

International Association of Natural Textile Industry

NATURTEXTIL IVN certified BEST (IVN BEST)

Version 6.1



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Remark: This document contains a translation of the IVN BEST Standard into English language and serves as a support for non German speaking users. The original German document is the legally binding version.

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Preamble

This preamble articulates the fundamental considerations which were incorporated into the original version of this guideline, and which are to serve as a framework for orientation in the event of later amendments:

Knowing that textiles can support as well as harm humans and the environment in their development, deliberately wishing to make a contribution to the physical and mental well-being of mankind in the future, regardless of geographical location and intending to state the essential criteria for products which claim to comply with an ecological standard whilst offering a structure to sovereign institutions in order to prevent misleading consumers, the following defines the standard for the designation NATURAL TEXTILE.

The intention behind this document is to specify the entire production process of natural textiles and to make it verifiable.

This process includes creation, usage and disposal as well as standards for working conditions. Also, this guideline acknowledges the already existing parameters for production and processing.

As authors of this guideline, the IVN Technical Committee members are aware that further efforts must be made to improve currently applied minimum standards in order to include advanced production technology to thereby gradually increase the benefit of natural textiles for consumers.

Principles

1.1. *Aim of the standard*

The aim of this standard is to define requirements to ensure the sustainable status of textiles, from harvesting of the raw materials through environmentally and socially responsible manufacturing up to labelling in order to provide a credible assurance to the final consumer.

1.2. *Scope and structure*

The scope of this standard covers the production, processing, manufacturing, packaging, labelling, trading and distribution of all textiles made from 100% certified organic natural fibres. The final products may include, but are not limited to fibre products, yarns, fabrics, garments, fashion textile accessories (carried or worn), textile toys, home textiles, mattresses and bedding products as well as textile personal care products. Products which are *partly certified combination products* (see appendix for definition) also can be certified.

The standard consists of compulsory criteria only.

Some of the criteria are compliance requirements for the entire facility where IVN BEST products (definition see annex) are processed (2.4.10. Environmental management; 2.4.11. Waste water treatment; 3. Minimum social criteria and 4.1. Auditing of processing, manufacturing and trading stages), whereas the others are criteria relevant for the specific products subject to certification (all other criteria of chapter 2 and chapter 4.2. of this standard).

As it is to date technically nearly impossible to produce any textiles industrially without any use of chemical inputs, the standard's approach is to define criteria for low impact and low residual natural and synthetic chemical inputs (such as dyestuffs, auxiliaries and finishes) accepted for textiles produced and labelled according to this standard, in order to reduce environmental pollution and to minimize unwanted residues.

1.3. *Conformity certificate*

Processors, manufacturers, traders and retailers that have demonstrated their ability to comply with the relevant BEST criteria in the corresponding certification procedure to an Approved Certifier receive a BEST Certificate of Compliance issued in accordance with the BEST 'Policy and Template for issuing Certificates of Compliance (Scope Certificates, SCs)'. Accordingly they are considered Certified Entities.

Certificates of Compliance list the products/product categories that the Certified Entities can offer in compliance with the standard as well as the processing, manufacturing and trading activities that are qualified under the scope of certification. Subcontractors and their relevant processing and manufacturing steps become listed on the Scope Certificate of the Certified Entity assigning the certification.

1.4. *Quality seals and labelling*

Textile goods (finished or intermediate) produced in compliance with this standard by a *Certified Entity* (definition see annex) and certified by an *Approved Certifier* (= IVN BEST Goods) may be sold, labelled or represented as:

"organic" (see section 2.1. Requirements for the production of organic fibres) and with the BEST Logo with the add-on *"NATURTEXTIL IVN certified BEST"* (or the shortened version *"NATURTEXTIL BEST"*).

Labelling must be completed by a reference to the *Approved Certifier* who has certified the *IVN BEST Goods* (e.g. certifier's name and/or logo) and a reference to the *Certified Entity* (e.g. *Certified Entity's* name and/or license number).

An *Approved Certifier* must have reviewed and approved the intended labelling in advance of its application.

Where the IVN BEST logo is used, its application must be in compliance with the 'Licensing and Labelling Guide'.

In all cases the IVN BEST labelling can only be physically applied by a Certified Entity.

1.5. Reference documents

Parallel to the existing standard, the IVN Guidelines Committee has published the following official documents providing Certifiers and Users of BEST binding explanations:

Manual for the Implementation of the IVN BEST Standard:

Provides interpretation and clarifications for specific criteria of IVN BEST. Its purpose is to prevent any inconsistent, inappropriate or false incorrect interpretation of the standard. It further contains requirements and detailed specifications for the application of IVN BEST and the implementation of the related quality assurance system for certifiers.

Licensing and Labelling Guide:

Specifies the licensing conditions for companies participating in the IVN BEST certification system and defines the corresponding license fees. It further sets the requirements for the use of the registered trademark 'NATURTEXTIL IVN BEST' (IVN BEST logo) in order to ensure correct and consistent application on products as well as in advertisements, catalogues or other publications.

Policy and Template for issuing Certificates of Compliance (Scope Certificates, SCs):

Provides detailed instructions with regard to policies, layout, format and text for issuing Certificates of Compliance.

Policy and Template for issuing Transaction Certificates (TCs):

Provides detailed instructions with regard to policies, layout, format and text for issuing Transaction Certificates.

Criteria

2.1. Requirements for organic fibre production

Allowed are certified organic natural fibres (kBA/kbT) produced in compliance with EC Organic Regulation EC 834/2007, the USDA National Organic Program (NOP), or another (different) Standard of the 'IFOAM Family of Standards' certified for the relevant scope of production (crop production or animal husbandry).

The certification body must have a valid and recognised accreditation for the standard it certifies. Recognised accreditations are ISO 17065 accreditation, NOP accreditation, IFOAM accreditation and IFOAM Global Organic System accreditation.

2.2. Requirements for material composition

2.2.1. Products sold, labelled or represented as “NATURTEXTIL IVN certified BEST”

100 % of the fibre content of the products - excluding *accessories* (definition see annex) - must be of certified organic origin.

No fibres may be used which originate from production projects with regard to which there is evidence of a persistent pattern of gross violations of the ILO core labour norms (in as much as these are relevant for agricultural production) or violations of the principles of animal protection. Violations must be documented.

This prohibition applies also to fibres verifiably originating from projects using illegally appropriated agricultural land (Land Grabbing).

2.3. General requirements for chemical inputs in all processing stages

2.3.1. Prohibited and restricted inputs

The following table lists chemical *inputs* that may (potentially) be used in conventional textile processing but that are explicitly banned or restricted for environmental and/or toxicological reasons in all processing stages of *IVN BEST Goods*. It is not to be seen as a comprehensive and inclusive list of all chemical *inputs* that are prohibited or restricted under *IVN BEST*. Prohibition or restriction of substance groups or individual *substances* that are not explicitly listed in this chapter may further result from chapter 2.3.2 'Requirements related to hazards and toxicity' or from other criteria of this standard.

Substance group	Criteria
Aromatic and/or halogenated solvents	Prohibited
Brominated and chlorinated flame retardants	Prohibited
Chlorinated benzenes	Prohibited
Chlorophenoles (including their salts and ester groups)	Prohibited (such as mono, di, tri, tetra and penta- chlorophenols)
Complexing agents and surfactants	Prohibited are: <ul style="list-style-type: none">• all APs and APEOs (i.e. NP, OP, NPEO, OPEO, APEOs terminated with functional groups, APEO-polymers)• EDTA, DTPA, NTA• LAS, α-MES
Endocrine substances impacting hormones	Prohibited; (e.g. phthalates, organotin compounds)

Formaldehyde and other short-chain aldehydes	Prohibited are <i>inputs</i> that contain or generate formaldehyde or other short-chain aldehydes during designated application.
Genetically modified organisms (GMO)	Prohibited are all inputs that: <ul style="list-style-type: none"> - contain GMO - contain enzymes derived from GMO - are made from GMO raw materials (e.g. starch, surfactants or oils from GM plants)
Substance groups	Criteria
Heavy metals	Additives must be free of heavy metals (see definition in appendix). Impurities occurring in production phases and deployed substances may not exceed the limits listed in appendix B.
<i>Inputs</i> (e.g. azo dyes and pigments) releasing carcinogenic arylamine compounds (MAK III, category 1,2,3,4)	Prohibited
<i>Inputs</i> containing functional nano-particles (= particles with a size < 100 nm)	Prohibited
<i>Inputs</i> with halogen containing compounds	Prohibited are inputs that contain > 1% permanent AOX. Exceptions valid for pigments are set in chapter 2.4.7.
Organotin compounds	Prohibited (such as DBT, MBT, TBT, DOT, TPhT, MMT, MOT, DMT, DPhT, MPhT, TCyHT, TMT, TOT, DPT, TPT, TeBT, TeET)
Plasticizers	Prohibited are: PHA, phthalates, Bisphenol A and all other plasticizers with endocrine disrupting potential
Per- and Polyfluorinated compounds (PFC)	Prohibited (such as PFCA (incl. PFOA), PFSA (incl. PFOS) and FTOH)
Quaternary ammonium compounds	Prohibited; DTDMAC, DSDMAC und DHTDMAC
Short-chain chlorinated paraffins (SCCPs, C ₁₀₋₁₃)	Prohibited
<i>Substances</i> and <i>preparations</i> that are prohibited for application in textiles with a recognised internationally or a nationally valid legal character	Prohibited
<i>Substances</i> and <i>preparations</i> having restrictions in usage for application in textiles with a recognised internationally or nationally legal character	The same restrictions apply, provide the <i>substances</i> and <i>preparations</i> are not already prohibited or have stricter restrictions criteria according to this standard. <i>Substances</i> listed in regulation EC 552/2009 (amending regulation EC 1907/2006 (REACH), annex XVII), and the ‘candidate list of substances of very high concern for authorisation’ of the European Chemicals Agency (ECHA) are prohibited.

2.3.2. Requirements related to hazards and toxicity

Substance group	Criteria
<p>Inputs that are assigned to specific risk phrases (hazard statements) related to health hazards</p>	<p>Prohibited are:</p> <ul style="list-style-type: none"> • <i>substances</i> which are classified with any of the following hazard statements, if applied as direct input • <i>preparations</i> which are classified with any of the following hazard statements /risk phrases • <i>preparations</i> which contain at least one substance which is classified with any of the following hazard statements (According to Global Harmonization Standards (GHS), published by the United Nations, Appendix 3): <p>H300 Very toxic if swallowed H310 Very toxic in contact with skin H330 Very toxic by inhalation H340 May cause heritable genetic damage H341 May likely cause heritable genetic damage H350 May cause cancer H351 May likely cause cancer H360 May impair fertility; may cause harm to the unborn child H361 May likely impair fertility; may cause harm to the unborn child H370 Damage to organs H371 May cause damage to organs H372 Danger of serious damage to health by prolonged exposure</p> <p>For <i>inputs</i> assessed according to the Global Harmonized System (GHS) the equivalent hazard statements apply (annex 3 of GHS).</p> <p>For <i>inputs</i> assessed according to the 'risk phrase' classification (Directive 67/548EEC, amended and repealed by Regulation EC 1272/2008) the equivalent risk phrases apply.</p>
<p>Inputs which are classified with specific hazard statements / risk phrases related to environmental hazards</p>	<p>Prohibited are:</p> <ul style="list-style-type: none"> • <i>substances</i> which are classified with any of the following hazard statements / risk phrases, if applied as direct input • <i>preparations</i> which are classified with any of the following hazard statements/risk phrases <ul style="list-style-type: none"> a) according to the Global Harmonized System (GHS) the equivalent hazard statements apply (annex 3 of GHS): <p>H400: Very toxic to aquatic organisms H410: Very toxic to aquatic life with long lasting effects H411: Toxic to aquatic life with long lasting effects</p> <p>For <i>inputs</i> assessed according to GHS, where the implementation system does not provide for the codified H-statements, the corresponding hazard classes and categories of GHS, annex 3 apply. For inputs assessed according to the 'risk phrase' classification (Directive 67/548EEC amended and repealed by Regulation EC 1272/2008) the equivalent risk phrases apply.</p> <p>and</p> <ul style="list-style-type: none"> b) in accordance with the codification system of the EU-GHS (Regulation EC 1272/2008): <p>EUH059: Hazardous to the ozone layer</p>

Substance group	Criteria
	and c) in accordance with the 'risk phrase' classification: R54: Toxic to flora R55: Toxic to fauna R56: Toxic to soil organisms R58: May cause long-term adverse effects in the environment
Inputs which are bio-accumulative and not rapidly degradable	Prohibited are substances, if applied as direct input, and <i>preparations</i> classified with H413: 'May cause long-lasting effects to aquatic life' (respective R53) that are both, 'bio-accumulative' ¹⁾ and not rapidly degradable ^{2), 3)}

- 1) A *substance* or *preparation* is considered as (potentially) bio-accumulative, if BCF (= bio-concentration factor) ≥ 500 or, if absent, $\log K_{ow}$ (= logarithm of the n-octanol-water partition coefficient) ≥ 4
- 2) Testing requirement: >70% OECD 301A [28d] or equivalent testing method according to footnote 4 of the table below, except test methods related to eliminability (OECD 302). In those cases where only BOD and COD data are available the input is considered 'rapidly degradable' when the ratio of BOD5/COD is $\geq 0,5$.
- 3) This criterion is not applicable to preparations whose very low solubility in water prevents their bioaccumulation (e.g. pigment preparations).

All preparations applied must further comply with the following requirements:

Parameter	Criteria
Oral Toxicity ¹⁾	LD ₅₀ > 2000 mg/kg ²⁾
Aquatic Toxicity ³⁾	LC ₅₀ , EC ₅₀ , IC ₅₀ > 1 mg/l
Relation of biodegradability / eliminability ⁴⁾ to aquatic toxicity ³⁾	Only allowed, if: < 70% and > 100 mg/l > 70% and > 10 mg/l > 95% and > 1 mg/l

- 1) Performing new animal tests to determine unknown LD₅₀ values in the course of the GOTS assessment procedure for inputs (compare chapter 2.3.3) is prohibited. Instead, alternative methods (e.g. Acute Toxicity Estimates (ATE), conclusions on analogy from similar products, validated structure-activity relationships, calculation from available data of substances contained, expert judgment, in vitro tests) must be used to determine unknown values.
- 2) *Substances* and *preparations*, such as alkaline and acids, that fail to meet this requirement because of their pH value only, are exempt from this requirement.
- 3) Accepted testing methods [duration]: Performing new fish and daphnia tests to determine unknown LC₅₀ / EC₅₀ values in the course of the GOTS assessment procedure for inputs is prohibited. Instead alternative methods to OECD 203 [96hr] and EC₅₀ daphnia, OECD 202 [48hr] (e.g. Acute Toxicity Estimates (ATE), validated structure-activity relationships, conclusion on analogy from similar products, calculation from available data of substances contained, fish egg test (embryo toxicity test (FET)), in vitro test) must be used to determine unknown values; IC₅₀ algae, OECD 201 [72hr]
- 4) Accepted testing methods: OECD 301 A, OECD 301, E, ISO 7827, OECD 302 A, ISO 9887, OECD 302 B, ISO 9888 or OECD 303A; alternatively to meet the 70% level a *preparation* tested with one of the methods OECD 303A or ISO 11733 a percentage degradation of at least 80% must be shown - or if tested with one of the methods OECD 301 B, ISO 9439, OECD 301 C, OECD 302 C, OECD 301 D, ISO 10707, OECD 301 F, ISO 9408, ISO 10708 or ISO 14593 a percentage degradation of at least 60% must be shown. To meet the 95% level, if tested with any of the mentioned methods a percentage degradation of 95% must be shown. Testing duration with each method is 28 days.

2.3.3. Assessment basis for chemical *inputs*

All chemical *inputs* intended to be used to process *BEST Goods* are subject to approval by a *BEST Approved Certifier* prior to their usage.

Preparations must have been evaluated and their trade names have to be registered on approved lists prior to their usage by a *BEST Approved Certifier* who is authorised by the IVN for the specific accreditation scope (approval of textile auxiliary agents (chemical inputs) on positive lists).

Approval must be applied by the applicable chemical producer or supplier of the *preparations* who receive conformity documents (letters of approval) issued by the authorised certifiers and containing the trade names of applied *preparations* that have been found to be compliant with the criteria of this standard.

For all chemical inputs (substances and preparations) a Material Safety Data Sheet (MSDS), prepared according to an applicable recognised norm or directive must be available.

The Approved Certifiers are requested, where appropriate and felt necessary, to include further sources of information (such as additional toxicological and environmental data on specific components of the auxiliary agents, test reports, independent lab analysis and traceability checks of ingredients) in the assessment with the following exception for *IVN BEST*. It is the intent to develop of separate conformity documents (positive lists) for *IVN BEST*.

Certified Entities must have copies of valid Letters of Approval on hand listing all preparations used in processing and manufacturing *BEST Goods* as verification proof that all colourants and textile auxiliaries used for *BEST Goods* are actually approved.

2.4. Specific requirements for processing and test parameters

2.4.1. Separation and identification

All stages through the processing chain must be established so as to ensure that organic and conventional fibres are not commingled and that organic fibres and *IVN Best goods* are not contaminated by contact with prohibited *substances*.

All organic raw materials must be clearly labelled and identified as such at all stages of the processing chain.

2.4.2. Spinning

Allowed are *inputs* that meet the basic requirements as set in chapter 2.3.1. and 2.3.2. only. Any paraffin products used must be fully refined with a limited value for residual oil of 0,5%.

2.4.3. Sizing and weaving / knitting

Synthetic sizing agents which meet the basic requirements as set in chapter 2.3.1. and 2.3.2. may be used for no more than 25% of the total sizing in combination with natural substances only, calculated as percentage of chemicals without water.

In case such synthetic sizing agents are recycled/recovered in the wastewater from the desizing process with a ratio >80%, they may be used without limitation in the total sizing.

Knitting / weaving oils must not contain heavy metals. Other inputs must be derived from natural materials only.

2.4.4. Non-woven manufacture

Allowed non-woven manufacturing processing includes only mechanical compaction, webbing and entangling such as hydro entanglement.

2.4.5. Pre-treatment and other wet processing stages

Treatment / process	Criteria
Ammonia treatment	Prohibited; Exception: allowed for after-treatment of wool, if performed in closed system.
Bleaches	Only on basis of oxygen (peroxides, ozone, etc.).
Boiling, kiering, washing	Allowed are auxiliaries that meet the basic requirements as set in chapter 2.3.1. and 2.3.2. only. Washing detergents must not contain phosphates.
Chlorination of wools	Prohibited
Desizing	Allowed are GMO free enzymatic desizing and other auxiliaries that meet the basic requirements as set in chapter 2.3.1. and 2.3.2. only.
Mechanical/thermal treatments	Allowed
Mercerization	Prohibited
Optical brightening	Prohibited; regarding requirements in chapter 2.4.6. and 2.4.7. must be met
Other not explicitly listed pretreatment methods	Allowed are mechanical/ thermal pre-treatment methods and such with the use of substances on basis of natural materials.

2.4.6. Dyeing

Parameter	Criteria
Selection of dyes and auxiliaries	Allowed are natural dyes, synthetic dyes and auxiliaries that meet the requirements as set in chapter 2.3.1 and 2.3.2. only. Prohibited are (disperse) dyes classified as sensitizing allergenic. Prohibited are dyes containing heavy metals as an integral part of the dye molecule (e.g. heavy metal dyes, certain reactive dyes) with the granted exception of Iron. Prior to production the finishing entity must check that dyeing preparations do not contain optical brighteners (e.g. UV lights). The use of natural dyes and auxiliaries that are derived from a threatened species listed on the Red List of the IUCN is prohibited.

2.4.7. Printing

Parameter	Criteria
Selection of dyes, pigments and auxiliaries	<p>Allowed are natural and synthetic dyes, pigments and auxiliaries that meet the requirements as set in chapter 2.3.1 and 2.3.2 only.</p> <p>Prohibited are (disperse) dyes classified as sensitizing / allergenic.</p> <p>Flock printing is allowed with non-GMO natural and regenerated fibres if the fibres used meet the limit values for residues as listed in chapter 2.4.16.</p> <p>Ammonia is allowed as required buffer in pigment printing pastes.</p> <p>Prohibited are dyes containing <i>heavy metals</i> as an integral part of the dye molecule (e.g. heavy metal dyes, certain reactive dyes) with the granted exception of Iron.</p> <p><i>Inputs</i> that contain > 1% <i>permanent AOX</i> are prohibited.</p> <p>Prohibited are printing methods using aromatic solvents, phthalates or chlorinated plastics (e.g. PVC).</p> <p>Prior to production the finishing entity must check that dyeing preparations do not contain optical brighteners (e.g. UV lights).</p> <p>The use of natural dyes and auxiliaries that are derived from a threatened species listed on the Red List of the IUCN or on one of the national red list of the producing country is prohibited.</p>

2.4.8. Finishing

Parameter	Criteria
Selection of finishing methods and auxiliaries	<p>Allowed are mechanical, thermal and other physical finishing methods.</p> <p>In addition, the following product groups may be used in the selection of finishing agents: Synthetic inputs that meet the basic requirements as set in chapter 2.3.1 and 2.3.2 are exceptionally allowed for plasticizing, felting and milling.</p> <p>Not allowed are silicone-based softeners, finishing agents and substances that include AEEA condensates (aminoethylethanolamine).</p> <p>Flame-retarding additives are prohibited.</p> <p>Allowed are natural and synthetic inputs that meet the basic requirements as set in chapter 2.3.1 and 2.3.2 only.</p> <p>Prohibited in general is the use of synthetic inputs for anti-microbial finishing (including bio-cides), coating, filling and stiffening, lustring and matting as well as weighting.</p> <p>Prohibited are garment finishing methods that are considered to be harmful to the workers (such as sand blasting of denim).</p>

2.4.9. Requirements for additional materials and *accessories*

Parameter	Criteria
<p>Material in general General requirement for materials (valid for appliqué, borders, buckles, buttons and press-studs, cords, edgings, elastic bands and yarns, embroidery yarns, fasteners and closing systems, hatbands, laces, linings, inlays, interface, labels, interlinings, pockets, seam bindings, sewing threads, shoulder pads, trims, zippers and any other, not below explicitly listed accessories)</p>	<p>Allowed are:</p> <ul style="list-style-type: none"> • natural materials including biological materials such as (certified organic or conventional origin) natural fibre, wood, leather, horn, bone, shell and non-biological material (such as minerals, metals, stone) • Regenerated and synthetic materials <p>Prohibited is the use of:</p> <ul style="list-style-type: none"> • Asbestos • carbon fibres • silver (filament, treated) fibres • chrome (e.g. as component of a metal or leather tanning, only stainless steel is permitted) • nickel (e.g. as component of a metal; only stainless steel is permitted) • material from threatened animals, plant and timber • chlorinated plastics (such as PVC) <p>All materials used for accessories must meet the applicable limit values for residues as listed in chapter 2.4.16.</p>
<p>Fillings, stuffing</p>	<p>If textile fibres are used, the material requirements of chapter 2.2.1 apply (since fibre fillings are not considered accessories).</p> <p>If non-textile material is used, only natural materials are permitted. Natural materials must originate from certified organic production in case such certification is applicable for the kind of material used (e.g. for plant-based materials such as grain spelt or animal based-materials such as feathers).</p> <p>Latex foam used as filling or stuffing may be made from certified organic latex (or in conversion) or from latex certified according to a program that verifies compliance with sustainable forestry management principles.</p> <p>During the production of Latex-foam, no chemicals may be used that are prohibited in 2.3.2. Nor may such chemicals be created in production.</p>
<p>Supports and frames</p>	<p>The requirements as specified in the row 'material in general' apply.</p> <p>Latex foam used in mattresses must be made from certified organic (or in conversion) latex or from latex certified according to a program that verifies compliance with sustainable forestry management principles. Polyurethane foams are not permitted in mattresses.</p>

2.4.10. Environmental management

All companies must assure compliance with the applicable national and local legal environmental requirements applicable to their processing/manufacturing stages performed (including those referring to emissions to air, wastewater discharge as well as disposal of waste and sludge).

They must have a written environmental policy and procedures in place to allow monitoring and improving relevant environmental performances in their facilities. Depending on the processing/manufacturing stages performed, the available data and procedures need to include:

- person responsible
- data on energy and water resources and their consumption per kg of textile output
- target goals and procedures to reduce energy and water consumption per kg of textile output
- monitoring of waste and discharges
- procedures to minimise waste and discharges
- procedures to follow in case of waste and pollution incidents
- documentation of staff training in the conservation of water and energy, the proper and minimal use of chemicals and their correct disposal - programme for improvement

Wet processing units must keep full records of the use of chemicals, energy, water consumption and waste water treatment, including the disposal of sludge. In particular they must continuously measure and monitor waste water temperature, waste water pH and sediment quantities.

On-site burning of waste or uncontrolled waste land-fill is prohibited.

2.4.11. Wastewater treatment

Wastewater from all wet processing units must be treated in an internal or external functional wastewater treatment plant before discharged to environment. The applicable national and local legal requirements for waste water treatment - including limit values with regard to pH, temperature, TOC, BOD, COD, colour removal, residues of (chemical) pollutants and discharge routes - must be fulfilled.

Wastewater discharges to the environment must not exceed 20 g COD/kg of processed textile (output). For scouring greasy wool an exceptional limit of 45 g COD/kg applies.

Treatment of wastewater from water retting of bast fibres must achieve a reduction of COD (or TOC) of at least 95% for hemp fibres and 75% for all other bast fibres.

Wastewater discharges to surface waters further must have a pH between 6 and 9 (unless the pH of the receiving water is outside this range) and a temperature of less than 35C° (unless the temperature of the receiving water is above this value).

Wastewater analyses must be performed and documented periodically at normal operating capacity.

2.4.12. Storage, packaging and transport

Organic textile products must be stored and transported in such a manner as to prevent contamination by prohibited *substances* and commingling with conventional products or substitution of the contents.

Packaging material must not contain chlorinated plastics (e.g. PVC). Any paper or cardboard used in packaging material for the retail sale of BEST goods (including labelling items such as hang tags or swing tags) must be recycled from *pre- or post-consumer waste* or certified according to a program that verifies compliance with sustainable forestry management principles.

Transport means and routes must be documented.

In as much as pesticides/biocides are required by national law for warehouses or transport containers, they must comply with the applicable international or national standard for organic farming.

Wooden pallets used in storage and transport activities are exempt from this requirement.

2.4.13. Record keeping & internal quality assurance

All operational procedures and practices must be documented by effective control systems and records that enable tracing and verification of:

- the origin, nature and quantities of organic and other (raw) materials, accessories as well as inputs which have been delivered to the unit
- the flow of goods within the unit (processing/manufacturing steps performed, recipes used and stock quantities)
- the composition of manufactured products
- the nature, quantities and consignees of BEST Goods which have left the unit
- any other information that may be required for the purposes of proper inspection of the operation records relevant to the inspection.

Certified Entities purchasing organic fibres must receive and maintain transaction certificates (=TCs, certificates of inspection) issued by a recognised certifier and certified in accordance with the criteria of chapter 2.1 for the entire quantity purchased.

For sheep's wool from risk areas, proof must be supplied that the wool derives from mulesing-free sheep husbandry.

Certified Entities purchasing *BEST Goods* must receive and maintain *BEST* transaction certificates, issued by an *Approved Certifier* for the whole quantity of *BEST Goods* purchased. Shipments of *BEST* goods purchased by certified retailers and labelled with the licence number of the manufacturer/supplier are exempt from this requirement. In accordance with the corresponding IVN policy, issuing TCs that cover multiple shipments is possible under certain conditions. The maximum time period that a single TC can cover is 3 months.

The consignee of any organic fibres and *BEST Goods* must check the integrity of the packaging or container and verify the origin and nature of the certified products from the information contained in the product marking and corresponding documentation (e.g. invoice, bill of lading, transaction certificate) upon receipt of the certified products.

A product whose *IVN BEST* compliant status is in doubt may only be put into processing or packaging after resolving that doubt.

Organic fibres and *IVN BEST Goods* must clearly be identified as such on all corresponding invoices.

Certified Entities must have invoices, delivery notes as well as copies of valid Letters of Approval at hand listing all procedures used in processing and manufacturing *IVN BEST Goods* as verification/proof that all colourants and textile auxiliaries used for *IVN BEST Goods* are actually currently approved.

The *Certified Entity* must have concluded a contract with each *subcontractor* stipulating the conditions of the relevant job work as-signed and remains finally responsible for compliance with all criteria of this standard.

2.4.14. Technical quality parameters

Any final product *labeled* according to this standard should comply with the following technical quality parameters. Information about any (potential) non-compliance(s) must be indicated by the licensee of the final product in the product declaration.

Parameter	Criteria	Test method
Rubbing fastness, dry	3-4	ISO 105x12; DIN 54021
for fibre blends	3	
Rubbing fastness, wet	2	ISO 105x12; DIN 54021
Perspiration fastness, alkaline and acid	3-4	ISO 105 E04; DIN 54020
For fibre blends	3	
Light fastness	3-4	ISO 105 B02; DIN 54004
Dimensional changes after washing at 40°C resp. at 30°C for animal fibre material and blends thereof. This criterion is only valid for the garment sector.		DIN EN ISO 6330
knitted/hosiery	max. 8%	
woven	max. 3%	
Saliva fastness	5	LFGB B 82. 10-1; DIN 53160-1
Washing fastness when washed at 60°C	3-4	ISO 105 C06 C1M, DIN 54010
Washing fastness of animal fibre material and blends thereof when washed at 30°	3-4	ISO 105 C06 A1S without use of steel balls

2.4.15. Limit values for residues in BEST Goods

Even if produced in compliance with this standard textiles may carry traces of residues (e.g. due to unavoidable contamination). The following table lists the corresponding limit values for *BEST Goods*:

Parameter	Threshold	Testing method
Alkylphenol (ethoxylates) NP, OP, NPEO, OPEO sum parameter	< 20 mg/kg sum parameter NP, OP: < 10 mg/kg	a) Extraction in methanol, derivatisation, HPLC/MS (test range for NPEO and OPEO: 3-15 moles) b) According to draft DIN EN ISO 18218-2:2012-09
Arylamines with carcinogenic properties (amine-releasing azo dyes MAK III, category 1,2,3,4*)	< 20 mg/kg	EN 14362-1 and -3 (HPLC/GCMS) in accordance with § 64 LFGB 82.02-2
Aniline (MAK III, category 4)	<100 mg/kg	
AOX	< 5 mg/kg	Extraction with boiling water, adsorption on charcoal, AOX-analysis, ISO 9562 i.A. ¹⁾
Disperse dyes (classified as allergenic or carcinogenic)	< 30 mg/kg	DIN 54231 (LC/MS) according to § 64 LFGB 82.02-10
Formaldehyde	< 16 mg/kg	Japanese Law 112 oder DIN EN ISO 14184-1
Glyoxal and other short-chain aldehydes (mono- and dialdehydes up to C6)	< 20 mg/kg	Extraction according to DIN EN ISO 14184-1, derivatisation and assignment: DIN EN ISO 17226-1 (HPLC)
GVO	< 0,9 %	GVO in unginned raw cotton is allowed as unavoidable contamination up to a maximum of 0,9% (in accordance with Regulation (EC) No 1830/2003 on the traceability and labelling of genetically modified organisms - GMOs - and the traceability of food and feed products produced from GMOs). Test method see manual!
	< 5 %	In subsequent processing stages (for example ginning and spinning), a maximum of 5% undesired impurities through GVO is acceptable. A deliberate addition of GMO/conventional fibres is prohibited. Test methode see manual!
pH-value		ISO 3071
No skin contact	4,5 – 9,0	
With skin contact and for baby clothing	4,5 – 7,5	
Chlorophenols (PCP, TeCP)	< 0,01 mg/kg	LFGB 82-02-08 (GC/MS)
PCP	< 0,01 mg/kg	
TeCP	< 0,01 mg/kg	
TrCP	< 0,2 mg/kg	
DCP	< 0,5 mg/kg	
MCP	< 0,5 mg/kg	

TCP	Unwanted, under observation	
o-Phenylphenol (OPP)	< 1,0 mg/kg	Extraction in solvent GC/MS
Pesticides (sum parameters)		Corresponds to § 64 LFGB L 00.0034
All natural fibres (except shorn wool) certified organic	< 0,1 mg/kg	(GC/MS, GC/ECD, LC/MS) or § 64 LFGB L 00.00-114 (LC/MS/MS)
Shorn wool, certified organic	< 0,5 mg/kg	
Heavy metals (eluate)	mg/kg refer to the textile	Elution corresponds to DIN EN ISO 105-E04, DIN EN ISO 17294-2 (ICP-MS)
Antimone (Sb)	< 0,2 mg/kg	
Arsenic (As)	< 0,2 mg/kg	
Lead (Pb)	< 0,2 mg/kg	
Cadmium (Cd)	< 0,1 mg/kg	
Chromium (Cr)	< 1,0 mg/kg	
Cobalt (Co)	< 1,0 mg/kg	
Copper (Cu)	< 25 mg/kg	
Nickel (Ni)	< 1,0 mg/kg	
Mercury (Hg)	< 0,02 mg/kg	
Selenium (Se)	< 0,2 mg/kg	
Tin (Sn)	< 2,0 mg/kg	
Chromium VI (Cr-VI)	< 0,5 mg/kg	Elution, DIN EN ISO 105-E04, ISO 11083
Heavy Metals in digested sample		EPA 3050 B, (ICP/MS), EPA 3051 or EN 16711-1
Cadmium (Cd)	< 45 mg/kg	
Lead (Pb)	< 50 mg/kg	
MBT	< 0,1 mg/kg	
Per- and Polyfluorinated compounds	absent	
PFOA, PFOS	< 0,001 mg/kg	Extraction in solvent, LC/MS
FTOH	< 0,01 mg/kg	Extraction in solvent , GC/MS
Polycyclic Aromatic Hydrocarbons (PAH):		
sum parameter	< 10 mg/kg	
Chrysene: Benzo[a]anthracene; Benzo[b]fluoranthene; Benzo[j]fluoranthene; Benzo[k]fluoranthene; Benzo[a]pyrene; Benzo[e]pyrene; Dibenzo[a,h]anthracene	< 0,5 mg/kg	ZEK 1.2-08 (GC/MS) ISO 18287 or AfPS GS 2014:01

Naphthalene ; Acenaphthylene; Acenaphthene ; Fluorene; Phenanthrene ; Anthracene; Fluoranthene; Pyrene ; Indeno[1,2,3-cd]pyrene ; Benzo[g,h,i]perylene	< 1,0 mg/kg
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*) See also: Manual

2.4.16. Limit values for residues in additional material and accessories

Additional materials and accessories (in accordance with the criteria of chapter 2.4.9.) used for *BEST Goods* need to comply with the following limit values for residues:

Parameter	Criteria	Testing method
Arylamines with carcinogenic properties (amine-releasing azo dyes MAK III, category 1,2,3,4*)	For use in textiles for babies and textile personal care products: < 20 mg/kg For use in all other BEST Goods: < 20 mg/kg	EN 14362-1 and -3 (HPLC/GCMS)
Disperse dyes (classified as allergenic or carcinogenic)	< 30 mg/kg	DIN 54231 corresponds to § 64 LFGB 82.02-10
Formaldehyde		
No skin contact	< 300 mg/kg	Japanese Law 112; Extraction DIN EN ISO 14184-1,
Skin contact	< 75 mg/kg	
Baby wear	< 16 mg/kg	
Glyoxal and other short-chain aldehydes (Mono- und Dialdehyde bis C6)		
No skin contact	< 300 mg/kg	Extraction according to DIN EN ISO 14184-1, derivatization and determination according to DIN EN ISO 17226-1 (HPLC)
With skin contact	< 75 mg/kg	
Baby wear	< 20 mg/kg	
pH-value		DIN ISO 3071
no skin contact	4,5 - 7,5	
with skin contact and for baby- wear and hygiene products	4,5 - 7,5	
Chlorophenols		Extraction According to § 64 LFGB B 82-02-8
PCP	< 0,05 mg/kg	
TeCP	< 0,05 mg/kg	

TrCP	For use in textiles for babies and textile personal care products: < 0,2 mg/kg For use in all other BEST Goods: < 2,0 mg/kg	
DCP	For use in textiles for babies and textile personal care products: < 0,5 mg/kg For use in all other BEST Goods: < 3,0 mg/kg	
MCP	For use in textiles for babies and textile personal care products: < 0,5 mg/kg For use in all other BEST Goods: < 3,0 mg/kg	
Pesticides, sum parameter		Based on § 64 LFGB L 00.0034 (GC/MS, GC/ECD, LC/MS) or § 64 LFGB L 00.00-114 (LC/MS/MS)
All natural fibres (except shorn wool)	For use in textiles for babies and textile personal care products: < 0,5 mg/kg For use in all other BEST Goods: < 1,0 mg/kg	
Shorn wool	< 1,0 mg/kg	
Heavy metals in eluate	figures in mg/kg refer to accessory	Elution DIN 54020, DIN EN ISO 105-E04, DIN EN ISO 17294-2 with ICP-MS or E DIN 54233-3
Arsenic (As)	For use in textiles for babies and textile personal care products: < 0,2 mg/kg For use in all other BEST Goods: < 1,0 mg/kg	

Lead (Pb)	For use in textiles for babies and textile personal care products: < 0,2 mg/kg For use in all other BEST Goods: < 1,0 mg/kg (not for glass)	
Cadmium (Cd)	< 0,1 mg/kg	
Chromium (Cr)	For use in textiles for babies and textile personal care products: < 1,0 mg/kg For use in all other BEST Goods: < 2,0 mg/kg	
Cobalt (Co)	For use in textiles for babies and textile personal care products: < 1,0 mg/kg For use in all other BEST Goods: < 4,0 mg/kg	
Copper (Cu) Criterion not applicable to inorganic/non-biological materials (such as metals)	For use in textiles for babies and textile personal care products: < 25 mg/kg For use in all other BEST Goods: < 50 mg/kg	
Nickel (Ni)	For use in textiles for babies and textile personal care products: < 1,0 mg/kg For use in all other BEST Goods: < 4,0 mg/kg	
Mercury(Hg)	< 0,02 mg/kg	
Chrom VI (Cr-VI)	< 0,5 mg/kg	Elution according to DIN EN ISO 105-E04, ISO 11083
Parameter	Criteria	Testing method
Heavy metals in digested sample		EPA 3050 B (ICP/MS); ICP/MS, EN16711-1
Cadmium (Cd)	< 40 mg/kg	

Lead (Pb)	< 90 mg/kg	
Nickel release	< 0,5 µg/cm ² per week	EN 12472, EN 1811 entspricht § 64 LFGB 82.02-6 und -7
Organotin compounds, individually		Extraction in solvent ISO 17353 (GC/MS) or ISO/TS 16179
	For use in textiles for babies and textile personal care prod- ucts: < 1,0 mg/kg For use in all other BEST Goods: < 2,0 mg/kg	
Phthalates (sum parameter): such as DINP, DMEP, DnOP, DEHP, DIDP, BBP, DBP, DIBP, DEP, DIHP, DHNUP, DCHP, DHxP, DIHxP, DPrP, DHP, DNP, DPP	< 0,1 %	ISO 14389
Polycyclic Aromatic Hydrocarbons (PAH):		ISO 18287 or ZEK 1.2-08; (GC/MS) or AFPS GS 2014:01
sum parameter	For use in textiles for babies and textile personal care prod- ucts: < 5 mg/kg For use in all other BEST Goods: < 10 mg/kg	
Individual parameter	For use in textiles for babies and textile personal care prod- ucts: < 0,5 mg/kg For use in all other BEST Goods: < 1,0 mg/kg	

*) See Manual

Further parameters relevant for specific materials used in accessories	Criteria	Testing method
Polyester fibres: Antimony (Sb)	< 20 mg/kg	Elution DIN EN ISO 105-E04 / ISO 17294-2 (ICP/MS)
Natural latex foam: Butadiene	< 1,0 mg/kg	Gas chromatography, flame-ionisation detector (FTD) GCMS, LFGB 82-02-08 (GC/MS)
Chlorophenols (incl. salts and esters)	< 1,0 mg/kg	Chamber test, DIN ISO 16000-6
Carbon disulphide	< 0,02 mg/m ³	Chamber test; ZH 1/120-23 or BGI 505-23 for air sam-

Further parameters relevant for specific materials used in accessories	Criteria	Testing method
Nitrosamine	< 0,001 mg/m ³	Sampling and analysis

1) criterion not applicable to non-biotic material (such as metals)

Minimum social criteria

3.1. *Scope*

The following social criteria apply to all textile processing and manufacturing stages which employ workers. As soon as applicable minimum social criteria will be introduced to recognized organic farming standards, these will apply to the farm level as well.

For adequate implementation and assessment of the following specific criteria the corresponding key conventions of the International Labour Organization (ILO) have to be taken as the relevant basis for interpretation.

3.2. *Employment is freely chosen*

There is no servitude, forced, bonded or indentured labour.

Workers are not required to lodge "deposits" or their identity papers with their employer and are free to leave their employer after reasonable notice.

3.3. *Freedom of association and the right to collective bargaining are respected*

Workers, without distinction, have the right to join or form trade unions of their own choosing and to bargain collectively.

The employer adopts an open attitude towards the activities of trade unions and their organisational activities.

Workers representatives are not discriminated against and have access to carry out their representative functions in the workplace.

Where the right to freedom of association and collective bargaining is restricted under law, the employer facilitates, and does not hinder, the development of parallel means for independent and free association and bargaining. The employer allows workers to freely elect their own representatives with whom the company can enter into dialogue about related issues.

3.4. *Child labour is prohibited*

The employment of people under 16 is prohibited. If the employment serves training purposes, does not endanger the health and development of the person or is short-termed (maximum 50 working days per calendar year), exceptions can be made.

Companies must develop or participate in and contribute to policies and programmes which provide for the transition of any child found to be performing child labour to enable her or him to attend and remain in quality education until no longer a child.

Children and young persons under 18 must not be employed at night or in hazardous conditions.

As long as children and adolescents still are not full-growing, they must not be exposed to exhausting activities. They must not work more than 8 hours per day or a maximum of 40 hours per week. After more than 4.5 up to 6 working hours, a break of at least 30 minutes is to be granted. After 6 working hours or more, the break should be prolonged to at least 60 minutes.

These policies and procedures including the interpretation of the terms "child" and "child labour" must conform to the provisions of the relevant ILO conventions C138 and C182.

3.5. *No discriminatory practices*

There is to be no form of discrimination e.g. in hiring, compensation, access to training, promotion, termination or retirement based on race, caste, ethnic or national origin, nationality, religion, age, disability, gender, marital status, sexual orientation, union membership, political affiliation, or social background.

3.6. *Working conditions are safe and hygienic*

A safe and hygienic working environment must be provided, bearing in mind the prevailing knowledge of the industry and of any specific hazards. Especially vulnerable persons such as young workers, new and expecting mothers and persons with disabilities shall receive special protection. Appropriate personal protective equipment must be provided to the workers and it must be assured that these are being used whenever necessary. Adequate steps must be taken to prevent accidents and injury to health arising from, associated with, or occurring in the course of work, by minimizing, so far as is reasonably practicable, the causes of hazards inherent in the working environment.

Procedures must be in place to detect, assess, avoid and respond to potential threats to the health and safety of workers. Effective measures must be taken to prevent workers from having accidents, injuries or illnesses, arising from, associated with, or occurring during work.

For each 10 employees in the company, one person is to be designated to provide first aid in case of accidents or emergencies. A facility for reclining in the case of medical emergencies must be available. Persons providing first aid must be trained and retrained every 2nd year. A documentation of vocational training is to be provided.

Escape and rescue plans are to be visibly posted for all workers. Further, the installation of fire extinguishers and the identification of escape routes and emergency assembly places are mandatory.

For all chemical substances and preparations used the corresponding Material Safety Data Sheet (MSDS) must be maintained and it must be assured that the applicable health and safety measures for handling and storing these chemicals are implemented.

Companies must take all appropriate measures within their sphere of influence, to ensure the stability and safety of the equipment and buildings they use, including worker accommodation where provided, as well as to protect against any foreseeable emergency. Workers must be able to exit the premises in case of imminent danger without seeking permission.

Workers must receive regular and recorded health and safety training, incl. fire prevention training and evacuation drills. Such training must be repeated for new or reassigned workers.

Rest rooms and rest areas must be made available separately from engine rooms/working area. Employees must be offered a facility to recline.

Access to clean toilet facilities and to potable water, and, if appropriate, to rest areas, food consuming areas and sanitary facilities for food storage must be provided.

Accommodation, where provided, must be clean, safe, and meet the basic needs of the workers.

As part of code compliance, the company must designate a senior management representative responsible for health and safety.

3.7. Fair remuneration

Wages and benefits paid for a standard working week meet, at a minimum, national legal standards or industry benchmark standards, whichever is higher. In any event wages should always be enough to meet basic needs and to provide some discretionary income.

Before they enter employment, all workers must be provided with a labour contract, which at least includes the place of work, working hours and the wage per particular working period (per hour, week or month) and vacation entitlement.

Employment requirements must comply with national laws and include information regarding wages as well as the respective social benefits.

The specifics of their wages for each pay period must be communicated to the workers at each wage payment.

Deductions from wages as a disciplinary measure are not permitted. Other deductions are permitted only under the conditions and to the extent prescribed by law or fixed by collective agreement.

3.8. Working hours are not excessive

Working hours must comply with national laws and benchmark industry standards, whichever affords greater protection.

In any event, workers must not be required to work in excess of 48 hours per week on a regular basis, must have the right to have rest breaks every working day and must be provided with on average at least one day off for every 7-day period. Overtime must be voluntary, may not exceed 12 hours per week, may not be demanded on a regular basis, may not involve a significantly higher likelihood of occupational hazards and must always be compensated either at a premium rate of not less than one and one-quarter times the regular rate or with time off.

After 6 working hours, the employer must grant a break of minimum 30 minutes to the employee. After 9 working hours, minimum 45 minutes of break are to be granted.

In case of marriage or the death of a husband, spouse or immediate relative and in the case of birth of the own child (for biological fathers only), a paid one-day special leave is to be granted. Special leave days shall be added to national regulations and industrial tariffs.

3.9. No precarious employment

To every extent possible work performed must be on the basis of recognized employment relationship established through national law and practice.

Obligations to employees under labour or social security laws and regulations arising from the regular employment relationship must not be avoided through the use of labour-only contracting, sub-contracting, or home-working arrangements, or through apprenticeship schemes where there is no real intent to impart skills or pro-

vide regular employment, nor must any such obligations be avoided through the excessive use of fixed-term contracts of employment.

3.10. Harsh or inhumane treatment is prohibited

Physical abuse or discipline, the threat of physical abuse, sexual or other harassment and verbal abuse or other forms of intimidation must be prohibited. All disciplinary measures must be documented.

3.11. Social Compliance Management

Operators must have a policy for social accountability to ensure that the social criteria can be met. They must support the implementation and monitoring of the social criteria by:

- designating a person responsible for social accountability
- monitoring compliance with the social criteria and implementing necessary improvements at its facilities
- informing workers of minimum social criteria and any other related information provided by IVN in the applicable local language(s)
- maintaining records of the name, age, working hours and the wages paid for each worker
- maintaining and providing appropriate safety equipment and materials to its workers
- allowing workers to nominate a representative for social accountability that is able to provide feedback to the management regarding implementation status of and compliance with social criteria
- recording and investigating complaints from workers or third parties related to the adherence to the social criteria and maintaining records about any necessary corrective measures arising from them
- refraining from disciplinary measures, dismissals or other forms of discrimination against workers for providing information concerning observance of the social criteria

3.12. Ethical Business Behaviour

Companies may not be involved in any acts of corruption, extortion or embezzlement, nor in any form of bribery - including but not limited to - promising, offering, giving or accepting any improper monetary or other incentive.

Companies must keep accurate information regarding their activities, structure and performance, and disclose these in accordance with applicable regulations and industry benchmark practices.

Companies must neither participate in falsifying such information, nor in any act of misrepresentation in the supply chain.

Companies are expected to collect, use and otherwise process any personal data (including that from workers, business partners, customers and consumers in their sphere of influence) with reasonable care. The collection, use and other processing of personal information must comply with privacy and information security laws and regulatory requirements.

Quality assurance system

4.1. Auditing of processing, manufacturing and trading stages

Processors, manufacturers and traders of IVN BEST Goods must participate in the BEST certification procedure which is based on an annual on-site inspection cycle (including possible additional unannounced inspections based on a risk assessment of the operations). They must hold a valid certificate of compliance listing the certified

products/product categories and the processing, manufacturing and trading activities that are qualified under the scope of certification (including names of *subcontractors* assigned and their relevant processing and manufacturing steps).

The responsible certifier may decide to perform remote-inspections instead of on-site inspections for *traders* which do not have or subcontract any *processing* or *manufacturing* activities. On-site inspection must however be performed at least for the first year and every 3rd year of granted certification. *Traders* having an annual turnover with *BEST Goods* less than 5000 € and retailers only selling to consumers are exempt from the certification obligation; provide they do not (re-)pack or (re-)label *BEST Goods*. *Traders* with less than 5000€ annual turnover must register with an *Approved Certifier* and must inform the same immediately after their annual turnover exceeds 5000€.

The responsible *Approved Certifier* may further decide on exceptions from the annual inspection cycle for small-scale *subcontractors* with a low risk potential regarding environmental and social criteria.

These *subcontractors* must be clearly identified and are obliged to have a written contract with the *certified entity* (who is responsible of the conformity with the BEST standard) and can undergo an onsite-inspection if demanded by the *authorized certifier*. On-site inspection must however be performed to such units at least for the first year and every 3rd year of granted certification.

The entity under whose name or brand the labelled *BEST Goods* are sold to the end consumer is responsible for exercising due care in ensuring compliance of the products with this standard, the Licensing and Labelling Guide and further provisions as released by IVN.

Certifiers must be authorized by IVN for the specific scope(s) in which they offer certification services:

1. Certification of mechanical textile processing and manufacturing operations and their products
2. Certification of wet processing and finishing operations and their products
3. Certification of trading operations and related products

Basis for authorisation by the IVN is an accreditation of the certifier in accordance with the IVN document 'Approval Procedure and Requirements for Certification Bodies' plus contract by the main co-operation partner of IVN for this process, IOAS, or another recognised accreditation body.

4.2. *Testing of Technical Quality Parameters and Residues*

Certified Entities are expected to undertake testing in accordance with a risk assessment in order to assure compliance with this standard and in specific with the criteria of chapter 2.4.14 (Technical Quality Parameters) as well as 2.4.15 and 2.4.16 (Limit Values for Residues in *IVN BEST Goods*, additional materials and *accessories*). All *IVN BEST Goods* and the components of these products should be included in this risk assessment and therefore potentially subject to testing. The testing frequency and the number of samples should be established according to this risk assessment.

Samples for residue testing may also be taken by the inspector during the required on-site inspection, either as back-up to the inspection process or in case of suspicion of contamination or non-compliance. Additional samples of goods may be taken from the supply chain at any time without advance notice.

Laboratories that are accredited according to ISO/IEC 17025 or qualified for GLP and that have appropriate experience in residue testing for textiles or chemical inputs are approved to perform residue testing for those tests that are within the scope of their accreditation.

Annex

A) Specific requirements for textile personal care products

This chapter lists criteria for Textile Personal Care Products that deviate from or are set in addition to the general criteria of this standard. Where no deviating requirements are set in this chapter, the applicable general *IVN BEST* criteria apply.

Important note: Any entity selling personal care products must be aware of and meet the specific legal (hygienic) requirements applicable for its products and in the country / region where they are sold. It may well be that some of these legal requirements for specific personal care products conflict with environmental criteria set by *IVN BEST*. Accordingly, except where specified below, these products cannot be certified and labelled to *IVN BEST*.

A1) *Scope*

For the purpose of this standard Textile Personal Care Products are grouped as following:

Group I: Topical products – such as cotton wool, sanitary towels, bandages, nappies, gauze cotton tissue (Gam-gee), island dressings, wound strips, sticking plasters and gauze dressings.

Group II: Physically invasive products – such as tampons and dental rolls, and clinically invasive products – such as surgical swabs and gauze swabs.

A2) *Specific criteria for materials and inputs (for Group I and Group II)*

A2.1) *Fibre material components*

All fibres used must be Totally Chlorine Free (TCF).

Non-woven and absorbent materials must be composed of 100% certified organic fibres.

A3) *Specific criteria for Inputs*

A3.1.) *Sizing*

No sizing must be used for group II products.

A3.2.) *Dyes*

The use of colourants is only allowed if their use is required to meet a mandatory legal regulation. All colourants used must be *IVN BEST* approved. Approved Certifiers may further grant exceptions where a clear functional purpose exists (e.g. to identify wound dressing orientation).

A3.3.) *Optical Brightening Agents*

Optical brightening agents (OBAs) must not be used.

A3.4.) *Fragrances and lubricants*

Any fragrances and lubricants used must comply – beside the input criteria of *BEST*– also with the input criteria of the *COSMOS-Standard* (Cosmetics Organic and Natural Standard).

B) Definitions

Term	Determined definition for IVN BEST
Accessories	Items that are added to supplement IVN BEST Goods for required functional or for fashionable reasons. Most commonly used accessories are listed in chapter 2.4.9. The processing of those accessories is not under direct scope of the IVN BEST on-site certification system. The IVN BEST criteria applicable to accessories are listed in chapter 2.4.9 and 2.4.16.
Worker	Any individual engaged in work who is not a senior manager or owner.
BEST Goods	Textile goods (finished or intermediate) produced in compliance with BEST by a <i>Certified Entity</i> and certified by an <i>Approved Certifier</i> .
Bio-accumulative	A <i>substance</i> is considered as (potentially) bio-accumulative, if BCF (= bio-concentration factor) > 100 or if log <i>pow</i> (= logarithm of the octanol-water partition coefficient) >3.
Trader	Entity trading with (=buying and selling) <i>BEST Goods</i> in the supply chain between the producer of the fibre and the retail merchant of the final product regardless whether the goods are physically received or not (e.g. an import, export or wholesale trading entity). Agents that do not become proprietor of the goods and retailers only selling to the end consumer are not considered as traders.
Topical products	Any device that does not penetrate inside the body, either through a body orifice or through.
Manufacturer	Entity in the manufacturing chain (sewing industry or so called CMT (cutting, making, trimming) industry up to labelling and final packing) of <i>BEST Goods</i> .
Endocrine disruptor	Exogenous substance or mixture that alters function(s) of the endocrine system and consequently causes adverse health effects in an intact organism, or its progeny, or (sub) populations.
Invasive products	<i>Clinically invasive products</i> : Any device that penetrates the body through the skin, with the aid of or in the context of a surgical operation. <i>Physically invasive products</i> : Any device that, in whole or part, penetrates inside the body through a natural or artificial orifice.
Subcontractor	Entity in the supply chain of <i>BEST Goods</i> performing job work (in the field of processing or manufacturing) for a <i>Certified Entity</i> without becoming proprietor of the <i>BEST Goods</i> and not assigning an own (independent) BEST certification.
Natural Materials	A <i>natural material</i> is any product or physical matter that comes from plants, animals, or the ground. Minerals and the metals that can be extracted from them are also considered to belong into this category (e.g. natural fibres, leather, wood, stones, shells, metals, seed and plant oils etc.).
Permanent AOX	AOX is permanent, if the halogen is permanently bound to the molecule (e.g. in the chromophore of a dye-stuff or pigment) and cannot get hydrolysed or released during fibre processing.
Pre-consumer waste	Material diverted from the waste stream during the manufacturing process. Excluded is the reutilization of materials such as rework, regrind or scrap generated in a process and capable to being reclaimed within the same process.
Post-consumer waste	Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product that can no longer be used for its intended purpose. This includes returns of materials from the distribution chain.

Term	Determined definition for IVN BEST
Heavy metal free	<p>An <i>input</i> is considered as '<i>heavy metal free</i>' if it does not contain heavy metals as a functional constituent and any impurities contained do not exceed the following limit values as set by ETAD:</p> <p>Antimony: 50ppm, Arsenic: 50ppm, Barium: 100ppm, Cadmium: 20ppm, Cobalt: 500ppm, Copper: 250ppm, Chromium: 100ppm, Iron: 2500ppm, Lead: 100 ppm, Manganese: 1000ppm, Nickel: 200ppm, Mercury: 4ppm, Selenium: 20ppm, Silver: 100ppm, Zinc: 1500ppm, Tin: 250ppm.</p>
Sportswear	<p><i>Sportswear</i> includes any garment that is functional or technical active wear, which requires it to perform properly with regard to stretch, sun block, insect repellent, moisture repellent, wrinkle repellent and breathability. Such a garment is intended to be suitable for activities such as walking, hiking, running, exercise, dance, and athletic pursuits, not including leisure or casual wear.</p>
Substances	<p>Chemical elements and their compounds as they occur in the natural state or as produced by industry.</p>
Partly certified combination products	<p>Frequently products are manufactured that cannot be classified as "textiles" as a whole but in parts are certified IVN BEST. It is the certifier's responsibility to examine the remaining components regarding their compatibility to the IVN product philosophy and to approve a labelling with "partly certified combination product, the (name of component) part is certified IVN BEST". An example would be a baby buggy which is covered with IVN BEST certified fabric. In cases of doubt the certifier is welcome to contact IVN head office (info@naturtextil.com).</p>
Processor	<p>Entity in the processing chain (post-harvest handling up to finishing) of <i>BEST Goods</i>.</p>
Certified entity	<p><i>Processor, manufacturer, trader</i> or retailer of <i>BEST Goods</i> certified by an <i>Approved Certifier</i>.</p>
Approved Certifier	<p>Certification body which is approved by the IWG to perform inspections and certifications according to BEST in the relevant scope.</p> <p>An updated list of Approved Certifiers and their scopes is available at: http://www.naturtextil.com/businesses/certification.html</p>
Inputs	<p>General term for all <i>substances</i> and <i>preparations</i> directly applied as textile auxiliary agents, dyes or pigments.</p>
Preparations	<p>Mixtures or solutions composed of two or more <i>substances</i>.</p>

C) List of additional fibres

The following regenerated and synthetic fibre materials may be included in the remaining balance as detailed in chapter 2.2.1 resp. 2.2.2. They may be mixed with the organic fibres or used in certain details:

- a) Regenerated cellulose *fibres* - viscose, acetate, tencell and lyocell;
- b) Polyester;
- c) Polyurethane (Elasthan);
- d) Polyamide

D) List of abbreviations

Organizations / standards:

EC	European Commission
ECHA	European Chemicals Agency
ETAD	Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers
GHS	Global Harmonized System
GOTS	Global Organic Textile Standard
IFOAM	International Federation of Organic Agriculture Movements
ILO	International Labour Organization
IOAS	International Organic Accreditation Service
ISO	International Organization for Standardization
IUNC	International Union for Conservation of Nature
IVN	International Association Natural Textile Industry, Germany
IWG	International Working Group on GOTS (member organisations: IVN, JOCA, OTA, SA)
JOCA	Japan Organic Cotton Association
OTA	Organic Trade Association
OECD	Organization of Economic Cooperation and Development
REACH	EEC Regulation regarding Registration, Evaluation, Authorization and Restriction of Chemicals
SA	Soil Association
TEGEWA	Association of producers of textile, paper, leather and fur auxiliaries and colorants
USDA	United States Department of Agriculture

Others:

EC50	Effect concentration (50%)
IC50	Inhibition concentration (50% inhibition)
LC50	Lethal concentration (50% mortality)
α -MES	α -methyl ester sulphonate (C16/18)
AP	Alkyl phenol
AOX	Absorbable halogenated hydrocarbons and substances that can cause their formation
APEO	Alkylphenoethoxylate
BBP	Benzylbutyl phthalate
BSD	Biological Oxygen Demand
CSB	Chemical Oxygen Demand
DBP	DibutylPhthalate

DBT	Dibutylzinn
DEHP	Diethylhexylphthalate
DIBP	Diisobutylphthalate
DIDP	Diisodecyl phthalate
DINP	Diisononyl phthalate
DMEP	Bis(2-methoxyethyl) phthalate
DNOP	Di-N-Octyl phthalate
DOT	Dioctyltin
DTDMAC	Ditallowdimethylammonium chloride
DSDMAC	Distearyldimethylammonium chloride
DHTDMAC	Dihydrogenated tallow dimethylammonium chloride
DTPA	Diethylenetriamine penta-acetate
EDTA	Ethylendiamine tetra-acetate
FTOH	Fluorotelomer alcohols
GMO1	Genetically Modified Organism
HMBT	2-Hydrazono-2,3-Dihydro-3-Methylbenzothiazol-hydro chloride
LAS	Linear alkyl benzene sulphonate
MAK	Maximum Allowable Concentration (of a substance at the working place). The parameter refers to findings and categorisation of a German research commission
MBT	Monobutyltin
NP	Nonylphenol
NPEO	Nonylphenol ethoxylates
OP	Oktylphenol
OPEO	Oktylphenol ethoxylate
PAK	Polycyclic aromatic hydrocarbons
PCB	Polychlorinated Biphenyls
PCP	Pentachlorphenol
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PFCA	Perfluorooctane carbon acid
PFSA	Perfluorooctanoicsulfonic acid
PVC	Polyvinyl chloride
SCPP	Short chain chlorinated paraffins
TBT	Tributylzinn
TeCP	Tetrachlorophenol
TCP	Trichlorphenol
TOC	Total Organic Carbon
TPhT	Triphenyltin

E) Substance lists

List of pesticides tested

Substance name	CAS No.		
		Cellulose fibres	Proteine fibres
2,3,5,6-Tetrachlorophenol	935-95-5	x	
2,4,6-Trichlorophenol	88-06-2	x	
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)	93-76-5	x	
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	x	
Acetamepid	135410-20-7	x	
Aldrin	309-00-2	x	x
Atrazine	1912-24-9	x	
Azinphos	2642-71-9	x	
Azinphos-methyl	86-50-0	x	
Alpha- and beta-Endosulfan	959-98-8/33213-65-9	x	x
Bifenthrin	82657-04-3	x	
Bendiocarb	22781-23-3	x	
Bioresmethrin	28434-01-7		x
Bromphos-ethyl	4824-78-6	x	x
Buprofezin	69327-76-0	x	
Captafol	2425-06-1	x	
Carbaryl	63-25-2	x	x
Carbosulfan	55285-14-8	x	
Clethodim	99129-21-2	x	
Chlordane	57-74-9		x
Chlordimeform	6164-98-3	x	
Chlorpyrifos-ethyl	2921-88-2	x	x
Chlorpyrifos-methyl	5598-13-0	x	x
Chlorfenapyr	122453-73-0	x	
Chlorfenvinphos	470-90-6	x	x
Chlorfluazuron	71422-67-8	x	
Coumaphos	56-72-4	x	x
Cyfluthrin	68359-37-5	x	x
Cyhalothrin	91465-08-6	x	x
Cyclanilide	113136-77-9	x	
Cypermethrin	52315-07-8	X	x
DDD (op- and pp-)	53-19-0, 72-54-8	x	x

Substance name	CAS No.		
		Cellulose fibres	Proteine fibres
DDE (op- and pp-)	3424-82-6, 72-55-9	x	x
DDT, o,p-	789-02-6	x	x
DDT, p,p-	50-29-3	x	x
DEF/ 2,4 Dichlorodiphenyldichloroethane	78-48-8	x	
Deltamethrin	52918-63-5	x	x
Diafenthuron	80060-09-9	x	
Diazinon	333-41-5	x	x
Dichlofenthion	97-17-6		x
Dichlorprop	120-36-2	x	
Dichlorvos	62-73-7	x	x
Dicrotophos I	141-66-2	x	
Dieldrin	60-57-1	x	x
Diflubenzuron	35367-38-5		x
Dimethoate	60-51-5	x	x
Dinoseb and salts	88-85-7	x	
Diuron	330-54-1	x	
Empenthrin	54406-48-3		x
Endosulfansulfate	1031-07-8	x	x
Endrin	72-20-8	x	x
Esfenvalerate	66230-04-4	x	x
Ethion	563-12-2	x	x
Fenchlorphos	299-84-3	x	x
Fenitrothion	122-14-5	x	x
Fenthion	55-38-9		x
Fenpropathrin	39515-41-8	x	
Fenvalerate	51630-58-1	x	x
Fipronil	120068-37-3	x	
Flumethrin	69770-45-2		x
Heptachlor	76-44-8		x
Heptachlor epoxide	1024-57-3		x
Hexachlorobenzen (HCB)	118-74-1		x
Hexachlorocyclohexane - a-Lindane	319-84-6		x
Hexachlorocyclohexane - b-Lindane	319-85-7		x
Hexachlorocyclohexane - d-Lindane	319-86-8		x

Substance name	CAS No.	Cellulose fibres	
		Cellulose fibres	Cellulose fibres
Imidacloprid	138261-41-3	x	
Lindane	58-89-9	x	x
Lufenuron	103055-07-8	x	
Malathion	121-75-5	x	x
MCPA	94-74-6	x	
MCPB	94-81-5	x	
Mecoprop	93-65-2	x	
Metolachlor	51218-45-2	x	
Methomyl	16752-77-5	x	
Mevinphos	7786-34-7	x	
Methamidophos	10265-92-6	x	
Methoxychlor	72-43-5	x	x
Mirex	2385-85-5	x	
Monocrotophos	6923-22-4	x	
Parathion-ethyl	56-38-2	x	x
Parathion-methyl	298-00-0	x	x
Pendimethalin	40487-42-1	x	
PCP/ Pentachlorophenol	87-86-5	x	x
Permethrin	52645-53-1	x	x
Perthane	72-56-0	x	
Phosmet	732-11-6	x	
Phoxim / Baythion	14816-18-3	x	
Pirimiphos-ethyl	23505-41-1	x	x
Pirimiphos-methyl	29232-93-7		x
Profenophos	41198-08-7	x	
Prometryn	83653-07-0	x	
Pymetrozine	123312-89-0	x	
Propetamphos	31218-83-4		x
Pyrethrum	8003-34-7	x	x
Quinalphos	13593-03-8		x
Quintozine	82-68-8	x	
Teflubenzuron	83121-18-0	x	
Thiamethoxam	153719-23-4	x	
Tetrachlorvinphos	22350-76-1		x

Substance	CAS No.		
		Cellulose fibres	Protein fibres
Toxaphene	8001-35-2	x	
Telodrin	297-78-9	x	
Strobane	8001-50-1	x	
Transfluthrin	118712-89-3		x
Trifluralin	1582-09-8	x	
Triflumuron	64628-44-0		x
Thiodicarb	59669-26-0	x	
Thidiazuron	51707-55-2	x	
Tolclofos-methyl	57018-04-9	x	
Trifloxysulfuron-sodium	199119-58-9	x	

List of carcinogenic arylamines that must not become separated under reductive conditions

Name	CAS-NO.
MAK III, category 1	
4-Aminodiphenyl	92-67-1
Benzidin	92-87-5
4-Chlor-o-toluidin	95-69-2
2-Naphthylamin	91-59-8
o-Toluidin	59-53-4
MAK III, category 2	
o-Aminoazotoluol	97-56-3
2-Amino-4-nitrotoluol	99-55-8
p-Chloranilin	106-47-8
2,4-Diaminoanisol	615-05-4
4,4'-Diaminodiphenylmethan	101-77-9
3,3'-Dichlorbenzidin	91-94-1
3,3'-Dimethoxybenzidin	119-90-4
3,3'-Dimethylbenzidin	119-93-7
3,3'-Dimethyl-4,4' diaminodiphenylmethan	838-88-0
p-Kresidin	120-71-8
4,4'-Methylen-bis-(2 chloranilin)	101-14-4

Name	CAS-NO.
MAK III, category 2	
4,4'-Oxydianilin	101-80-4
4,4'-Thiodianilin	139-65-1
2,4-Toluylendiamin	95-80-7
2,4,5-Trimethylanilin	137-17-7
o-Anisidin (2-Methoxyanilin)	90-04-0
2,4-Xylidin	95-68-1
2,6-Xylidin	87-62-7
4-Aminoazobenzol	60-09-3
MAK III, category 3	
5-Chlor-o-toluidin	95-79-4
p-Phenylendiamin	106-50-3
N,N-Dimethylanilin	121-69-7
MAK III, category 4	
Anilin	62-53-3

List of dyes classified as allergenic

C.I. Generic Name	C.I. Structure number	CAS-Nr.
C.I. Disperse Blue 1	C.I. 64 500	2475-45-8
C.I. Disperse Blue 3	C.I. 61 505	2475-46-9
C.I. Disperse Blue 7	C.I. 62 500	3179-90-6
C.I. Disperse Blue 26	C.I. 63 305	
C.I. Disperse Blue 35		68516-81-4
C.I. Disperse Blue 102		104573-53-7
C.I. Disperse Blue 106		15141-18-1
C.I. Disperse Blue 124		2581-69-3
C.I. Disperse Brown 1		23355-64-8
C.I. Disperse Orange 1	C.I. 11 080	730-40-5
C.I. Disperse Orange 3	C.I. 11 005	
C.I. Disperse Orange 37	C. I. 11 132	
C.I. Disperse Orange 76 C	C.I. 11 132	2872-52-8
C.I. Disperse Red 1	C.I. 11 110	2872-48-2
C.I. Disperse Red 11	C.I. 62 015	3179-89-3
C.I. Disperse Red 17	C. I. 11 210	119-15-3
C.I. Disperse Yellow 1 C	C. I. 10 345	2832-40-8
C.I. Disperse Yellow 3	C. I. 11 855	6373-73-5
C.I. Disperse Yellow 9	C. I. 10 375	
C.I. Disperse Yellow 39		
C.I. Disperse Yellow 49		

Other dyes in suspicion

C.I. Generic Name	C.I. Structure number	CAS-Nr.
C.I. Disperse Yellow 23	C.I. 26 070	6250-23-3
C.I. Disperse Orange 149		85136-74-9

List of carcinogenic dyes

C.I. Name	C.I. Structure-NO.	CAS-Nr.
C.I. Acid Red 26	C.I. 16 150	3761-53-3
C.I. Basic Red 9	C.I. 42 500	25620-78-4
C.I. Basic Violet 14	C.I. 42 510	632-99-5
C.I. Direct Black 38	C.I. 30 235	1937-37-7
C.I. Direct Blue 6	C.I. 22 610	2602-46-2
C.I. Direct Red 28	C.I. 22 120	573-58-0
C.I. Disperse Blue 1	C.I. 64 500	2475-45-8
C.I. Disperse Orange 11	C.I. 60 700	82-28-0
C.I. Disperse Yellow 3	C.I. 11 855	2832-40-8

List of chlorinated benzenes and toluenes (chlorine organic carrier)

Name
Dichlorbenzole
Trichlorbenzole
Tetrachlorbenzole
Pentachlorbenzole
Hexachlorbenzol
Chlortoluole
Dichlortoluole
Trichlortoluole
Tetrachlortoluole
Pentachlortoluol

List of phthalates

Name	Abbreviation	CAS-NO.
Diisononylphthalat	DINP	28553-12-0
Di-n-octylphthalat	DNOP	117-84-0
Di-(2-ethylhexyl)-phthalat	DEHP	117-81-7
Diisodecylphthalat	DIDP	26761-40-0
Butylbenzylphthalat	BBP	85-68-7
Dibutylphthalat	DBP	84-74-2
Diisobutylphthalat	DIBP	84-69-5

Bis(2-methoxyethyl)phthalat	DMEP	117-82-8
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Lists of PAH

Name	Abbreviations	CAS-NO.
Acenaphthen	AcNph	83-32-9
Acenaphthylen	AcNphy	208-96-8
Anthracen	AnC	120-12-7
Benzo[a]anthracen	BaA	56-55-3
Benzo[a]pyren	BaP	50-32-8
Benzo[b]fluoranthen	BbFA	205-99-2
Benzo[g,h,i]perylene	BghiPe	191-24-2
Benzo[e]pyren	BeP	192-97-2
Benzo[j]fluoranthen	BjFA	205-82-3
Benzo[k]fluoranthen	BkFA	207-08-9
Chrysen	CHR	218-01-9
Dibenzo[a,h]anthracen	DBaH	53-70-3
Fluoranthen	FA	206-44-0
Fluoren	Flu	86-73-7
Indeno[1,2,3-cd]pyren	IcdP	193-39-5
Naphthalin	Naph	91-20-3
Phenanthren	Phen	85-01-8
Pyren	Py	129-00-0

Availability of documents:

This standard, the reference documents and any further relevant public information as released by the International Association of Natural Textile Industry are introduced and available under <http://naturtextil.com>.

Further information can be requested via mail: info@naturtextil.com.