging component can be reused for the same purpose and they sell refills).

The applicant shall provide, together with the relevant documents, a signed declaration of conformity confirming the content of the post-consumption recycled material. If the raw material used to manufacture the packaging is collected from packaging manufacturers at the distribution or consumer stage, the packaging is considered post-consumer recycled packaging.

Criterion 5.2. Design for Recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials known to interfere with the separation or reprocessing or reduce recycling quality. The label or sleeve, closure, and barrier coatings, if any, shall not contain the materials and components listed in Table 9, alone or in combination. Pump mechanisms (including sprays) are exempted from this requirement.

Table 9. Materials and components excluded from packaging elements

Packaging Element	**Excluded Materials and Components***
Label or Sleeve	PS label or sleeve in combination with a PET, PP, or HDPE bottle
	PVC label or sleeve in combination with a PET, PP, or HDPE bottle
	PETG label or sleeve in combination with a PET bottle
	Any other plastic materials for sleeves/labels with a density> 1 g/cm^3 used with a PET bottle
	Any other plastic materials for sleeves/labels with a density <1 g/cm^3 used with a PP or HDPE bottle
	Labels or sleeves that are metalized or welded to a packaging body (in-mold labeling)
Closure	PS closure in combination with a PET, HDPE, or PP bottle
	PVC closure in combination with a PET, PP, or HDPE bottle
	PETG closures or closure material with a density> 1 g/cm^3 in combination with a PET bottle
	Closures made of metal, glass, or EVA which are not easily separable from the bottle
	Closures are made of silicone. Silicone closures with a density <1 g/cm^3 in combination with a PET bottle and silicone closures with a density> 1g/cm^3 in combination with PEHD or PP bottle are exempted
	Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, functional polyolefins, metalized and light-blocking barriers

** EVA – Ethylene Vinyl Acetate, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride*

Assessment and verification: The applicant shall provide a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve,

adhesives, closure, and barrier coating, as appropriate, along with photos of technical drawings of the primary packaging.

CRITERION 6. Fitness for Use

The product shall have a satisfactory cleaning performance at the lowest temperature and dosage recommended by the manufacturer for the water hardness in accordance with the "Framework for Testing the Performance of Hard Surface Cleaners" available on the Turkish Environmental Label website.

Assessment and verification: The applicant shall provide documentation demonstrating that the product has been tested under the conditions specified in the framework and that the results achieve the minimum required cleaning performance. The applicant shall also provide documentation demonstrating compliance with the laboratory requirements contained in the relevant harmonized standards for testing and calibration laboratories, if applicable. Test results for the suitability of the product for use are also considered in the verification process.

An equivalent test performance that has been assessed and accepted as equivalent by the competent authority may also be used.

CRITERION 7. User Information

The product shall be accompanied by instructions for proper use to maximize product performance and minimize waste and reduce water pollution and use of resources. These instructions shall be legible or include graphical representation or icons and include information on the following:

A. Dosage Instructions

The applicant shall take appropriate steps to help consumers adjust the recommended dosage, making available dosing instructions and an appropriate dosing system (e.g. cap). The packaging of ready-to-use products will include the following text: 'This product is not intended for large-scale cleaning'.

Dosage instructions shall include the recommended dosage for at least two levels of soiling and, if applicable, the effect of water hardness on the dosing.

If applicable, the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found shall be provided.

B. Packaging Disposal Information

The primary packaging shall include information on the reuse, recycling, and correct disposal of packaging.

C. Environmental Information

The primary packaging shall have a text stating the importance of using the correct dosage and the lowest recommended temperature to minimize energy and water consumption and reduce water pollution.

Assessment and verification: The applicant shall provide a signed declaration of compliance along with a sample of the product label.

CRITERION 8. Information Appearing on the Turkish Environmental Label

The following information shall be placed on the product along with the environmental label:

The environmental label shall be placed on the product packaging in dimensions of 2×2 cm. Under the label, document number in 6 points and "The use of the environmental label in this product has been approved by the Ministry of Environment, Urbanization and Climate Change in accordance with the Environmental Label Regulation published in the Official Gazette dated 19.10.2018 and numbered 30570 due to its environmental performance." statement shall be legible and clearly visible.

If the product is approved during the application process, it can be included in the following statements.

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

- Limited impact on the aquatic environment
- Restricted amount of hazardous substances
- Tested for cleaning performance

Assessment and verification: The applicant shall provide a sample of the product label or the design of the packaging on which the Turkish Environmental Label is placed, together with a signed declaration of compliance.