CRITERIA FOR THE ENVIRONMENTAL LABELING OF LAUNDRY DETERGENTS

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 laundry detergent consists of powder, liquid and capsule laundry detergent, pre-treatment stain removers and hand washing laundry detergent products. The product group includes products for both private and commercial use. Laundry detergent products are a mixture of chemical substances and should not contain microorganisms deliberately added by the manufacturer.

The scope of the product group shall comply with the provisions of the Regulation on Detergents published in the Official Gazette dated 27.01.2018 and numbered 30314.

Laundry softeners and stain removers that aren't applied to the laundry before washing to remove stains and are instead placed directly to the washing machine are not included.

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 laundry detergent product group.

ARTICLE 4- The assessment and verification requirements regarding the environmental label criteria determined for the laundry detergent 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.

CRITERIA

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

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 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 substances in the form of nanomaterials shall be identified in the list with the word 'nano' in parentheses.

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) will be provided for each listed substance. If 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 all ingoing substances/concentrations that are present above the limits specified in Table 1.

Table 1. Threshold Levels by Criteria for Substances Used in Laundry Detergents (% By Weight)

Criterion name		**Surfactants**	**Preservatives**	**Colouring 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
	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
	Colouring Agents	N/A	N/A	no limit*	N/A	N/A
	Enzymes	N/A	N/A	N/A	N/A	no limit*

* "no limit" means: all substances intentionally added, by-products, and impurities from raw materials (analytical limit of detection) regardless of the concentration.
**See Criterion 5.1.
N/A: Not Applicable

***Note**: For example, if the concentration of a surfactant in detergent 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.*

REFERENCE DOSAGE

The dosage below shall be taken as the reference dosage for calculations aimed at documenting compliance with the Turkish Environmental Label criteria and testing the cleaning ability:

Heavy-duty detergent, colour-safe detergent	For heavy-duty and colour-safe detergent, the dosage recommended by the manufacturer for cleaning 1 kg of normally soiled laundry with medium water hardness*, for an average load of 4.5 kg is indicated as "g/kg laundry".
Light-duty detergent	For an average load of 2.5 kg for light-duty detergents, the amount of detergent to be used to clean 1 kg of normally soiled laundry with medium-hard water* the highest dosage recommended is indicated as "g/kg laundry" by the manufacturer.
Pre-treatment stain remover	The dosage recommended by the manufacturer for one kilogram of dry laundry (indicated in g/kg of laundry or ml/kg of laundry) was calculated based on 6 applications for a load of 4,5 kg.
Industrial and institutional laundry detergent	The highest dosage recommended by the manufacturer is to wash one kilogram of dry laundry (indicated in g/kg of laundry or ml/kg of laundry) for three degrees of soiling (light, medium, and heavy) and medium water hardness. All products in a multi-component system shall be included with the worst-case dosage when assessments of the criteria are made.
	Example for the degree of soiling <u>Light:</u> Hotels: bed linen, bedclothes, and towels, etc. (towels may be considered heavily soiled) <u>Medium</u>: Work clothes: institutions/retail/service, etc. Restaurants: tablecloths, napkins, etc., mops <u>Heavy:</u> Work clothes: industry/kitchen/butchering, etc. Kitchen textiles: clothes, dish towels, etc. Institutions such as hospitals: bed linen, bedclothes, contour sheets, patient clothing, doctor's coat or scrubs/overall, etc.

**Water hardness degree is accepted as 1.5-2.5 mmol $CaCO_3$= 150-250 mg/L $CaCO_3$ = 15-25 French Hardness.*

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

CRITERIA AND REQUIREMENTS

Criterion 1. Dosage Requirements

The reference dosage recommended to the consumer in laundry detergent products shall not exceed the dosage limit values presented in Table 2.

Table 2. Reference Dosage Limits

Product group		Dosage* (g/kg of laundry)
Powder laundry detergents	Heavy-duty detergent, colour-safe detergent (including tablet laundry detergents)	20
	Light-duty detergent	
	Pre-treatment stain remover	3
Liquid laundry detergents	Heavy-duty detergent, colour-safe detergent (including capsule and gel laundry detergents)	16
	Light-duty detergent	
	Pre-treatment stain remover	3

**Water hardness degree is accepted as 1.5-2.5 mmol $CaCO_3$= 150-250 mg/L $CaCO_3$ = 15-25 French Hardness.*

Note: *There is no reference dosage limit value for the Industrial and Institutional Laundry Detergent product group. However, for the multi-component systems sub-product group in this product group, the applicant shall ensure that the product is used with an automatic and controlled dosage system.*

***Assessment and verification*:** The applicant shall provide the product label that includes the dosing instructions and documentation showing the density (g/ml) of liquid and gel products.

In a special case regarding liquid or gel products, the applicant shall provide the Authorized Institution with documents stating the density of the product in g/mL, such as material safety data sheets.

As dosage instructions for liquid or gel products are usually in milliliters, the calculation method is:

Reference dosage (g) = Reference dosage (mL) x density (g/mL)

For multi-component systems in the Industrial and Institutional Laundry Detergent product group, the applicant will make customer visits to all facilities using the product in order to ensure the correct dosage in automatic dosing systems. These customer visits may also be performed by a third party. The applicant shall provide a signed declaration of compliance along with a description of the content of customer visits, who is responsible for them, and their frequency.

Criterion 2. Toxicity to the Aquatic Organisms

The critical dilution volume 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 ($CDV_{chronic}$) shall not exceed the limit values presented in Table 3.

Table 3. CDV Limit Values

Product group	Product			CDV* (L/kg laundry)
Laundry detergent	Heavy-duty detergent, colour-safe detergent			31.500
	Light-duty detergent			20.000
	Hand washing detergent			2.500
	Pre-treatment stain remover			3.500
Industrial and Institutional Laundry Detergent	Powder	Soiling level	Light	40.000
			Medium	60.000
			Heavy	75.000
	Liquid		Light	60.000
			Medium	75.000
			Heavy	90.000
	Multi-component system		Light	70.000
			Medium	80.000
			Heavy	100.000

**Water hardness degree is accepted as 1.5-2.5 mmol $CaCO_3$= 150-250 mg/L $CaCO_3$ = 15-25 French Hardness.*

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

$$CDV_{chronic} = \sum CDV_{(i)} = 1000 * \sum dosage\ (i) * \frac{DF(i)}{TF_{chronic}(i)}$$

Where;

dosage (i): Weight (g) of the substance (i) in the reference dosage,

DF(i): Degradation factor for the substance (i);

TFchronic (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 estimate the values following the approach described in Part B of that list and attach the associated documentation.

Note: *In the Industrial and Institutional Laundry Detergent product group, separate rules apply for the following substances due to the deterioration of certain substances in the washing process:*

[1] http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf
http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_b_en.pdf

• Hydrogen peroxide (H_2O_2) – will not be included in the CDV calculation.
• Peracetic acid – will be included in the calculation as "acetic acid".

Criterion 3. Biodegradability

Criterion 3.1- 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.

Criterion 3.2 - Biodegradability of Organic Compounds

The content of aerobically non-biodegradable (non-biodegradable, aNBO) or anaerobically non-biodegradable (anNBO) organic matter in the product shall not exceed the limit values presented in Table 4 for the reference dosage.

Table 4. aNBO and anNBO Limit Values for Laundry Detergent Products

Product group				**aNBO* (g/kg laundry)**	**anNBO* (g/kg laundry)**
Powder laundry detergents		Heavy-duty detergent, colour-safe detergent (including tablet laundry detergents)		1.0	1.1
		Light-duty detergent		0.55	0.6
		Hand washing detergent		0.03	0.08
		Pre-treatment stain remover		0.1	0.1
Liquid laundry detergents		Heavy-duty detergent, colour-safe detergent (including capsule and gel laundry detergents)		0.45	0.55
		Light-duty detergent		0.3	0.3
		Hand washing detergent		0.03	0.08
		Pre-treatment stain remover		0.1	0.1
Industrial and Institutional Laundry Detergent	Powder	Soiling level	Light	1.10	1.10
			Medium	1.40	1.40
			Heavy	1.75	1.75
	Liquid		Light	0.60	0.60
			Medium	0.70	0.70
			Heavy	0.90	0.90
	Multi-component system		Light	1.75	1.75
			Medium	2.50	2.50
			Heavy	3.75	3.75

**Water hardness degree is accepted as 1.5-2.5 mmol $CaCO_3$= 150-250 mg/L $CaCO_3$ = 15-25 French Hardness.*

***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 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, 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 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 4. 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.

[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.

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 5. Excluded and Restricted Substances

Criterion 5.1. Specified excluded and restricted substances

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

- Alkylphenol ethoxylates (APEOs) and other alkylphenol derivatives
- Atranol
- Chloroatranol
- Diethylenetriaminepentaacetic acid (DTPA)
- Ethylenediaminetetraacetic acid (EDTA) and its salts
- Formaldehyde and its releases (eg, 2-bromo-2-nitropropane-1,3-diol, 5-bromo-5-nitro-1,3-dioxane, sodium hydroxyl methyl glycinate, diazolidinurea); excluding formaldehyde impurities in surfactants based on polyalkoxy chemistry up to a concentration of 0.010% by weight
- Glutaraldehyde
- Hydroxyisohexyl 3-cyclohexene
- Nitromusks and polycyclic musks
- Phosphates
- Perfluorinated alkylates
- Quaternary ammonium salts that are not easily biodegradable
- Reactive chlorine compounds
- Rhodamine B
- Triclosan
- Sodium hydroxyl methyl glycinate
- 3-iodo-2-propynyl butylcarbamate
- Microplastics
- Nano-silver

***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 5.2. 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-III of the Cosmetic Regulation dated 23.05.2005 and numbered 25823 are not present in more than the determined limits.

Criterion 5.3. Elemental Phosphorus Content

Total phosphorus (P) content calculated as Elemental P shall be not exceeded the limit values presented in Table 5 for the reference dosage.

Table 5. Total Phosphorus Content for Laundry Detergent Products

Product category		**Total Phosphorus Content* (g/kg laundry)**
Laundry detergent	Laundry detergent	0.04
	Pre-treatment stain remover	0.005
Industrial and Institutional Laundry Detergent	Light soil	0.5
	Medium soil	1.0
	Heavy soil	1.5

**Water hardness degree is accepted as 1.5-2.5 mmol $CaCO_3$= 150-250 mg/L $CaCO_3$ = 15-25 French Hardness.*

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

A signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the total amount of elemental P is equal to or lower than the limits set. The declaration shall be supported by the calculations of the product's total P-content.

If applicable, signed declarations of conformity will be provided, supported by declarations from suppliers, confirming that the total amount of phosphorus is less than or equal to the established limits. The declaration shall be supported by calculations of the total phosphorus content of the product.

Criterion 5.4. 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 2, 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 2, 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 acute 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 are 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 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 breast fed 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 on 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 included in Table 7 are exempt from item (ii) of criterion 5.4.

Table 1. 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
Subtilisin	H400 Very toxic to aquatic life	Aquatic acute 1
	H411 Toxic to aquatic life with long-lasting effects	Aquatic chronic 2
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

Substance	Hazard statement	Hazard class and category [a]
NTA as an impurity in MGDA and GLDA[c]	H351 Suspected of causing cancer	Carcinogen 2
ε-phthalimido-peroxy-hexanoic acid (PAP) used as bleaching agent at max concentration of 0,6 g/kg of laundry [d]	H400 Very toxic to aquatic life	Aquatic acute 1
	H412 Harmful to aquatic life with long-lasting effects	Aquatic chronic 3
Peracetic acid/hydrogen peroxide used as bleaching agent[e]	H400 Very toxic to aquatic life	Aquatic acute 1
	H410 Very toxic to aquatic life with long-lasting effects	Aquatic chronic 1
	H412 Harmful to aquatic life with long-lasting effects	Aquatic chronic 3

[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 stabilizers 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 %.*
[d] *It is valid for Laundry Detergents and Industrial and Institutional Laundry Detergents.*
[e] *It is valid for Industrial and Institutional Laundry Detergents.*

***Assessment and verification*:** The applicant shall demonstrate compliance with this criterion for the final product and any ongoing 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 2 in the form(s) and physical state(s) in which they are present in the product.

Listed in Annex IV and Annex V 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 5.5. Substances of very high concern

The final product cannot contain substances of high importance as defined in Article 49 of the Regulation on "Registration, Evaluation, Authorization, and Restriction of Chemicals".

***Assessment and verification*:** The applicant shall provide a signed declaration of conformity, if applicable, confirming the absence of substances of high concern, supported by statements from suppliers and SDSs.

Criterion 5.6. Fragrances

All substances added to the product as fragrance shall be produced and processed in accordance with the International Fragrance Association (IFRA)[3] codes of practice. The recommendations of IFRA standards regarding prohibition, restricted use, and purity criteria specified for substances shall be followed by the manufacturer.

***Assessment and verification*:** The supplier or fragrance manufacturer, as the case may be, shall provide a signed declaration of conformity.

Criterion 5.7. 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 5.8. Colouring agents

Coloring agents in the product shall not be bioaccumulative.

Colorants with BCF < 100 or log K_{ow} < 3.0 are considered non-bioaccumulative. 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.

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

Criterion 5.9. Enzymes

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

***Assessment and verification*:** The applicant shall provide a signed declaration of conformity, if applicable, showing all enzymes added to the product and supported by declarations from suppliers as well as SDSs.

Criterion 6. Packaging

Criterion 6.1. 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 group		**WUR* (g)**
Powder laundry detergents Laundry detergents in tablets or capsules		1.2
Liquid/gel laundry detergents		1.4
Pre-treatment stain remover		1.2
Industrial and Institutional Laundry Detergent	Powder	2.0
	Liquid	2.5

**Water hardness degree is accepted as 1.5-2.5 mmol $CaCO_3$= 150-250 mg/L $CaCO_3$ = 15-25 French Hardness.*

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

WUR is calculated as follows:

$$WUR = \sum((Wi + Ui)/(Di + Ri))$$

Where;

Wi: weight (g) of the primary packaging (i);
Ui: weight (g) of non-post-consumer recycled packaging in the primary packaging (i). Ui : Wi unless the applicant can prove otherwise;
Di: number of reference doses contained in the primary packaging (i);
Ri: refill index. Ri = 1 (packaging is not reused for the same purpose) or Ri = 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 6.2. 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 cladding, 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 exempt 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 are 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*

Note: *For Industrial and Institutional Laundry Detergents, this product is exempt from the requirements set out in Criterion 6 if the product is delivered in a post-delivery reclaimed packaging.*

***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.

For Industrial and Institutional Laundry Detergents, the applicant shall submit a signed declaration of conformity with relevant documents explaining or showing that the product has delivered in a post-delivery package.

Criterion 7. Fitness for use

The product will have satisfactory washing performance at the lowest temperature and dose recommended by the manufacturer for certain water hardness. Product evaluation will be made within the framework of the most up-to-date standard TS EN 60456, " Clothes washing machines for household use - Methods for measuring the performance ". 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.

***Assessment and verification*:** The applicant shall provide documents showing that the product has been tested under the conditions specified in the criteria and that the results have reached at least the required minimum washing performance. The applicant shall also provide documentation, if appropriate, demonstrating compliance with the laboratory requirements contained in the relevant harmonized standards for testing and calibration laboratories. Test results for the suitability of the product for use are also considered in the verification process.

Criterion 8. 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 suitable steps, provide dosage instructions and an appropriate dosing system (e.g. cap) to assist consumers in setting the recommended dosage.

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

If available, indicate the most common water hardness in the area where the product is planned to be marketed or where this information can be found.

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 text stating the importance of using the correct dose and the lowest recommended temperature to minimize energy and water consumption and reduce water pollution.

D. Other (Applies to Industrial and Institutional Laundry Detergent.)

If the final product contains peracetic acid and hydrogen peroxide as bleaching agents and has been classified and labeled, the text will appear on the primary packaging or technical product page stating that the classification and labeling are due to peracetic acid and hydrogen peroxide decomposed into unclassified substances during the washing process.

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

Criterion 9. 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, the 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.

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

- Limited impact on the aquatic environment
- Sustainable use of raw materials
- Restriction of harmful chemicals in the manufacturing process

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 conformity.