Österreichisches Umweltzeichen

Austrian Ecolabel Guideline UZ 63

Floor Care Products

Version 2.2

1 July 2017

Ammendments: 1st July 2021 and 1st January 2022

Amendment, July 1, 2021, Chapter 3.1:

Complete ban on fluorosurfactants; deleted authorization for small amounts of C2 perfluorocompounds.

Amendment, Jan. 1, 2022:

Change in criteria for sensitizing preservatives:

- The specific concentration limits established under Article 10 of Regulation (EC) No. 1272/2008 apply as limits for the concentration of these chemicals in the film-forming coating agent.

- The limit values for the dried coating have been deleted without replacement.

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Introduction

Washing and cleaning agents contribute considerably to environmental pollution. In Austria alone, more than 20,000 tonnes of washing and cleaning agents are consumed annually. The chemicals contained therein get via domestic and commercial waste water into sewage treatment plants and thus into surface waters. Their effects on the ecosystem constitute an important indicator for the total environmental pollution. Examples, such as foam mountains on rivers or eutrophication of waters until the 1980ies, have shown how closely related the history of environmental protection and the development of chemical cleaning agents is.

The Austrian Eco-label has already been dealing with this topic in 1995. In the year 2002 the first products were awarded.

Due to the interest of consumers, of public procurement, of production and trade the number of cleaning agents awarded with the Austrian Eco-label has been permanently rising since then.

Apart from washing and cleaning agents for private household products, which are mainly or exclusively used in the field of industrial cleaning, are also covered by the Austrian Ecolabel. This includes those floor care products which are dealt with in the present guideline.

Initial treatment and basic cleaning of floor coverings is carried out in many institutional and industrial buildings. These cleaning steps are, depending on the type and age of floor coverings, partly indispensable. As the floor coating and basic cleaning agents contain special chemicals, it is reasonable to establish an own Eco-label guideline for these products.

From the ecological point of view basic cleaning is to be applied as rarely as possible. Cleaning technologies and agents, which contribute to the preservation and renovation of the coating, are thus recommendable.

1 Definition of product groups

The following products are included in this Guideline:

- **Pore fillers** for the priming of open-pored and absorbent floor coverings, such as linoleum, concrete and cement. These products are also suitable for old and damaged absorbent floor coverings. Pore fillers are to be considered as permanent coatings - they are not chemically removable. They frequently serve as undercoat for further coatings (see next point).

- **Film forming coating agents** Film forming coating agents are destined for the so-called initial treatment. Initial treatment: Application of sufficient maintenance products or wear layers, adapted to the coating surfaces, for the protection against damage and to alleviate the subsequent maintenance cleaning.

  Coating presupposes building fine cleaning or basic cleaning.

  These coating agents are, for example, called polymer emulsion/dispersion, self-polishing wax or stone care products.

- **Basic cleaners** Cleaning agents for the complete removal of layers of maintenance products and strongly adherent /tenacious staining.

These products serve the surface treatment of elastic soil coatings, wood floors, natural stone, artificial stone and industrial floors made of reaction resin and mineral flowable compositions according to Austrian Standard ÖNORM D 2210:2017 [1].

Products whose main purpose is the cleaning of floors and/or which do not contain any coat-forming ingredients are not subject to this, but to the Austrian Ecolabel Guideline No 30 and/or the EU Ecolabel No 20 for hard surface cleaning products. This includes *intensive cleaners, cleaners, combined cleaning and maintenance products, cleaning and caring wipe care products.*

Not film-forming floor care products are not covered by the Austrian Eco-label.

The products of this group comprise only products for the interior and are exclusively destined for commercial use.

2 General assessment and verification requirements

The exact formulation of the product as well as a description of the function of each substance shall be communicated.

A safety data sheet of the product shall be attached, as well as the technical data sheet (if available), training documents and the label (and/or a draft of which).

A safety data sheet shall be submitted for every raw material which is contained in the formulation. For the prohibitions or restrictions of substances mentioned in the chapters 3.2 explanations of the producers of the substances/mixtures are required in addition to the safety data sheet.

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

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

Where possible, the testing should be performed by laboratories that meet the general requirements of Austrian Standard EN ISO 17025 [2] or equivalent requirements. Quality assurance of the management system of the laboratory according to ÖNORM EN ISO 9001 [3] is permissible as well. In this case the laboratory methods applied must be included in the management system.

Measurement thresholds

Compliance with the criteria is required for all ingoing substances as specified in Table 1.

Table 1 Threshold levels applicable to ingoing substances by criterion (% by weight)

Name of the criterion		Surfactants	Preservatives	Other substances
Biodegradability of surfactants		≥ 0.010	N/A	N/A
Prohibited or restricted substances	**Exclusion of substances**	no limit*	no limit*	no limit*
	Hazardous substances	≥ 0.010	≥ 0.010	≥ 0.010
	SVHCs	no lower limit*	no lower limit*	no lower limit*
	Limitation of sensitising substances	no lower limit*	no lower limit*	no lower limit*
	Preservatives	N/A	no lower limit*	N/A
	VOC	no lower limit*	No lower limit*	no lower limit*
	Phosphorous	no lower limit*	no lower limit*	no lower limit*
Sustainable procurement of palm oil		≥ 0.010	N/A	≥ 0.010

* "no lower limit" means: all substances intentionally added, by-products and impurities from raw materials (analytical limit of detection) regardless of the concentration.

3 Part A Requirements to be complied by pore fillers and film forming coating agents

3.1 Biodegradability of surfactants

The surfactants contained in the products must be completely aerobically biodegradable according to Detergents Regulation [7], Article 4 (1) and Annex III.

Those surfactants classified as hazardous to the aquatic environment: Acute Category 1 (H400) or Chronic Category 3 (H412), in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council shall be in addition anaerobically biodegradable.

Exceptions:
A maximum of:

2.5 % not readily but inherently biodegradable levelling agents/wetting agents (surfactants) on the basis of hydrocarbons

or

0.25 % silicone surfactants

Fluorosurfactants are excluded.

Assessment and verification: *The applicant shall furnish proof of the degradability of surfactants; for this purpose the most recent DID list shall be decisive.*

In part A of the DID list it is indicated whether a certain surfactant is rapidly biodagradable ("R") and anaerobically biodegradable ("Y"). This list can be found on the EU Ecolabel website:

link

For surfactants which are not included in part A of the DID list relevant information from literature or other sources or respective test results from which it can be concluded that they are rapidly and depending on their environmental category also anaerobically biodegradable according to part B of the DID list and Annex 1, p.32.

3.2 Prohibited or restricted substances and mixtures

3.2.1 Exclusion of substances

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

The list corresponds to the "Excluded substances" at the EU Ecolabel (Commission Decision (EU) 2017/1217 of 23 June 2017) and the Austrian Eco-label for hard surface cleaning products (Version 6.0 from 1st of July 2017).

- Alkyl phenol ethoxylates (APEOs) and other alkyl phenol derivatives
- Ethylenediaminetetraacetic acid (EDTA) and its salts
- Diethylenetriaminepentaacetic acid (DTPA)
- Nanosilver
- Phosphates (=anorganic polyphosphates)
- Halogenated hydrocarbons
- Aromatic hydrocarbons
- Perfluorinated alkylates
- Quaternary ammonium salts not readily biodegradable
- Reactive chlorine compounds
- Nitromusks and polycyclic musk compounds
- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
- Atranol
- Chloroatranol
- Rhodamine B
- Triclosan
- 3-iodo-2-propynyl butylcarbamate
- Formaldehyde and its releasers (e.g. 2-bromo-2-nitropropane-1,3-diol, 5-bromo-5-nitro-1,3-dioxane, sodium hydroxide methyl glycinate, diazolidinylurea) with the exception of impurities of formaldehyde in surfactants based on polyalkoxy compounds up to a concentration of 0.010 % by weight in the ingoing substance
- Glutaraldehyde
- ~~Microplastics~~*

  * The prohibition of microplastics is not applicable to this product group, as the microplastics contained in polymer dispersions are indispensable. These microplastic particles crosslink in the course of the application to become a continuous coating. For the raw materials used, except for the polymer dispersion, the producer declaration for the EU Ecolabel for Hard Surface Cleaning Products can be used anyway.

Assessment and verification: *Safety data sheets of raw materials plus producer declarations according to the EU Ecolabel Directive for Hard Surface Cleaning Products For polymer dispersions a separate producer declaration is applicable*

In addition to the prohibition of substances according to the EU Ecolabel for hard surface cleaning products the following substances are still considered to be prohibited.

Fragrances

Dyes

Phthalates

Phosphonates

Assessment and verification: *Safety data sheets of raw materials*

3.2.2 Hazardous substances

i) The final product must not be classified as

- Skin corrosive category 1A
- acutely toxic
- specific target organ toxicant
- respiratory or skin sensitizer
- hazardous to the aquatic environment

as defined in Annex I to Regulation (EC) No 1272/2008 and in accordance with the list in table 2.

ii) Ingoing substances

The product shall not contain ingoing substances at a concentration limit at or above 0.010 % by weight in the final product that meet the criteria for classification as toxic, hazardous to the aquatic environment, respiratory or skin sensitizers, carcinogenic, mutagenic or toxic for reproduction in accordance with Annex I to Regulation (EC) No 1272/2008 and in accordance with the list in Table 2.

The total content of monomers classified in accordance with H-phrases in table 2 must not exceed 0.01 % (100 mg/kg polymers, 100 ppm) measured on newly produced polymer dispersion.

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

Table 2 Restricted hazard classifications and their categorisation

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[1]
Respiratory and skin sensitisation	
Category 1A/1	**Category 1B**
H317 May cause an allergic skin reaction	H317 May cause an 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**

[1] Except: oral exposure route

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 harmful effects to aquatic life
H411 Toxic to aquatic life with long-lasting effects	
Hazardous to the ozone layer	
H420 Hazardous to the ozone layer	

For the substances mentioned in the following table the exceptions listed below shall apply:

Table 3 Exempted substances

Substance	**Hazard Statement**
Surfactants	H400 Very toxic to aquatic life
	H412 Harmful to aquatic life with long-lasting effects
Levelling & wetting agents	H411 Toxic to aquatic life with long-lasting effects
Enzymes (*)	H317: May cause an allergic skin reaction
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
NTA as an impurity in MGDA and GLDA (**)	H351 Suspected of causing cancer
For preservatives in film-forming coatings, the specific concentration limits for H317 and H334, respectively, established in accordance with Article 10 of Regulation (EC) No 1272/2008 apply.	
(*) Including stabilisers and other auxiliary substances in the preparations. (**) 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 for any ingoing substance present at a concentration greater than 0.010 by weight in the final product.*

The applicant shall provide a signed declaration of compliance with the criterion, 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.

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

iii) Substances of very high concern

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

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

3.2.3 Preservatives

The product may include preservatives only for the conservation of the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties.

The product may contain preservatives provided that they are not bio-accumulating. A preservative is not considered bio-accumulating if the bioconcentration factor BCF < 100 or logKow < 3.0. If both BCF and logKow values are available, the highest measured BCF shall be used.

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 with this criterion, supported by declarations from suppliers, if appropriate, along with the SDS of any preservative added and information on its BCF or log Kow values. The applicant shall also submit a picture of the packaging and/or of the label.*

3.2.4 Volatile Organic Compounds (VOC)

A. Limit values in the product

Pore fillers and film forming coating agents may contain a maximum of 5.0 w/w% VOC.

As definition for VOC the definition according to the VOC Directive No 1999/13/EC[2] shall apply.

B. Compliance with OEL (Occupational Exposure Limit) values

When applying the product the OEL values according to the Ordinance on Occupational Exposure Limits (Grenzwerteverordnung) 2011 [4] must not be exceeded.

Assessment and verification:

Ad A: The *applicant submits detailed calculations of the overall concentration of volatile organic compounds*

Ad B: *Measurement of the evaporation rate of solvents according to ASTM D 3539 or comparable methods*

or

Calculation in accordance with Annex II (=Chapter 6, p.27)

3.2.5 Phosphorus

The total quantity of phosphorus may be a maximum of 0.2 %.

Assessment and verification: *The applicant shall inform about the details of the calculations from which the compliance with this criterion can be concluded.*

3.3 Sustainable procurement 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 originate from plantations that meet the requirements of a certification scheme for sustainable production that is based on multi-stakeholder organisations with broadly-based membership, including NGOs, industry and government, and that

[2] A volatile organic compound is an organic compound having at 293.15 K (20°C) a vapour pressure of 0.01 kPa or having a corresponding volatility under the particular conditions of use. For the purposes of this Directive the fraction of creosote exceeding at 293.15 K this vapour pressure shall be considered to be a volatile organic compound.

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 (CoC) documents that palm oil and palm kernel oil used in the manufacturing of the ingoing substances originates from sustainably managed plantations.*

Certificates accepted shall include the system "Roundtable on Sustainable Palm Oil" (RSPO) (according to the approaches of identity preservation, segregation or mass balance) or any equivalent system or stricter sustainable production scheme.

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

3.4 Packaging requirements

- Halogenated polymers are not permissible.
- Plastic materials that are used for immediate packaging shall be marked in accordance with the European Parliament and Council Directive No 94/62/EC of 20 December 1994 on packaging and packaging waste (6), or according to DIN 6120 Parts 1 and 2 in connection with DIN 7728 Part 1.
- If the primary packaging is made of recycled material, any indication of this on the packaging shall be in conformity with the ISO 14021 standard 'Environmental labels and declarations — Self declared claims (type II environmental labelling)'.
- The weight utility ratio (WUR) of the primary packaging must not exceed the following limit value:

  WUR = SUM ((Wi + Ui)/(Di)) < X

  X = 1.0 g/g active content for professional products Where:

  Wi = The weight (g) of the primary packaging (i) including label if applicable.

  Ui = The weight (g) of non-recycled (virgin) material in the primary packaging (i). If the proportion of recycled material in the primary packaging is 0 %, then Ui = Wi.

  Di = The product's content of active components (grams)

Assessment and verification: *The applicant shall provide the exact calculation of the WUR of the product to the competent body.*

3.5 Fitness for use

Sufficient fitness for use must either be proved on the basis of a laboratory test or on the basis of a consumer test.

3.5.1 Laboratory tests

Laboratory tests can either be commissioned to independent, quality-assured laboratories or to the company's own laboratories provided that the following requirements are met:

- Auditing by the OETI Institute for Technology, Ecology, and Innovation (Institut für Ökologie, Technik und Innovation GmbH) or by similar organisations (quality assurance and management systems) which are accredited by the VKI (Verein für Konsumenteninformation, Consumer Information Association).

or

- Verifiable quality assurance of the management system according to ISO 9001. The applied laboratory methods must be comprised in the management system.

or

- Participation in ring trials (proof of reproducibility)

The following tests must be carried out

- Sliding friction
- Adhesive strength
- Resistance to water and detergents
- Soiling
- Removability

The implementation requirements for laboratory tests are laid down in Annex III (Chapter 7, p.28).

3.5.2 Consumer test

The consumer tests are to be carried out with the help of the questionnaires in Chapter 8 (p.33) for coating agents and Chapter 9 (p.34) for pore fillers and/or their translations.

Consumer tests according to the requirements of the Nordic Swan for “Floor Filming Products” are equivalent to it and are considered to be an evidence for the compliance with the criteria for fitness for use.

Framework conditions: Coating agents

- The product must be tested by at least 5 users for at least 3 months respectively.
- The conditions under which walking on the floor is tested must correspond to normal customer traffic in corridors in large office buildings.
- Coating agents must be tested on all recommended types of floor coverings (at least 1 user per floor type).

Framework conditions: Pore fillers

- In the case of pore fillers, an appropriate coating agent must be used.

Criteria:

- No single score with 5
- No overall rating with 5
- Total score of at least 3 out of 4 of the 5 users (80%)

3.6 User instructions

3.6.1 Declaration

In addition to the declaration required by law the preservative used for pore fillers and coating agents shall (at least) be declared on the label or mentioned in the technical documentation. This declaration shall be in compliance with the requirements of the Detergent Regulation.

3.6.2 Dosage instructions

Information on the recommended dosage shall appear on the packaging in a reasonably sufficient size and against a visible background.

3.6.3 Professional training

The manufacturer, the distributor or a third party must offer training or training material for the cleaning staff.

This shall include step-by-step instructions for proper dilution, use, disposal and the use of equipment.

4 Part B Requirements for basic cleaners

4.1 Biodegradability of surfactants

The surfactants contained in the product must be completely aerobically biodegradable according to the Detergent Regulation [7] Article 4 (1) and Annex III.

Those surfactants classified as hazardous to the aquatic environment: Acute Category 1 (H400) or Chronic Category 3 (H412), in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council shall be in addition anaerobically biodegradable.

Assessment and verification: *The applicant shall furnish proof of the degradability of surfactants; for this purpose the most recent DID list shall be decisive.*

In part A of the DID list it is indicated whether a certain surfactant is rapidly biodagradable ("R") and anaerobically biodegradable ("Y"). This list can be found on the EU Ecolabel website:

Link

For surfactants which are not included in part A of the DID list relevant information from literature or other sources or respective test results from which it can be concluded that they are rapidly and depending on their environmental category also anaerobically biodegradable according to part B of the DID list and Annex 1, p.32

4.2 Prohibited or restricted substances and mixtures

4.2.1 Exclusion of substances

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

The list corresponds to the "Excluded substances" at the EU Ecolabel (Commission Decision (EU) 2017/1217 of 23 June 2017) and the Austrian Eco-label for hard surface cleaning products (Version 6.0 from 1st of July 2017).

- Alkyl phenol ethoxylates (APEOs) and other alkyl phenol derivatives
- Ethylenediaminetetraacetic acid (EDTA) and its salts
- Diethylenetriaminepentaacetic acid (DTPA)

- Nanosilver
- Phosphates (=anorganic polyphosphates)
- Halogenated hydrocarbons
- Aromatic hydrocarbons
- Perfluorinated alkylates
- Quaternary ammonium salts not readily biodegradable
- Reactive chlorine compounds
- Nitromusks and polycyclic musks
- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
- Atranol
- Chloroatranol
- Rhodamine B
- Triclosan
- 3-iodo-2-propynyl butylcarbamate
- 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) with the exception of impurities of formaldehyde in surfactants based on polyalkoxy chemistry up to a concentration of 0.010 % by weight in the ingoing substance
- Glutaraldehyde
- Microplastics

  Microplastics means particles with a size of below 5 mm of insoluble macromolecular plastic, obtained through one of the following processes:
  a) a polymerisation process such as polyaddition or polycondensation or a similar process using monomers or other starting substances,
  b) chemical modification of natural or synthetic macromolecules,
  c) microbial fermentation

  Assessment and verification: *Safety data sheets of raw materials plus producer declarations according to the EU Ecolabel Directive for Hard Surface Cleaning Products A separate manufacturer's declaration applies to polymer dispersions.*

In addition to the prohibition of substances according to the EU Ecolabel for hard surface cleaning products the following substances are prohibited

Fragrances

Colourings

Phthalates

Phosphonates

Assessment and verification: *Safety data sheets of raw materials*

4.2.2 Hazardous substances

i) The end product must not be classified and labelled as

- skin corrosive category 1A
- acutely toxic
- specific target organ toxic
- respiratory or skin sensitising
- hazardous to the aquatic environment

as defined in Annex I to Regulation (EC) No 1272/2008 and in accordance with the list in Table 2.

ii) Ingoing substances

The product shall not contain ingoing substances at a concentration limit at or above 0.010 % by weight in the final product that meet the criteria for classification as toxic, hazardous to the aquatic environment, respiratory or skin sensitizers, carcinogenic, mutagenic or toxic for reproduction in accordance with Annex I to Regulation (EC) No 1272/2008 and in accordance with the list in Table 2.

The total content of residual monomers classified in accordance with H phrases in Table 2 must not exceed 0.01 % (100 mg/kg, 100 ppm) measured on newly produced polymers.

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

Table 4 Restricting hazard classifications and their categorisation

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 in case of contact with the eyes
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[3]	H373 May cause damage to organs through prolonged or repeated exposure[3]

[3] Except: Route of exposure: “oral”

Respiratory and skin sensitisation	
Category 1A/1	**Category 1B**
H317 May cause an allergic skin reaction	H317 May cause an 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 harmful effects to aquatic life
H411 Toxic to aquatic life with long-lasting effects	
Hazardous to the ozone layer	
H420 Hazardous to the ozone layer.	

For the substances listed in the following table, the exceptions listed are valid.

Table 5 Exempted substances

Substance	Hazard Statement
Surfactants	H400 Very toxic to aquatic life
	H412 Harmful to aquatic life with long lasting effects
Enzymes (*)	H317 May cause an allergic skin reaction
	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
NTA as an impurity in MGDA and GLDA (**)	H351 Suspected of causing cancer
(*) Including stabilisers and other auxiliary substances in the preparations. (**) 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 for any ingoing substance present at a concentration greater than 0.010 % by weight in the final product.*
The applicant shall provide a signed declaration of compliance with the criterion, 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.

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

iii) Substances of very high concern

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

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

4.2.3 Preservatives

i) The product may only include preservatives for the purpose of conservation 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 not considered bio-accumulating if the bioconcentration factor BCF < 100 or logKow < 3.0. If both BCF and logKow 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 Kow values. The applicant shall also provide a picture of the packaging and/or the label.*

4.2.4 Volatile Organic Compounds (VOC)

A. Limit values in the product

Basic cleaners may contain a maximum of 20.0 w/w% VOC .

As definition for VOC the definition according to the VOC Solvents Emissions Directive No 1999/13/EC[4] shall apply.

B. Compliance with OEL (Occupational exposure limit) values

When applying the product the OEL values according to the Ordinance on Occupational Exposure Limits (Grenzwerteverordnung) 2011 [4] must not be exceeded.

Assessment and verification:
Ad A: The applicant submits detailed calculations of the overall concentration of volatile organic compounds

[4] A volatile organic compound is an organic compound having at 293.15 K (20°C) a vapour pressure of 0.01 kPa or having a corresponding volatility under the particular conditions of use. For the purposes of this Guideline the fraction of creosote exceeding at 293.15 K this vapour pressure shall be considered to be a volatile organic compound.

Ad B: *Measurement of the evaporation rate of solvents according to ASTM D 3539 or comparable methods*

or

Calculation in accordance with Annex II (Chapter 6, p.33).

4.2.5 Phosphorous

The total quantity of elemental phosphorus in the product must not exceed 0.2 %.

Assessment and verification: *The applicant shall provide the details of the calculations which indicate compliance with this criterion.*

4.3 Sustainable procurement of palm oil, palm kernel oil and their derivatives

Ingredients used in the products which are derived from palm oil or palm kernel oil shall originate from plantations that meet the requirements of a certification scheme for sustainable production that is based on multi-stakeholder organisations with a broadly-based 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 (CoC) that palm oil and palm kernel oil used in the manufacturing of the ingoing substances originates from sustainably managed plantations.*

Certificates accepted shall include the system "Roundtable on Sustainable Palm Oil" (RSPO) (according to the approaches of identity preservation, segregation or mass balance) or any equivalent or stricter sustainable production scheme.

For chemical derivatives of palm oil and for palm kernel oil, it shall be acceptable to demonstrate sustainability through 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).

4.4 Packaging requirements

- Halogenated polymers are not permissible.

- Plastic materials that are used for immediate packaging shall be marked in accordance with the European Parliament and Council Directive No 94/62/EC of 20 December 1994 on packaging and packaging waste (6), or according to DIN 6120 Parts 1 and 2 in connection with DIN 7728 Part 1.

- If the immediate packaging is made of recycled material, any indication of this on the packaging shall be in conformity with the ISO 14021 standard “Environmental labels and declarations — Self-Declaration Environmental Claims (type II)“ environmental labelling).

- The weight utility ratio (WUR) of the immediate packaging must not exceed the following limit value:

  WUR = SUM ((Wi + Ui)/(Di)) < X

  X = 1.0 g packaging/active content for professional products

  Where:

  Wi = The weight (g) of the immediate packaging (i) including label if applicable.
  Ui = The weight (g) of non-recycled (virgin) material in the immediate packaging (i). If the proportion of recycled material in the immediate packaging is 0 %, then Ui = Wi.

  Di = The product's content of active components (grams)

  Assessment and verification: *The applicant shall provide the exact calculation of the WUR of the product to the competent body.*

4.5 Fitness for use

Sufficient fitness for use must either be proved on the basis of a laboratory test or on the basis of a consumer test.

4.5.1 Laboratory tests

Laboratory tests can either be commissioned to independent, quality-assured laboratories or to the company's own laboratories provided that the following requirements are met:

- Auditing by the OETI Austrian Institute for Ecology, Technology, and Innovation (Institut für Ökologie, Technik und Innovation GmbH) or by similar organisations (quality assurance and management systems) which are accredited by the VKI (Verein für Konsumenteninformation Consumer Information Association).

or

- Verifiable quality assurance of the management system according to ISO 9001. The applied laboratory methods must be comprised in the management system.

or

- Participation in ring trials (proof of reproducibility)

The following tests must be carried out

- Laboratory tests for basic cleaners: Removability

The implementation requirements for laboratory tests are laid down in Annex III (Chapter 7, p. 28).

4.5.2 Consumer test

The consumer tests are to be carried out with the help of the questionnaires in Chapter 10 (p. 35) and/or their translations.

Consumer tests according to the requirements of the Nordic Swan for "Floor Filming Products" are equivalent to it and are considered to be an evidence for the compliance with the criteria for fitness for use.

Framework conditions

- The basic cleaner must be used by at least 5 users and with at least 2 different floor coverings. Exemption: Basic cleaners, which are only recommended for one type of floor covering, e.g. for linoleum.

- The floor coverings should have been treated with 2-3 different coatings.

- The coatings should already have been strained over a longer period of time (ideally it should be at least one year old).

Criteria:

- No single score with 5

- No overall rating with 5

- Total score of at least 3 out of 4 of the 5 users (80%)

4.6 User instructions

4.6.1 Dosage instructions

Information on the recommended dosage shall appear on the packaging in a reasonably sufficient size and against a visible background.

For basic cleaners with a pH value > 9.5 (measured by the highest application concentration labelled) the label or the technical documentation must contain appropriate measures to neutralise the cleaning liquor for disposal.

4.6.2 Professional training

The manufacturer, the distributor, or a third party must offer training or training material for the cleaning staff.

This shall include step-by-step instructions for proper dilution, use, disposal and the use of equipment.

For basic cleaners with a pH value > 9.5 (measured by the highest application concentration labelled) reference must be made on the label or in the technical documentation in particular to appropriate measures to neutralise the cleaning liquor for disposal.

5 Annex I: Documentation of anaerobic biodegradability

The reference test for anaerobic degradability shall be EN ISO 11734, ECETOC No 28 (June 1988), OECD 311 or an equivalent test method, with the requirement of 60 % ultimate degradability under anaerobic conditions. Test methods simulating the conditions in a relevant anaerobic environment may also be used to document that 60 % ultimate degradability has been attained under anaerobic conditions.

Extrapolation for substances not listed in the DID list

Where the ingredients are not listed in the DID list the following approach may be used to provide the necessary documentation of anaerobic biodegradability:

Permissible extrapolation: Use test results obtained with one raw material to extrapolate the ultimate anaerobic degradability of structurally related surfactants. Where anaerobic biodegradability has been confirmed for a surfactant (or a group of homologues) in accordance with the DID list, it can be assumed that a similar type of surfactant is also anaerobically biodegradable (e.g. C12-15 A 1-3 EO sulphate [DID No 8] is anaerobically biodegradable, and a similar anaerobic biodegradability may also be assumed for C12-15 A 6 EO sulphate). Where anaerobic biodegradability has been confirmed for a surfactant by use of an appropriate test method, it can be assumed that a similar type of surfactant is also anaerobically biodegradable (e.g. literature data confirming the anaerobic biodegradability of surfactants belonging to the group alkyl ester ammonium salts may be used as documentation for a similar anaerobic biodegradability of other quaternary ammonium salts containing ester-linkages in the alkyl chain(s)).

Screening test for anaerobic degradability: If new testing is necessary, a screening test using EN ISO 11734, ECETOC No 28 (June 1988), OECD 311 or an equivalent method has to be applied.

Lower dosage degradability test: If new testing is necessary, and in the case of experimental problems in the screening test (e.g. difficulties due to the toxicity of the test substance), testing is to be repeated by using a lower dosage of surfactant and by monitoring the degradation by 14C measurements or chemical analyses. Testing at lower dosages may be performed by using OECD 308 (August 2000) or an equivalent method.

6 Annex II: Calculation of the compliance with the OEL values

The compliance with the Austrian OEL values according to the Ordinance on Occupational Exposure Limits [4] is to be calculated individually for each substance.

As product quantity used the recommended maximum application concentration shall be taken as reference (minimum m² per litre of solution).

As vapour pressure (p) of the substances applied the pressure at 20°C in mmHg shall be used.

A standard room height of 2.5 m shall be taken as the basis for the calculation.

Example: Does the component A fall below the OEL values when the product is applied?

OEL value of A: 300 mg/m³ Vapour pressure: 0.35 mmHg at 20 %

Evaporation factor: 0.3 (according to Table 1, see below)

Share of the VOC (A) in the product 3.9%

Product density: 1.0299 kg/l Recommended dosage: 1 l /40-90 m²

Amount of A / litre product =

(% A in the product)/100%) x density (kg/l) x 1000 g/kg = 0.039 x 1.0299 kg/l x 1000g/kg

= 40.17 g/l

Necessary air volume (m³/l product) to fall below the OEL value =

(Quantity of A/litre product) x 1000 mg/g x evaporation factor /OEL value (mg/m³) = ((40.17 g/l x 1000 mg/g) x 0.3) / 300 mg³ = 40.17 m³/l

In case of maximum dosage (1 litre of product sufficient for 40 m² floor, room height 2.5 m) the value falls below the OEL value in standard room air.

Air volume (m³)

= smallest area of floor covering which may be treated according to dosage recommendation

x 2.5 m (standard room height)

= 40 m²/l x 2.5 m = 100 m³/l > 40.17 m³/l (necessary air volume)

Thus: A is permissible in this concentration

Table 1: Evaporation pressure of a VOC depending on the vapour pressure

Vapour pressure (p) in mmHg at 20°C	Evaporation factor
p > 3	1.0
3 > p > 1	0.7
1 > p > 0.1	0.3
0.1 > p	0.0

7 Annex III: Implementing provisions: Fitness for use by laboratory tests

General parameters

Standard coverings

All laboratory tests mentioned below must be carried out on the following three types of standard coverings. Unless otherwise specified black and/or dark coverings shall be used.

1/ Linoleum:

Co. Forbo type Marmoleum topshield Fbr. 630, black, slightly marbled, 50x50cm

Co. Forbo Marmoleum walton 123 (black)

or comparable linoleum floor coverings from other manufacturers

If the covering should be coated by the manufacturer the coating may be removed[5].

2/ PVC:

Co. Armstrong DLW AG type Solid pur 521-092, dark blue 60x60 cm

Co. Mipolam, PVC – black slightly marbled, 30x30 cm

Co. Mipolam, PVC – black uni (wall covering), 33x33 cm

Gerriets 17311110 VARIO 160 black/white B1

or comparable PVC floor coverings from other manufacturers

If the covering should be coated by the manufacturer the coating may be removed[6].

3/ Rubber:

[5] We explicitly point out that this is only necessary for carrying out laboratory tests to examine coating agents and basic cleaners. These coatings are mostly designed in such a way that they render the coating of the floor coverings unnecessary and should therefore not be removed. The removal of the coating of a floor covering may in practice also lead to the expiry of any warranty and warranty claims.

[6] see footnote above

Noraplan uni article no 244 / colour 597 (black) material no 66315 Noraplan uni, Art. 1461, colour 0597

or comparable rubber floor coverings from other manufacturers

If the covering should be coated by the manufacturer the coating may be removed[7].

Applied coating

- The coating to be tested is freshly mixed on a laboratory scale and only used for the test after 16 hours (minimum resting period) if no current stocks are available.
- Two layers, quantity according to the manufacturer's specifications, at an interval of time of 45 to 120 minutes.
- Unless otherwise specified the drying time of the coating should be 1 to 3 days at room temperature.

Filter paper
Round filter for qualitative analysis – IDL GmbH & Co. KG Type BASIC, Ø 70mm,

Black Ribbon 589/1, Ø 50 or 90 mm

or comparable filter papers from other manufacturers

Pore filters must be tested jointly with appropriate initial cleaning agents.
Applied coating according to the above-mentioned parameters.

Temperature and **humidity** are to be documented in the test report.

Photo documentation of the following tests:
Adhesion, resistance to water and detergents, soiling

Sliding friction

Test method: according to Austrian standards ÖNORM EN 13893: 2003 [[5] or DIN 51131 [6]

Measurement on dry surface

[7] We explicitly point out that this is only necessary for carrying out laboratory tests to examine coating agents and basic cleaners. These coatings are mostly designed in such a way that they render the coating of the floor coverings unnecessary and should therefore not be removed. The removal of the coating of a floor covering may in practice also lead to the expiry of any warranty and warranty claims.

and with the slider assembly according to Austrian standards ÖNORM EN 13893:2003 [5]

Criteria: For all coatings: Sliding friction coefficient μ > 0.3 with labelling as “slide-resistant“ μ >0.45

Adhesive strength:

Test method: Determination by means of an adhesive tape tear-off test

Adhesive tape Scotch Magic, Tesa Klebeband Office 12mm x 10m transparent or comparable

Criterion: The coating is unchanged after the tear-off of the adhesive tape

Resistance to water and detergents

Resistance to water

Test method:

Water exposure time: 30 minutes

Removal of the remaining water with a soft paper towel

Assessment (see below):

Immediately in wet condition and after 120 minutes in dry condition

Detergents resistance test

Standard detergent:	
C8-11 Alcohol, predominately linear, >2,5 - ≤10 EO (DID-Nr.: 2156)	8%
C12-18 Alkyl phosphate esters (DID-Nr.: 2029)	3%
Sodium citrate	5%
Sodium carbonate	0.5%
De-ionized water	83.5%

Application concentration: 0.5%

pH value of the solution: 6-8

Test method:

Exposure time: 30 minutes

Removal of residual detergent with a soft paper towel

Assessment (see below):

Immediately in wet condition and after 120 minutes in dry condition

Assessment:

Assessment of the wet film (initial)	Finding
Insufficient	Strong blushing of the film, distinct to strong blistering, film partly already detached
Moderate	Blushing of the film, but no blistering
Good	Low, to only partial blushing of the film, however, no film deformations visible
Very good	No blushing and no visible impairment of the film, film unchanged

Assessment of the dry film (final) after 1-2 hours	Finding
Insufficient	Blushing of the film, strong edge formation, film partly detached
Moderate	Distinct edge formation, film shows slight grey tarnishing
Good	Slight edges visible, film flawless.
Very good	Film completely flawless, no damage visible

Criteria:

Both assessments must be documented.

After 120 min, the judgment "very good" or "good" must be achieved.

Soiling

For the purpose of a better assessment a white, smooth floor covering shall be used (e.g. PVC dance floor (930x330mm))

The reference product is a common product on the market; the selection must be recorded in the documents.

Both coatings must have been dried for the same period 1-3 days.

Test method: Austrian Standards ÖNORM EN 1269, procedure B [7], Austrian standards ÖNORM EN 14565, Annex B [8], comparable household methods (the comparability must be documented).
Test soiling according to the above-mentioned standards.

Criterion: The soiling behaviour must not be worse than the soiling behaviour of the reference product.

Removability

Test method:

Simulation of the ageing of the coating: 48 hours in an incubator at 37 °C ± 1,1 °C according to [9]

Requirements for the basic cleaner: it must be available on the market, suitable for coating and shall be used in the recommended application concentration (documentation in the control report)

15 minutes exposure time

After that: Rinsing with water, subsequently the removability is assessed.

Assessment:	
Insufficient	0 to 30% removed
Moderate	30 to 50 % removed
Good	50 to 70 % removed
Very good	70 to 90 % removed
Excellent	90 to 100% removed

Criterion: The coating must be detachable (at least “moderately” according to the table below)

Laboratory test for basic cleaner: Removability

Test method:

As a coating agent a product available on the market for which the basic cleaner is suitable shall be used (the selection of the product must be documented)

Application of the coating see general requirements
Simulation of the ageing of the coating:

48 hours in an incubator at 37 °C ± 1,1 °C according to [9]

Work steps:

15 minutes exposure time

Rubbing off with a pad (low abrasive e.g. White to red according to colour coding of 3M)

Rinsing with water, drying with compressed air

Subsequently the removability is assessed

Assessment:	
Insufficient	0 to 30% removed
Moderate	30 to 50 % removed
Good	50 to 70 % removed
Very well	70 to 90 % removed
Excellent	90 to 100% removed

Criterion: The evaluation "excellent" must be achieved. At the same time there must not be any visible damage of the floor covering.

8 Questionnaire on the Consumer Test for Coating Agents

Product name: _____

Suitable for the following kinds of floors (to be completed by the producer):

☐ Linoleum ☐ Rubber ☐ PVC ☐ Others: .....

☐ Others: ..... ☐ Others: .....

Test parameters	**Rating (1-5, 1 is best)**
How easily can the product be applied? - Can it be easily distributed?	
Does the product develop foam when being applied?	
Does odour develop when it is applied?	
Wetting and course: Does a plain, homogeneous layer develop?	
Cleaning of the finished coating	
Can heel marks be easily removed?	
Does the original gloss of the coating remain?	
How easily can the coated floor covering be wiped?	
How do you assess the slip resistance?	
How do you assess the water resistance?	
How do you assess the colour fastness?	
How do you assess the resistance when applying the recommended cleaning?	

Overall assessment (rating 1-5):_____

(other parameters, such as removal of the layer, drying time before second next coating, wear resistance, etc. can also be taken into consideration here)

Test period: _____

Test object (building, area):_____

Type of coating / substrate:_____

Dosage:_____

Comments (if necessary please use also the back side):_____

_____

Place, date:_____ Name, signature: _____

9 Questionnaire on the Consumer Tests for Pore Fillers

Product name: _____

_____

Suitable for the following kinds of floors (to be completed by the producer):

☐ Linoleum ☐ Rubber ☐ PVC ☐ Others: .....

☐ Others: ..... ☐ Others: .....

Test parameters	**Rating (1-5, 1 is best)**
How easily can the product be applied? - Can it be easily distributed?	
Does the product develop foam when being applied?	
Does odour develop when it is applied?	
Wetting and course of the coating agent on the pore filler. Does a plain, homogeneous layer develop?	

Overall assessment (school marks 1-5):_____

(other parameters, such as removability, can also be taken into consideration here)

Test period: _____

Test object (building, area): _____

Type of coating / substrate: _____

Coating (trade name and/or product type):_____

Dosage (of the pore fillers): _____

Comments (if necessary please use also the back side):_____

_____

Place, date:_____ Name, signature: _____

10 Questionnare on the Consumer Tests for Basic Cleaners

Product name: _____

Suitable for the following kinds of floors (to be completed by the producer):

☐ Linoleum ☐ Rubber ☐ PVC ☐ Others: .....

☐ Others: ..... ☐ Others: .....

Test parameter	**Rating (1-5, 1 is best)**
How quickly does the product dissolve the coating after application?	
How long does it take to completely dissolve the coating?	
How easily can the residues be rinsed off and the pH value of the floor be neutralised?	
How is the floor covering affected by the basic cleaning agent - is it damaged?	

Overall assessment (school marks 1-5):_____

Test period: _____

Test object (building, area):_____

Type of coating / substrate: _____

Coating (product name and/or product type):_____

Age of coating:_____

Dosage (of the basic cleaning agent): _____

Comments (if necessary please use also the back side):_____

_____

Place, date:_____ Name, signature: _____

11 Other applicable normative standards, acts and other provisions

The documents referred to hereinafter contain provisions which are part of this Eco-label Guideline. Legal provisions shall always be applied as amended. References to other dated documents do not cover later modifications or revisions of the publication. In the case of undated references the most recent version of the referenced document shall apply.

Austrian acts can be consulted on a daily basis at http://www.ris.bka.gv.at .

The current versions of European Union Regulations and Directives are electronically retrievable at: http://eur-lex.europa.eu/de/index.htm

Standards are available online at https://www.austrian-standards.at.

[1] Austrian Standard ÖNORM EN 2210: 2017: Cleaning services - General dispositions for the cleaning of coverings. Contract to provide services

[2] Austrian standards ÖNORM EN ISO 17025: 2007. General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2005) (consolidated version)

[3]Austrian Standard ÖNORM EN ISO 9001: Quality management systems - Requirements

[4] Federal Law Gazette II No 429/2011 - Ordinance on Occupational Exposure Limits (Grenzwerteverordnung 2011) (as amended) https://www.arbeitsinspektion.gv.at/inspektorat/Arbeitsstoffe/Grenzwerte/

[5] Austrian Standard ÖNORM EN 13893: Elastic, laminated and textile floor coverings - Measurement of dynamic coefficient of friction on dry floor coating surfaces

[6] DIN 51131: 2013. Testing of floor coverings - Determination of the anti-slip property - Method for measurement of the sliding friction coefficient

[7] Austrian Standard ÖNORM EN 1269: 2008. Textile floor coverings - Assessment of impregnation in needled floor coverings by means of a soiling test (consolidated version)

[8] Austrian Standard ÖNORM EN 14565: Resilient floor coverings - Floor coverings based upon synthetic thermoplastics - specification

[9] ASTM D1792 – 06 (2012) e1: Standard Test Method for Long-Term Removability Properties of Emulsion Floor Polishes