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Guideline

DETOX TO ZERO by OEKO-TEX®

OEKO-TEX® – International Association for Research and Testing in the Field of Textile and Leather Ecology.



OEKO-TEX®
INSPIRING CONFIDENCE
DETOX TO ZERO 

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1. Purpose

DETOX TO ZERO by OEKO-TEX® is a comprehensive verification and reporting system that recognises the requirements stipulated by the Greenpeace Detox campaign. The service includes an audited assessment based on transparent DETOX TO ZERO criteria and methods for establishing environmentally responsible textile and apparel facilities. The verification process involves the reduction of hazards and risks across the entire textile production chain, from fibre production through to the make-up of products, with the goal of moving towards a greener chemistry.

DETOX TO ZERO assesses, audits and reports on the following areas of the textile production chain:

1. Wastewater and sludge conformity in accordance with the DETOX TO ZERO by OEKO-TEX® Manufacturing Restricted Substance List (MRSL)
2. Conformity of chemicals stored in the company as per the DETOX TO ZERO by OEKO-TEX® MRSL
3. General management

DETOX TO ZERO by OEKO-TEX® is guided by the following principles:

Elimination: To eliminate the release of any toxic chemicals and recognise that there are no environmentally safe levels for hazardous substances according to the Greenpeace priority list of the eleven chemical groups.

Prevention and precaution: To take precautionary action with the aim of eliminating hazardous chemicals in the face of scientific uncertainty. To interrogate processes and introduce measures for continuous improvement in the company in terms of preventive measures for the handling and use of 'hazardous' substances.

Right to know: To act with transparency on behalf of communities living by the discharge pipes and consumers, who both have a right to know about the hazardous chemicals being released into our waterways. Documentation of the company's operations, such as training, environmental reporting, internal and external communication. One of the targets is a publicly accessible register on the www.oeko-tex.com website.

2. Applicability

DETOX TO ZERO by OEKO-TEX® addresses chemical / environmental performance in textile production processes such as:

- Wet spinning and related processes (e.g. Viscose, Modal, Acetate, Acrylic)
- Dyeing, printing, finishing, coating and related processes
- Manufacturing of accessories (e.g. zippers, buttons, labels)
- Others (e.g. non-agricultural fibre production)

The DETOX TO ZERO guideline is presented as a normative document issued and updated regularly by OEKO-TEX®. The guideline specifies the conditions and requirements for working with DETOX TO ZERO. The overarching goal of the guideline is to help production facilities to measure and improve environmental performance with the aim of moving towards a greener chemistry and to report this to the industry and consumers in a transparent and useful format.

Limitation of DETOX TO ZERO:

Customers shall be in compliance with discharge permits and national legal requirements independently of being below or above the given reporting limits of the MRSL in Annex 2.

3. Content of DETOX TO ZERO by OEKO-TEX®

DETOX TO ZERO includes the evaluation of wastewater and sludge tests, a full check of the chemical inventory and an assessment of the company management.

3.1 Wastewater and sludge testing

Customers interested in receiving a meaningful DETOX TO ZERO scoring should be prepared to have results of analytical wastewater and sludge tests available. There are currently twelve groups of chemicals that are the focus of DETOX TO ZERO. The twelve chemical groups are:

1. Alkylphenols (APEOs)
2. Phthalates
3. Brominated and chlorinated flame retardants (BFRs, CFRs)
4. Azo dyes
5. Organotin compounds
6. Perfluorinated chemicals (PFCs)
7. Chlorobenzenes
8. Chlorinated solvents
9. Chlorophenols
10. Short chain chlorinated paraffins
11. Heavy metals such as cadmium, lead, mercury and chromium (VI) and
12. PAH's and General requirements

The MRSL in Annex 2 serves as the basis for a MRSL screening and wastewater and sludge testing. All of the chemicals for each group and the defined reporting limits should be considered.

The DETOX TO ZERO process requires the facility to provide an up-to-date wastewater and sludge testing report. The wastewater and sludge test shall be performed from a sample that represents normal production being taken independently from the accredited laboratory conducting the testing at the output of the facility. In the test report shall be recorded the location, the date and time when the sample was collected along with the name of the person responsible of taken the sample with its signature. An OEKO-TEX® approved auditor will verify if the test results are in compliance with the reporting values of the DETOX TO ZERO MRSL. OEKO-TEX® acknowledges testing results from any accredited testing laboratory.

3.2 Chemical inventory list

An inventory list of all chemicals used in production should be available. The list should be complete and at least contain product name (trade name or chemical identification) and CAS number of all substances. At minimum, the latest Safety Data Sheet (SDS) for all of the chemicals in use (both production-relevant and non-production-relevant) should be available. The chemicals list can be supplemented with the following information:

- Classification of the chemical based on its physical, health and ecological risks as per the GHS (globally harmonized system)
- Composition of the individual chemical components of the chemical (including their percentage values) and the corresponding CAS number(s)
- Hazard codes (GHS code, H and P codes) for the named individual chemical substances
- Registration information for the chemical substances (EINECS number, EC number, REACH registration number, etc.)
- Minimum, maximum and actual stock of the chemical
- Place where the chemical is stored and used

3. Content of DETOX TO ZERO by OEKO-TEX®

The chemical inventory should not only contain the chemicals used in production processes, but also the chemicals used in other applications, such as for cleaning, maintenance, etc.

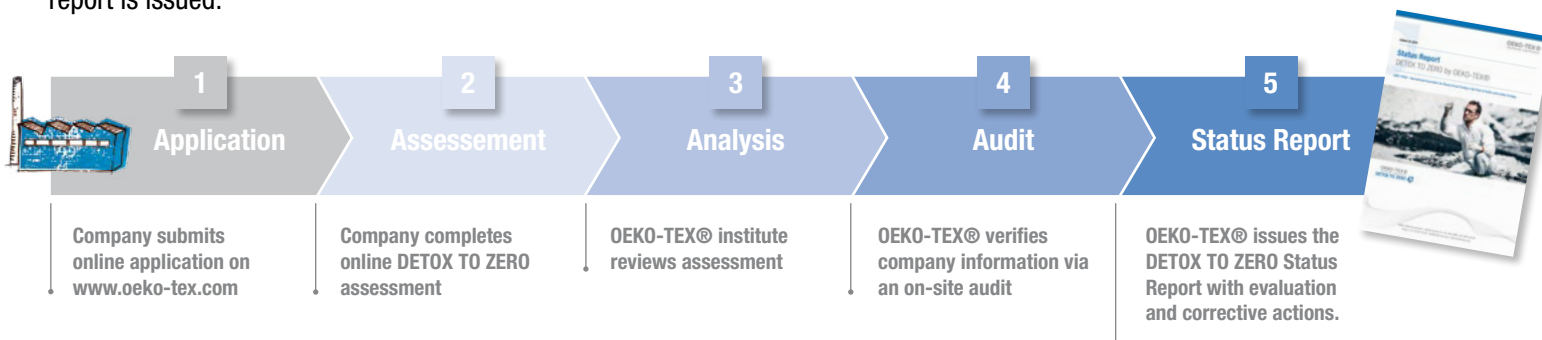
3.3 General management

The general management part of DETOX TO ZERO covers the following aspects:

- Management system / structural organisation with focus on chemical and environmental performance
- Compliance with permits and legal requirements
- Storage and handling of chemicals, auxiliaries, dyes, solvents etc.
- Environmental protection, waste management and production processes
- Reuse and recycling of residues
- Health and safety of employees, use of PPE and training

4. Process to receive a DETOX TO ZERO Status Report

After registering online, the customer receives access to the web-based assessment tool. The assessment tool provides the customer with an up-to-date overview regarding the area of chemical management and its related issues, such as water emissions. After the first evaluation by the auditor, the audit takes place. After the audit, a clearly arranged and transparent report is issued.



4.1 Application

- Online registration via www.oeko-tex.com/detoxtozero, including a short description of your company and the selection of which testing institute to work with
- Confirmation of the received quotation (and terms of use)

4.2 Assessment

The assessment tool is a database which is used during the process both for data collection and to ensure a proper evaluation

- Log in to the DETOX TO ZERO online assessment with the received or existing user name and password
- Answer all relevant questions and provide following documents and information:
 - Chemical Management system or policy
 - Full inventory (including CAS and composition) and SDS of chemicals for MRSL check
 - Wastewater and sludge test report according to the DETOX TO ZERO MRSL from an accredited laboratory (includes the eleven chemicals groups defined by Greenpeace)
 - Environmental management (no certification required)
 - Chemical hazard emergency plan
 - Environmental emergency plan
 - Staff safety training records

4. Process to receive a DETOX TO ZERO Status Report

- › Site plan including drainage plan and all areas for the delivery, use and storage of chemicals
- › Licences or permits (if necessary) for the discharge of waste, air conditioning, storage or use of hazardous substances, wastewater discharge, use of water or wastewater treatment

4.3 Analysis of assessment data

- › First evaluation of the data provided by the facility including analysis of the chemical inventory list and the wastewater / sludge report
- › The testing institute will ask for missing data if required

4.4 Preparation and conducting of the audit

- › The auditor prepares the audit checklist based on the data provided
- › The testing institute arranges a suitable audit date with the facility
- › Audit tour through the facility (including taking photos and employee interviews): open all doors / departments, check wastewater treatment plant, wastewater outlet, sludge and waste storage, chemicals storage and handling, usage of PPE and handling of waste
- › Final evaluation of chemicals and the wastewater / sludge report

4.5 Data evaluation & report writing

- › Once the audit is complete, it provides an overall impression of the situation on site. The information is input in the assessment tool by the auditor
- › Comments based on the findings are used later for the reporting
- › DETOX TO ZERO by OEKO-TEX® Status Report is written based on the assessment and the audit (including publication of the data on www.oeko-tex.com/detoxtozero)

5. Status Report

The Status Report is a document, issued by an OEKO-TEX® testing institute. It provides the customer with an overview of the current situation within the company.

5.1 Content

The Status Report has the following elements:

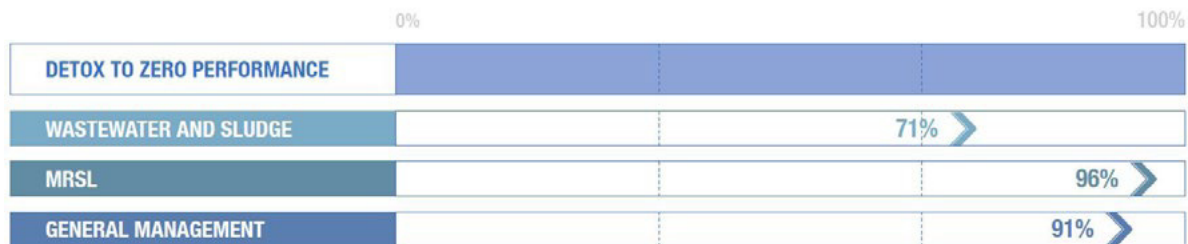
- › General Company Information
- › Executive Summary Report
- › Corrective Actions
- › Liability
- › Wastewater and Sludge
- › MRSL
- › General Management
 - Management System / Organization (Responsibilities)
 - Chemical Management
 - Permits, Legal Requirements (License)
 - Environment, Health & Safety (EHS)
 - Production Process
 - Storage
- › Annex / Photos

5. Status Report

5.2 Scoring System

The assessment is carried out individually for each of the three performance areas (Wastewater and sludge, MRSL and General management).

The evaluation is based on at least one or more questions. Each question is scored. In case of an overall score, the sum of all actual scores is divided by the maximum score (e.g. for the General management part and its subsections).



DETOX TO ZERO is no certification system and therefore does not include exclusion criteria. There is no pass and fail. All recommendations and corrective actions issued can be seen as the path to best practice.

5.3 Status Report number

For each Status Report, OEKO-TEX® issues a unique report number. This report number has eight digits followed by a hyphen and one / two additional digits. The first eight digits refer to a customer while the digits following the hyphen refer to the amount of reports issued to that customer.

The first eight digits or the complete report number can be used for public validation on www.oeko-tex.com.

5.4 Validity of the Status Report

The Status Report is valid for one year based on the recommendation of OEKO-TEX®. The check should be made every year in order to track a status over a period of time and track and report on improvements and roadmaps. The new check is available three months before the date of expiry.

6. Communication with DETOX TO ZERO

6.1 Use and misuse of the Status Report

The Status Report can be used for internal and external communication. The results can be used as a Status Report. The Status Report can only be used for facilities (production sites) and not for products. The DETOX TO ZERO Status Report can only be used with the corresponding report number.

Any statement such as:

- > In compliance with
- > Fully covering
- > Certified according to

6. Communication with DETOX TO ZERO

- > Equivalent to
- > or similar to the mentioned terms (non-exhaustive list)

... the Greenpeace Detox campaign or requirements is not correct and will not be tolerated. In any of the mentioned cases, legal proceedings will be considered.

6.2 Publication of Status Report data

Once a stakeholder has the corresponding Status Report number or the company name, the Status Report can be validated on www.oeko-tex.com. Furthermore, and with the permission of the report owner, the OEKO-TEX® will publish the detected wastewater and sludge data on a responsive website that is available within the DETOX TO ZERO product section.

7. References and guidance tools

7.1 STeP by OEKO-TEX®

STeP (Sustainable Textile Production) is an independent certification system for sustainable textile production. Among other criteria, it analyses and evaluates existing production conditions with respect to the working conditions, the use of environmentally friendly technologies and products and the plant's impact on the environment.

STeP assesses, audits and certifies the following modules of the textile production chain:

1. Chemical Management
2. Environmental Performance
3. Environmental Management
4. Social Responsibility
5. Quality Management
6. Health and Safety

To qualify for certification according to STeP, facilities must meet the stipulated criteria in the modules above. Various rankings can be achieved based on the levels of performance defined within the standard, which is updated periodically. Companies have the option to combine DETOX TO ZERO by OEKO-TEX® with the STeP certification. The results of the DETOX TO ZERO assessment will be included in the final STeP report and in the STeP certificate.

For further details please connect to the OEKO-TEX® homepage www.oeko-tex.com or contact one of the testing institutes (as given in Annex 1).

7. References and guidance tools

7.2 Detox Campaign by Greenpeace

The Detox campaign was launched by Greenpeace in 2011 to address the widespread use of hazardous chemicals in the manufacturing of clothes, which were being released into waterways. Several international brands, retailers and suppliers committed themselves to eliminate toxic, persistent and hormone-disrupting chemicals from their products and production processes by 2020. The key elements of the Detox Commitment are:

- Chemicals management - specifically setting a Manufacturing Restricted Substances List, which initially focused on 11 priority hazardous chemical groups and testing for them in wastewater discharges and sludge
- Transparency - of the wastewater and sludge testing results, to be published by the supplier on an online platform, and the publication of suppliers lists to include wet processing (washing and dyeing) suppliers (Tier 2/3)
- Substitution and elimination - with a particular focus on alkylphenol ethoxylates (APEOs), per- and polyfluorinated chemicals (PFCs) and Phthalates

More information about the Detox campaign can be found on the Greenpeace website.

7.3 ZDHC compliance

ZDHC (Zero Discharge of Hazardous Chemicals) is an industry-driven initiative which provides a platform to consolidate questions raised by the Greenpeace Detox campaign. As a forum, the ZDHC Group is striving to reduce the complexity raised by the Greenpeace 2020 goals. OEKO-TEX® supports the ZDHC initiative and ensures, through various OEKO-TEX® services, compliance with the ZDHC MRSL.

Wastewater and sludge tests conducted according to the ZDHC MRSL requirements and limits are acknowledged as high standard addressing hazardous substances in effluents. Such test reports issued by accredited laboratories are accepted within the framework of DETOX TO ZERO.

Requirements of the DETOX TO ZERO MRSL (e.g. reporting limits, additional substances) that go beyond ZDHC are analysed during the MRSL screening. Criteria not or insufficiently covered are outlined as recommendations in the DETOX TO ZERO Status Report.

Annex 1 – OEKO-TEX® Institutes

The testing institutes are approved and authorised by the OEKO-TEX® Service Ltd. to provide tests, audits and other services in connection with OEKO-TEX® products. The following institutes currently offer certification, licensing and a status report according to STANDARD 100, STeP, DETOX TO ZERO, MADE IN GREEN, ECO PASSPORT and / or LEATHER STANDARD. Current address and contact information can always be found on the OEKO-TEX® homepage (www.oeko-tex.com).

	OEKO-TEX® Institute	STANDARD 100	GIMO Test	LEATHER STANDARD	ECO PASSPORT	STeP	DETOX TO ZERO	MADE IN GREEN	My STeP
AR	CITEVE Argentina Av. Córdoba 612, 5° P. "A" - (C1054AAS), Ciudad de Buenos Aires, Argentina	X	X	X	X	X	X	X	X
AT	ÖTI - Institut für Ökologie, Technik und Innovation GmbH Spengergasse 20, 1050 Wien, Austria	X	X	X	X	X	X	X	X
AU	TESTEX Swiss Textile-Testing Ltd. Level 6, Suite 601, 1 Queens Road, VIC 3004 Melbourne, Australia	X	X	X	X	X	X	X	X
BD	Hohenstein Institute Bangladesh Momataz Plaza, 7th Floor, Apartment: 7A, Sastapur, Fatullah, Narayangonj, Bangladesh	X	X	X	X	X	X	X	X
BD	Hohenstein Institute Bangladesh 25/35, Sunmar RL Park View, Flat No-B3. Zakir Hossain Road, Khulshi Chittagong-4225, Bangladesh	X	X	X	X	X	X	X	X
BD	Hohenstein Institute Bangladesh House no. 343, Road no. 25, New DOHS, Mohakhali, 1206 Dhaka, Bangladesh	X	X	X	X	X	X	X	X
BE	CENTEXBEL Technologiepark 7, 9052 Zwijnaarde, Belgium	X	X	X	X	X	X	X	X
BG	Hohenstein Institute Bulgaria 3 Golo Bardo str., app.1, 1407 Sofia, Bulgaria	X	X	X	X	X	X	X	X
BR	CITEVE Brasil Prestação de Serviços Lda. Avenida Angélica, 321, Higienópolis, São Paulo – SP, CEP 01227 – 000 Brazil, Brazil	X	X	X	X	X	X	X	X
BY	Hohenstein Institute Belarus Pritytskogo str, 112-70, 220017 Minsk, Belarus	X	X	X	X	X	X	X	X
CA	TESTEX Swiss Textile-Testing Ltd. #3, 15243 91 Avenue, Surrey, BC V3R 8P8, Canada	X	X	X	X	X	X	X	X
CH	TESTEX AG, Swiss Textile Testing Institute Gotthardstrasse 61, Postfach 2156, 8027 Zürich, Switzerland	X	X	X	X	X	X	X	X

Annex 1 – OEKO-TEX® Institutes

	OEKO-TEX® Institute	STANDARD 100	GMO Test	LEATHER STANDARD	ECO PASSPORT	STeP	DETOX TO ZERO	MADE IN GREEN	My STeP
CL	CITEVE Chile Alfredo Barros Errazuriz 1954, of 702, Providencia, Santiago, Chile	X	X	X	X	X	X	X	X
CN	TESTEX Swiss Textile-Testing Ltd. 1318, 13F, Hitech Plaza, 831 Changshou Road, 200 042 Shanghai, China	X	X	X	X	X	X	X	X
CN	TESTEX Swiss Textile-Testing Ltd. Unit 2, 16A, Tower A, Xihuan Plaza, No.6 Gaoliangqiao Road, Xicheng District, 100 044 Beijing, China	X	X	X	X	X	X	X	X
CO	Hohenstein Institute Colombia Cra 15 N. 91-30, Bogotá D.C., Colombia	X	X	X	X	X	X	X	X
CZ	OETI Czechia - Institute for Ecology Těšnov 5, 110 00 Praha 1, Czech Republic	X	X	X	X	X	X	X	X
DE	Deutsches Textilforschungsinstitut Nord-West ÖP GmbH Adlerstrasse 1, 47798 Krefeld, Germany	X	–	–	–	–	–	–	–
DE	Forschungsinstitut für Leder und Kunststoffbahnen FILK Meißner Ring 1-5, 09599 Freiberg, Germany	X ¹	–	X	X	–	–	–	–
DE	HOHENSTEIN Textile Testing Institute GmbH & Co. KG Schlosssteige 1, 74357 Bönnigheim, Germany	X	X	X	X	X	X	X	X
DE	Prüf- und Forschungsinstitut Pirmasens e.V. Marie-Curie-Str. 19, 66953 Pirmasens, Germany	X ¹	–	X	X	–	–	–	–
DE	Sächsisches Textilforschungsinstitut e.V. Annaberger Str. 240, 09125 Chemnitz, Germany	X	–	–	–	–	–	–	–
DE	Umweltlabor ACB GmbH Albrecht-Thaer-Strasse 14, 48147 Münster, Germany	X	X	–	–	–	–	–	–
DK	DTI Tekstil Teknologisk Institut Gregersensvej, 2630 Taastrup, Denmark	X	–	–	X	X	X	X	X
DO	Hohenstein Institute Dominican Republic Calle 3 Esq. 18A, Residencial FG16, Cerro Hermoso, Santiago, Dominican Republic	X	X	X	X	X	X	X	X
EC	Hohenstein Institute Ecuador Calle 24 de mayo N 18 y García Moreno, Quito, Ecuador	X	X	X	X	X	X	X	X

¹ Certification without consideration of classic textile garments

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	OEKO-TEX® Institute	STANDARD 100	GMO Test	LEATHER STANDARD	ECO PASSPORT	STeP	DETOX TO ZERO	MADE IN GREEN	My STeP
EG	OETI Egypt 24 El Atebaa St., Dokki, Giza, Egypt	X	X	X	X	X	X	X	X
ES	AITEX Instituto Tecnológico Textil Plaza Emilio Sala, 1, 03801 Alcoy (Alicante) España, Spain	X	X	X	X	X	X	X	X
ET	Hohenstein Institute Ethiopia E-Mail: Ethiopia@hohenstein.com	X	X	X	X	X	X	X	X
FR	IFTH Institut Français du Textile et de l'Habillement Avenue Guy de Collongue, 69134 Ecully Cédex, France	X	X	X	X	X	X	X	X
GR	MIRTEC S.A. (CLOTEFI – Athens Division) Eleftheriou Venizelou 4, 17676 Kallithea, Athens, Greece	X	–	–	–	–	–	–	–
GT	Hohenstein Institute Guatemala Carretera al Salvador, Km 22.3, Portal del Bosque III, apto. 3C, Guatemala, Guatemala	X	X	X	X	X	X	X	X
HK	TESTEX Swiss Textile-Testing Ltd. Unit 617, Peninsula Centre, 67 Mody Road, Tsim Sha Tsui East, Kowloon, Hongkong	X	X	X	X	X	X	X	X
HN	Hohenstein Institute Honduras ZIP Buena Vista Nave J1, Villanueva, Cortés, Honduras	X	X	X	X	X	X	X	X
HU	INNOVATEX Textile Engineering and Testing Institute Co. Gyömri út 86, 1103 Budapest, Hungary	X	–	–	–	X	X	X	X
ID	PT. TESTEX Testing and Certification Graha KADIN Bandung, 4th Floor, Room 401, Jl. Talaga Bodas No. 31, 40262 Bandung, Indonesia	X	X	X	X	X	X	X	X
ID	PT. TESTEX Testing and Certification Sona Topas Tower, 6th Floor, Jl. Jend Sudirman Kav 26, 12920 Jakarta, Indonesia	X	X	X	X	X	X	X	X
IE	TESTEX Swiss Textile-Testing 4th Floor, The Tower, Trinity Enterprise Campus, Grand Canal Quay, Dublin 2, Ireland	X	X	X	X	X	X	X	X
IL	OETI - Institute for Ecology, Technology and Innovation Kibbutz Reim, 8513200 Israel, Israel	X	X	X	X	X	X	X	X

Annex 1 – OEKO-TEX® Institutes

	OEKO-TEX® Institute	STANDARD 100	GMO Test	LEATHER STANDARD	ECO PASSPORT	STeP	DETOX TO ZERO	MADE IN GREEN	My STeP
IN	Hohenstein India Pvt. Ltd. Delhi Office GK Tower, Plot No-33, Udyog Vihar, Phase – IV, Gurugram, Haryana – 122015, Haryana, India	X	X	X	X	X	X	X	X
IN	Hohenstein India Pvt. Ltd. Mumbai Office Office No. 131, 3rd Floor, Building No. 1, Solitaire Corporate Park, Guru Hargovinji Marg, Andheri-Ghatkopar Link Road, Andheri (E), 400 093 Mumbai, India	X	X	X	X	X	X	X	X
IN	Hohenstein India Pvt. Ltd. 604-B, Regency Plaza, Above Gloria Restaurant, Near Madhur Hall, Anand Nagar Cross Roads, 100 Feet Road, Satellite, 380015 Ahmedabad, India	X	X	X	X	X	X	X	X
IN	Hohenstein India Pvt. Ltd. Sri Sai Supra House, Plot No.9, Annamalai Avenue, Nehru Nagar-East, Civil Aerodome-Post, 641014 Coimbatore - Tamilnadu, India	X	X	X	X	X	X	X	X
IR	OETI - Institute for Ecology, Technology and Innovation Unit 19, No 54, Hayamanesh Ave., Shahid Kaboli St., Seyed Khandan, 1631679111 Tehran, Iran	X	X	X	X	X	X	X	X
IT	CENTRO TESSILE COTONIERO E ABBIGLIAMENTO S.p.A. Piazza Sant' Anna 2, 21052 Busto Arsizio VA, Italy	X	X	X	X	X	X	X	X
IT	OETI Italy Institute for Ecology Zona industriale 4, 39030 Gais (BZ), Italy	X	X	X	X	X	X	X	X
JP	Nissenken Quality Evaluation Center OEKO-TEX® Laboratory, 2-16-11 Kuramae, Taito-ku, 111-0051 Tokyo, Japan	X	–	–	X	X	X	X	X
KE	Shirley Technologies Ltd. 17th Floor, ICEA Building (opposite Stanley Hotel), Kenyatta Avenue, PO Box 15168-00400, Nairobi, Kenya	X	X	X	X	X	X	X	X
KH	Hohenstein Institute Cambodia Legacy Business Center 11F, No. 29, Mao Tse Toung Blvd, Phnom Penh 12311, Cambodia	X	X	X	X	X	X	X	X
KR	TESTEX Swiss Textile-Testing Ltd. 4FI, SeokCheon Building, 542, Samseong-Ro, Gangnam-Gu, Seoul, 06166, Korea, South	X	X	X	X	X	X	X	X

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	OEKO-TEX® Institute	STANDARD 100	GMO Test	LEATHER STANDARD	ECO PASSPORT	STeP	DETOX TO ZERO	MADE IN GREEN	My STeP
LA	Hohenstein Institute Laos Khamsavath Village, Xaysetha District, Vientiane Capital, Laos	X	X	X	X	X	X	X	X
LK	Hohenstein Institute Sri Lanka No 186-2/1, 2nd Floor, Galle Road, Kollupitya, Hill Street, Dehiwela, Colombo - SRI LANKA, Sri Lanka	X	X	X	X	X	X	X	X
LT	AITEX Lithuania Vytauto av. 32- 311, 44328 Kaunas, Lithuania	X	X	X	X	X	X	X	X
MA	OETI - Institute for Ecology, Technology and Innovation Boulevard IBN SINA, Imm B9 Apt 182, MAARIF, 20190 Casablanca, Morocco	X	X	X	X	X	X	X	X
MD	OETI Moldova Str. Alexe Mateevici 84/1, 2009 Chisinau, Moldova	X	X	X	X	X	X	X	X
MK	OETI - Austrian Textile Research Company Ltd. Naroden Front 23/4/2, 1000 Skopje, Macedonia	X	X	X	X	X	X	X	X
MM	Hohenstein Institute Myanmar Building No. A2, Room No. 302, 48 quarters, Bo Bahtoo Road, Bo Bahtoo Housing, North Dagon, Yangon, Burma, Myanmar	X	X	X	X	X	X	X	X
MX	Hohenstein Institute Mexico Picagregos No. 154 Bis, Col. Lomas de Las Aguilas, Deleg. Alvaro Obregón, 01730 Mexico, D.F., Mexico	X	X	X	X	X	X	X	X
MY	TESTEX Swiss Textile-Testing Ltd. S-12-08, 12th Floor, South Block Office Tower, First Subang, Jalan SS 15/4G, 47500 Subang Jaya, Selangor Ehsan, Malaysia	X	X	X	X	X	X	X	X
NO	Swerea IVF AB Sandakerveien 24 C, Bygg B, P.O. Box 4682 Nydalen, 0405 Oslo, Norway	X	–	–	X	X	X	X	X
NZ	TESTEX Swiss Textile-Testing Ltd. 2 Waikohua Place, 0116 Ruakaka, New Zealand	X	X	X	X	X	X	X	X
PE	Hohenstein Institute Peru Jr. El Cascajal 522-C, Las Casuarinas de Monterrico, Surco, Lima, Peru	X	X	X	X	X	X	X	X
PH	TESTEX Philippines Representative Office 1504A Richville Corporate Tower, 1107 Alabang-Zapote Road, Madrigal Business Park, Alabang, Muntinlupa City, Metro Manila, Philippines	X	X	X	X	X	X	X	X

Annex 1 – OEKO-TEX® Institutes

	OEKO-TEX® Institute	STANDARD 100	GMO Test	LEATHER STANDARD	ECO PASSPORT	STeP	DETOX TO ZERO	MADE IN GREEN	My STeP
PK	AITEX Pakistan 4-D, Aziz Avenue, Justice Sardar Iqbal Road, Gulberg V, Lahore, Pakistan	X	X	X	X	X	X	X	X
PL	Instytut Włókiennictwa ul. Brzezińska 5/15, 92-103 Łódź, Poland	X	–	X	X	X	X	X	X
PT	CITEVE Centro Tecnológico das Indústrias Têxtil Rua Fernando Mesquita, 2785, 4760-034 Vila Nova de Famalicão, Portugal	X	X	X	X	X	X	X	X
RO	Hohenstein Institute Romania Str. Magheranului nr. 80, 550125 Sibiu, Romania	X	X	X	X	X	X	X	X
RS	OETI Serbia Nedeljka Cabrinovica 64/45, 11030 Belgrade Serbia, Serbia	X	X	X	X	X	X	X	X
RU	Hohenstein Institute RUS ul. Bolshaya Dmitrovka d. 32, c 1, Office 307, 125 009 Moskau, Russia	X	X	X	X	X	X	X	X
SE	RISE IVF AB Argongatan 30, Box 104, 43122 Mölndal, Sweden	X	–	–	X	X	X	X	X
SG	Shirley Technologies Ltd. 18 Boon Lay Way, #07-147, Trade Hub 21, 609966 Singapore, Singapore	X	X	X	X	X	X	X	X
SK	VÚTCH-CHEMITEX, spol. s r.o. Rybnyky 954, P.O. Box B-78, 01168 Žilina, Slovakia	X	–	X	–	–	–	–	–
SV	Hohenstein Institute El Salvador 52 Avenida Norte 416, Urbanización Lourdes Oriente, San Salvador, El Salvador	X	X	X	X	X	X	X	X
TH	Hohenstein (Thailand) Co., Ltd. 801/301 (3rd Floor), Moo 8, Phaholyothin Rd., T. Kukhot, Lumlookkar, 12130 Pathum Thani, Thailand	X	X	X	X	X	X	X	X
TN	CITEVE Tunisie Immeuble Chraka Escalier B1er Etage, 5000 Monastir, Tunisia	X	X	X	X	X	X	X	X
TR	Hohenstein Istanbul Tekstil Analiz ve Kontrol Hizmetleri Ltd. Tekstil Analiz ve Kontrol Hizmetleri Ltd. Şti., Cumhuriyet Mah. 1990. Sok. No. 8, Çınarpark Residence, A Blok, Dükkan: 5, 34515 Esenyurt, Istanbul, Turkey	X	X	X	X	X	X	X	X
TR	OETI Türkiye Institute for Ecology Hakki Yeten Cad. selenium Plaza No:10/C Kat:5-6, 34349 Fulya-Besiktas/ Istanbul, Turkey	X	X	X	X	X	X	X	X

Annex 1 – OEKO-TEX® Institutes

	OEKO-TEX® Institute	STANDARD 100	GMO Test	LEATHER STANDARD	ECO PASSPORT	STeP	DETOX TO ZERO	MADE IN GREEN	My STeP
TW	TESTEX Swiss Textile-Testing Ltd. Rm. 5, 20F., No. 77, Section 2, Dunhua S. Road, Da'an District, 10682 Taipei City, Taiwan	X	X	X	X	X	X	X	X
TZ	Hohenstein Instiute Tanzania NAZARETH V61-261-1, Njombe, Njombe, Tanzania	X	X	X	X	X	X	X	X
UA	OETI - Institute for Ecology, Technology and Innovation Sheremety str.2, second floor, office No 1, 76018 Ivano Frankivsk, Ukraine	X	X	X	X	X	X	X	X
UK	Shirley Technologies Ltd. Unit 11, Westpoint Enterprise Park, Clarence Avenue, Trafford Park, M17 1QS Manchester, United Kingdom	X	X	X	X	X	X	X	X
US	Hohenstein Institute America, Inc. 317 S. Cavin Street, IN 46767 Ligonier, United States	X	X	X	X	X	X	X	X
UZ	Hohenstein Institute Uzbekistan Zarafschon Str. 17, 100047 Taschkent, Uzbekistan	X	X	X	X	X	X	X	X
VN	Hohenstein Institute Vietnam 69/1 Pham Phu Thu, Phuong 11, Quan Tan Binh, Ho Chi Minh City, Vietnam	X	X	X	X	X	X	X	X
ZA	CSIR National Fibre Textile and Clothing Centre P.O. Box 1124, 6000 Port Elizabeth, South Africa	X	-	-	-	-	-	-	-

The official secretariat of the International Association for Research and Testing in the Field of Textile and Leather Ecology (OEKO-TEX®) can be contacted at the following address:

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 info@oeko-tex.com
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Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
1. ALKYLPHENOLS (AP'S) / ALKYLPHENOETHOXYLATES (APEO'S) (NON EXHAUSTIVE LIST)			
Nonylphenol (n-nonyl and iso-nonyl)	Various 11066-49-2 25154-52-3 104-40-5 90481-04-2 84852-15-3	1 µg/l	0.2 mg/kg
Octylphenol (n-octyl and iso-octyl)	Various 140-66-9 27193-28-8 1806-26-4		
Heptylphenol (branched and linear)	Various		
Pentylphenol (branched and linear)	Various		
Nonylphenoethoxylates (NPEO) (n-nonyl and iso-nonyl)	Various 9016-45-9 26027-38-3 68412-54-4 127087-87-0 37205-87-1		
Octylphenoethoxylates (OPEO) (n-octyl and iso-octyl)	Various 9002-93-1 9036-19-5 68987-90-6		
2. PHTHALATES			
Benzylbutylphthalate (BBP)	85-68-7	1 µg/l	0.3 mg/kg
Dibutylphthalate (DBP)	84-74-2		
Diethylphthalate (DEP)	84-66-2		
Dimethylphthalate (DMP)	131-11-3		
Di-(2-ethylhexyl)phthalate (DEHP)	117-81-7		
Di-(2-methoxyethyl)phthalate (DMEP)	117-82-8		
Di-C6-8-branched alkylphthalates, C7-rich (DIHP)	71888-89-6	best current testing technology with corresponding detection limit	best current testing technology with corresponding detection limit
Di-C7-11-branched and linear alkylphthalates (DHNUP)	68515-42-4	1 µg/l	0.3 mg/kg

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
Dicyclohexylphthalate (DCHP)	84-61-7	1 µg/l	0.3 mg/kg
Dihexylphthalates, branched and linear (DHxP)	68515-50-4		
Di-iso-butylphthalate (DIBP)	84-69-5		
Di-iso-hexylphthalate (DIHxP)	71850-09-4		
Di-iso-octylphthalate (DIOP)	27554-26-3		
Di-iso-nonylphthalate (DINP)	28553-12-0		
	68515-48-0		
Di-iso-decylphthalate (DiDP)	26761-40-0		
	68515-49-1		
Di-n-propylphthalate (DPP)	131-16-8		
Di-n-hexylphthalate (DHP)	84-75-3		
Di-n-octylphthalate (DNOP)	117-84-0		
Di-n-nonylphthalate (DNP)	84-76-4		
Di-n-pentylphthalate (DPP)	131-18-0		
Di-iso-pentylphthalate (DPP)	605-50-5		
Iso-pentyl-n-pentylphthalate (DPP)	776297-69-9		
Dipentylphthalate, branched and linear (DPP)	84777-06-0		
3. BROMINATED, CHLORINATED AND OTHER FLAME RETARDANTS			
Polybromobiphenyls (PBBs)	59536-65-1	0.05 µg/l	0.03 mg/kg
Monobromobiphenyls (MonoBB)	Various		
Dibromobiphenyls (DiBB)	Various		
Tribromobiphenyls (TriBB)	Various		
Tetrabromobiphenyls (TetraBB)	Various		
Pentabromobiphenyls (PentaBB)	Various		
Hexabromobiphenyls (HexaBB)	Various		
Heptabromobiphenyls (HeptaBB)	Various		
Octabromobiphenyls (OctaBB)	Various		
Nonabromobiphenyls (NonaBB)	Various		
Decabromobiphenyl (DecaBB)	13654-09-6		
Polybrominated diphenyl ethers (PBDEs)	Various		
Monobromodiphenylethers (MonoBDEs)	Various		
Dibromodiphenylethers (DiBDEs)	Various		
Tribromodiphenylethers (TriBDEs)	Various		
Tetrabromodiphenylethers (TetraBDEs)	Various 40088-47-9		

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
Pentabromodiphenylethers (PentaBDEs)	Various 32534-81-9	0.05 µg/l	0.03 mg/kg
Hexabromodiphenylethers (HexaBDEs)	Various 36483-60-0		
Heptabromodiphenylethers (HeptaBDEs)	Various 68928-80-3		
Octabromodiphenylethers (OctaBDEs)	Various 32536-52-0		
Nonabromodiphenylethers (NonaBDEs)	Various 63936-56-1		
Decabromodiphenylether (DecaBDE)	1163-19-5		
Tri-(2,3-dibromopropyl)phosphate (TRIS)	126-72-7	0.5 µg/l	0.25 mg/kg
Tris(2-chlorethyl)phosphate (TCEP)	115-96-8	0.05 µg/l	
Hexabromocyclododecane (HBCDD) and all main diastereomeres identified (alpha-, beta-, gamma-)	3194-55-6 134237-50-6 134237-51-7 134237-52-8 25637-99-4	0.5 µg/l	0.25 mg/kg
Tetrabromo-bisphenol A (TBBA)	79-94-7	0.5 µg/l	0.25 mg/kg
Bis(2,3-dibromopropyl)phosphate (BIS)	5412-25-9		
Other Flame retardants			
Tris(1,3-dichlorisopropyl)phosphat (TDCPP)	13674-87-8	0.5 µg/l	0.25 mg/kg
Tris-(aziridinyl)-phosphin oxide (TEPA)	545-55-1		
Boric acid	10043-35-3 11113-50-1		
Diboron trioxide	1303-86-2		
Disodium tetraborate, anhydrous	1303-96-4		
	1330-43-4		
	12179-04-3		
Disodium octaborate	12008-41-2		
Tetraboron disodium heptaoxide, hydrate	12267-73-1		
Flame retardants which contain toxic metals like antimony or arsenic	Various		
Antimony trioxide	1309-64-4		
Antimony pentoxide	1314-60-9		

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
Tri-o-cresyl phosphate	78-30-8	0.5 µg/l	0.25 mg/kg
Trixylyl phosphate	25155-23-1		
4. HAZARDOUS DYES (BANNED AZO, ALLERGENIC, CARCINOGENIC)			
Arylamines (released from Azo colorants or in free manner)			
4-Aminobiphenyl; 4-Aminodiphenyl	92-67-1	0.01 µg/l	0.01 mg/kg
Benzidine	92-87-5		
4-Chloro-o-toluidine	95-69-2		
2-Naphthylamine	91-59-8		
o-Aminoazotoluene	97-56-3		
2-Amino-4-nitrotoluene	99-55-8		
4-Chloroaniline	106-47-8		
2,4-Diaminoanisole	615-05-4		
4,4'-Diaminodiphenylmethane	101-77-9		
3,3'-Dichlorobenzidine	91-94-1		
3,3'-Dimethoxybenzidine	119-90-4		
3,3'-Dimethylbenzidine	119-93-7		
4,4'-Methylenedi-o-toluidine	838-88-0		
p-Cresidine; 6-Methoxy-m-toluidine	120-71-8		
4,4'-Methylene-bis-(2-chloroaniline)	101-14-4		
4,4'-Oxydianiline	101-80-4		
4,4'-Thiodianiline	139-65-1		
o-Toluidine	95-53-4		
2,4-Toluyldiamine	95-80-7		
2,4,5-Trimethylaniline	137-17-7		
o-Anisidine (2-Methoxyaniline)	90-04-0		
4-Aminoazobenzene	60-09-3		
2,4-Xylidine	95-68-1		
2,6-Xylidine	87-62-7		
Hazardous Colorants (Carcinogenic, Allergenic, or banned for other reasons)			
C.I. Acid Red 26 (C.I. 16150)	3761-53-3	0.1 µg/l	0.1 mg/kg
C.I. Acid Red 114	6459-94-5		
C.I. Acid Violet 49	1694-09-3		
C.I. Basic Blue 26	2580-56-5		
C.I. Basic Red 9 (C.I. 42500)	569-61-9		

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
C.I. Basic Violet 1	8004-87-3	0.1 µg/l	0.1 mg/kg
C.I. Basic Violet 14 (C.I. 42510)	632-99-5		
C.I. Direct Black 38 (C.I. 30235)	1937-37-7		
C.I. Direct Blue 6 (C.I. 22610)	2602-46-2		
C.I. Direct Blue 15	2429-74-5		
C.I. Direct Blue 218	28407-37-6		
C.I. Direct Brown 95	16071-86-6		
C.I. Direct Red 28 (C.I. 22120)	573-58-0		
C.I. Disperse Blue 1 (C.I. 64500)	2475-45-8		
C.I. Disperse Blue 3 (C.I. 61505)	2475-46-9		
C.I. Disperse Blue 7 (C.I. 62500)	3179-90-6		
C.I. Disperse Blue 26 (C.I. 63305)	3860-63-7		
C.I. Disperse Blue 35 (mixture)	12222-75-2		
C.I. Disperse Blue 35 (Component 1)	56524-77-7		
C.I. Disperse Blue 35 (Component 2)	56524-76-6		
C.I. Disperse Blue 102	12222-97-8		
C.I. Disperse Blue 106	12223-01-7		
C.I. Disperse Blue 124	61951-51-7		
C.I. Disperse Brown 1	23355-64-8		
C.I. Disperse Orange 1 (C.I. 11080)	2581-69-3		
C.I. Disperse Orange 3 (C.I. 11005)	730-40-5		
C.I. Disperse Orange 11 (C.I. 60700)	82-28-0		
C.I. Disperse Orange 37 (= 59 / =76) (C.I. 11132)	13301-61-6		
C.I. Disperse Orange 149	85136-74-9		
C.I. Disperse Red 1 (C.I. 11110)	2872-52-8		
C.I. Disperse Red 11 (C.I. 62015)	2872-48-2		
C.I. Disperse Red 17 (C.I. 11210)	3179-89-3		
C.I. Disperse Yellow 1 (C.I. 10345)	119-15-3		
C.I. Disperse Yellow 3 (C.I. 11855)	2832-40-8		
C.I. Disperse Yellow 9 (C.I. 10375)	6373-73-5		
C.I. Disperse Yellow 23 (C.I. 26070)	6250-23-3		
C.I. Disperse Yellow 39	12236-29-2		
C.I. Disperse Yellow 49	54824-37-2		
C.I. Pigment Red 104 (Lead chromate molybdate sulphate red, C.I. 77605)	12656-85-8	covered by group 11	covered by group 11

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
C.I. Pigment Yellow 34 (Lead sulfochromate yellow; C.I. 77603)	1344-37-2	covered by group 11	covered by group 11
C.I. Solvent Yellow 1 (4-Aminoazobenzene (pure); Aniline Yellow)	60-09-3	0.1 µg/l	0.1 mg/kg
C.I. Solvent Yellow 2 (C.I. 11020)	60-11-7		
C.I. Solvent Yellow 3 (o-Aminoazotoluene (pure))	97-56-3		
C.I. Solvent Yellow 14	842-07-9		
5. ORGANOTIN COMPOUNDS			
Dibutyltin (DBT)	Various 683-18-1	best current testing technology with corresponding detection limit	best current testing technology with corresponding detection limit
Dibutyltin hydrogen borate	75113-37-0	0.1 µg/l	0.1 mg/kg
Dioctyltin (DOT)	Various		
Diphenyltin (DPHT)	Various 1011-95-6		
Monobutyltin (MBT)	Various	best current testing technology with corresponding detection limit	best current testing technology with corresponding detection limit
Monooctyltin (MOT)	Various	0.1 µg/l	0.1 mg/kg
Tetrabutyltin (TeBT)	1461-25-2	best current testing technology with corresponding detection limit	best current testing technology with corresponding detection limit
Tetraethyltin (TeET)	597-64-8	0.1 µg/l	0.1 mg/kg
Tributyltin (TBT)	Various	best current testing technology with corresponding detection limit	best current testing technology with corresponding detection limit
Bis(tributyltin) oxide (TBTO)	56-35-9	0.1 µg/l	0.1 mg/kg
Tricyclohexyltin (TCyHT)	Various		
Triphenyltin (TPhT)	Various 668-34-8		
Tripropyltin (TPT)	Various		
6. PFC'S , PER- AND POLYFLUORINATED COMPOUNDS			
Perfluorooctane sulfonic acid and sulfonates (PFOS)	Various 1763-23-1	0.01 µg/l	0.001 mg/kg
Perfluorooctane sulfonamide (PFOSA)	754-91-6	0.1 µg/l	0.01 mg/kg
Perfluorooctane sulfonyl fluoride (PFOSF/POSF)	307-35-7	0.01 µg/l	0.001 mg/kg
N-Methyl perfluorooctane sulfonamide (N-Me-FOSA)	31506-32-8	0.1 µg/l	0.01 mg/kg
N-Ethyl perfluorooctane sulfonamide (N-Et-FOSA)	4151-50-2		

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
N-Methyl perfluorooctane sulfonamide ethanol (N-Me-FOSE)	24448-09-7	0.1 µg/l	0.01 mg/kg
N-Ethyl perfluorooctane sulfonamide ethanol (N-Et-FOSE)	1691-99-2		
Perfluoroheptanoic acid (PFHpA) and salts	Various 375-85-9	0.01 µg/l	0.001 mg/kg
Perfluorooctanoic acid (PFOA) and salts	Various 335-67-1		
Perfluorononanoic acid (PFNA) and salts	Various 375-95-1		
Perfluorodecanoic acid (PFDA) and salts	Various 335-76-2		
Henicosafuoroundecanoic acid (Perfluoroundecanoic acid; PFUdA) and salts	Various 2058-94-8		
Tricosafuorododecanoic acid (Perfluorododecanoic acid; PFDoA) and salts	Various 307-55-1		
Pentacosafuorotridecanoic acid (Perfluorotridecanoic acid; PF-TrDA) and salts	Various 72629-94-8		
Heptacosafuorotetradecanoic acid (Perfluorotetradecanoic Acid; PFTeDA) and salts	Various 376-06-7		
Perfluorobutanoic acid (PFBA) and salts	Various 375-22-4		
Perfluoropentanoic acid (PFPeA) and salts	Various 2706-90-3		
Perfluorohexanoic acid (PFHxA) and salts	Various 307-24-4		
Perfluoro(3,7-dimethyloctanoic acid) (PF-3,7-DMOA) and salts	Various 172155-07-6		
Perfluorobutane sulfonic acid (PFBS) and salts	Various 375-73-5 59933-66-3		
Perfluorohexane sulfonic acid (PFHxS) and salts	Various 355-46-4		
Perfluoroheptane sulfonic acid (PFHpS) and salts	Various 375-92-8		

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge		
Henicosfluorodecane sulfonic acid (Perfluorodecane sulfonic acid, PFDS) and salts	Various	0.01 µg/l	0.001 mg/kg		
	335-77-3	0.1 µg/l	0.01 mg/kg		
7H-Perfluoroheptanoic acid (7HPFHpA) and salts	Various 1546-95-8	0.01 µg/l	0.001 mg/kg		
2H,2H,3H,3H-Perfluoroundecanoic acid (4HPFUnA) and salts	Various 34598-33-9				
1H,1H,2H,2H-Perfluorooctane sulfonic acid (1H,1H,2H,2H-PFOS) and salts	Various 27619-97-2				
1H,1H,2H,2H-Perfluoro-1-hexanol (4:2 FTOH)	2043-47-2	0.1 µg/l	0.01 mg/kg		
1H,1H,2H,2H-Perfluoro-1-octanol (6:2 FTOH)	647-42-7				
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7				
1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2 FTOH)	865-86-1				
1H,1H,2H,2H-Perfluorooctylacrylate (6:2 FTA)	17527-29-6				
1H,1H,2H,2H-Perfluorodecylacrylate (8:2 FTA)	27905-45-9				
1H,1H,2H,2H-Perfluorododecylacrylate (10:2 FTA)	17741-60-5				
7. CHLOROBENZENES AND CHLOROTOLUENES					
Chlorobenzene	108-90-7	0.02 µg/l	0.01 mg/kg		
Dichlorobenzenes	25321-22-6				
1,2-Dichlorobenzene	95-50-1				
1,3-Dichlorobenzene	541-73-1				
1,4-Dichlorobenzene	106-46-7				
Trichlorobenzenes	12002-48-1				
1,2,3-Trichlorobenzene	87-61-6				
1,2,4-Trichlorobenzene	120-82-1				
1,3,5-Trichlorobenzene	108-70-3				
Tetrachlorobenzenes	12408-10-5				
1,2,3,4-Tetrachlorobenzene	634-66-2				
1,2,3,5-Tetrachlorobenzene	634-90-2				
1,2,4,5-Tetrachlorobenzene	95-94-3				
Pentachlorobenzenes	608-93-5				
Hexachlorobenzene	118-74-1				
Chlorinated Toluenes (as solvents/biocides, from dyes production, Chemical intermediates, Antifelting)					
Chlorotoluenes	Various			0.02 µg/l	0.01 mg/kg
2-Chlorotoluene	95-49-8				

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
3-Chlorotoluene	108-41-8	0.02 µg/l	0.01 mg/kg
4-Chlorotoluene	106-43-4		
Dichlorotoluenes	Various		
2,3-Dichlorotoluene	32768-54-0		
2,4-Dichlorotoluene	95-73-8		
2,5-Dichlorotoluene	19398-61-9		
2,6-Dichlorotoluene	118-69-4		
3,4-Dichlorotoluene	95-75-0		
Trichlorotoluenes	Various		
2,3,6-Trichlorotoluene	2077-46-5		
2,4,5-Trichlorotoluene	6639-30-1		
alpha, alpha, alpha-Trichlorotoluene	98-07-7		
alpha,2,4-Trichlorotoluene	94-99-5		
alpha,2,6-Trichlorotoluene	2014-83-7		
alpha,3,4-Trichlorotoluene	102-47-6		
Tetrachlorotoluenes	Various		
alpha,alpha,2,6-Tetrachlorotoluene	81-19-6		
alpha,alpha,alpha,2-Tetrachlorotoluene	2136-89-2		
alpha,alpha,alpha,4-Tetrachlorotoluene	5216-25-1		
2,3,4,5,6-Pentachlorotoluene	877-11-2		
8. CHLORINATED AND OTHER SOLVENTS			
Dichloromethane	75-09-2	1 µg/l	0.3 mg/kg
Trichloromethane (Chloroform)	67-66-3		
Tetrachloromethane (Carbontetrachloride)	56-23-5		
Chlorinated ethanes and ethenes	Various		
1,1-Dichloroethane	75-34-3		
1,2-Dichloroethane	107-06-2		
1,1,1-Trichloroethane	71-55-6		
1,1,2-Trichloroethane	79-00-5		
1,1,1,2-Tetrachloroethane	630-20-6		
1,1,2,2-Tetrachloroethane	79-34-5		
Pentachloroethane	76-01-7		
1,1-Dichloroethylene	75-35-4		
	540-59-0		
1,2-Dichloroethylene, cis and trans	156-60-5		
	156-59-2		

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
Trichloroethylene	79-01-6	1 µg/l	0.3 mg/kg
Tetrachloroethylene	127-18-4		
1,2,3-Trichloropropane	96-18-4		
Hexachlorobutadiene	87-68-3		
Other VOCs			
Methyl-ethyl ketone	78-93-3	1 µg/l	0.1 mg/kg
Ethylbenzene	100-41-4		
Xylene	1330-20-7		
o-Xylene	95-47-6		
m-Xylene	108-38-3		
p-Xylene	106-42-3		
Cyclohexanone	108-94-1		2 mg/kg
2-Ethoxyethyl acetate	111-15-9		10 mg/kg
Acetophenone	98-86-2		0.1 mg/kg
2-Phenyl-2-propanol	617-94-7		20 mg/kg
Bis(2-methoxyethyl) ether	111-96-6		0.1 mg/kg
Styrene	100-42-5		50 mg/kg
Benzene	71-43-2		
Toluene	108-88-3		
1-Methyl-2-pyrrolidone (NMP)	872-50-4		
N,N-Dimethylacetamide (DMAc)	127-19-5		20 mg/kg
N,N-Dimethylformamide (DMF)	68-12-2	0.1 mg/kg	
2-Ethoxyethanol	110-80-5	50 µg/l	–
Ethylene glycol dimethyl ether (EGDME)	110-71-4		–
2-Methoxyethanol	109-86-4		–
2-Methoxyethylacetate	110-49-6		–
2-Methoxypropylacetate	70657-70-4		–
Phenol	108-95-2		–
Formamide	75-12-7		1 µg/l
9. CHLOROPHENOLS			
Pentachlorophenol (PCP)	87-86-5	0.5 µg/l	0.025 mg/kg
Tetrachlorophenol (TeCP)	25167-83-3		
2,3,4,5-Tetrachlorophenol	4901-51-3		
2,3,4,6-Tetrachlorophenol	58-90-2		
2,3,5,6-Tetrachlorophenol	935-95-5		

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
Trichlorophenol (TrCP)	25167-82-2	0.5 µg/l	0.025 mg/kg
2,3,4-Trichlorophenol	15950-66-0		
2,3,5-Trichlorophenol	933-78-8		
2,3,6-Trichlorophenol	933-75-5		
2,4,5-Trichlorophenol	95-95-4		
2,4,6-Trichlorophenol	88-06-2		
3,4,5-Trichlorophenol	609-19-8		
Dichlorophenols (DiCP)	25167-81-1		
2,3-Dichlorophenol	576-24-9		
2,4-Dichlorophenol	120-83-2		
2,5-Dichlorophenol	583-78-8		
2,6-Dichlorophenol	87-65-0		
3,4-Dichlorophenol	95-77-2		
3,5-Dichlorophenol	591-35-5		
Monochlorophenols (MCP)	Various		
2-Chlorophenol	95-57-8		
3-Chlorophenol	108-43-0		
4-Chlorophenol	106-48-9		
Salts and Esters from the above mentioned Chlorophenols	Various		
10. CHLORINATED PARAFFINS			
Short-chain chlorinated paraffins (SCCP), C10-13	85535-84-8	0.4 µg/l	0.03 mg/kg
Medium-chain chlorinated paraffins (MCCP), C14-17	85535-85-9		
11. HEAVY METALS AND THEIR COMPOUNDS			
Antimony (Sb)	7440-36-0	1 µg/l	1 mg/kg
Arsenic (As)	7440-38-2		
Lead (Pb)	7439-92-1		
Cadmium (Cd)	7440-43-9	0.1 µg/l	
Chromium (Cr)	7440-47-3	1 µg/l	
Cr(VI)	18540-29-9		
Cobalt (Co)	7440-48-4		
Copper (Cu)	7440-50-8		
Nickel (Ni)	7440-02-0	0.05 µg/l	
Mercury (Hg)	7439-97-6		
Zinc (Zn)	7440-66-6		
Manganese (Mn)	7439-96-5	1 µg/l	4 mg/kg
			1 mg/kg

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge	
12. POLYCYCLIC AROMATIC HYDROCAROBENS (PAH'S)				
Acenaphthene	83-32-9	1 µg/l	0.6 mg/kg	
Acenaphthylene	208-96-8			
Anthracene	120-12-7			
Benzo[a]anthracene	56-55-3			
Benzo[a]pyrene	50-32-8			
Benzo[b]fluoranthene	205-99-2			
Benzo[ghi]perylene	191-24-2			
Benzo[k]fluoranthene	207-08-9			
Chrysene	218-01-9			
Dibenzo[a,h]anthracene	53-70-3			
Fluoranthene	206-44-0			
Fluorene	86-73-7			
Indeno[1,2,3-cd]pyrene	193-39-5			
Naphthalene	91-20-3			0.1 mg/kg
Phenanthrene	85-01-8			0.6 mg/kg
Pyrene	129-00-0			
GENERAL REQUIREMENTS				
pH-value		6.0-9.0		
Max. effluent temperature		40°C		
Color / spectral absorption at 436 nm		10 m-1		
Color / spectral absorption at 525 nm		7 m-1		
Color / spectral absorption at 620 nm		5 m-1	-	
Absorbable organic halogens AOX (as Cl)		1 mg/l		
Chemical oxygen demand COD (as O ₂)		200 mg/l		
Biochemical oxygen demand BOD ₅ (as O ₂)		50 mg/l		
Total suspended solids		50 mg/l		
Phosphor total as P		5 mg/l	-	
Ammonia as NH ₄ -N		10 mg/l		
Sulphides (as S ₂)		2 mg/l		

Annex 2 – DETOX TO ZERO MRSL

Substance	Cas No.	Output: Wastewater	Output: Sludge
Sum PAH (16 components)		-	6 mg/kg dry substance
Sum chlorinated hydrocarbons (aliphatic and aromatic)			560 mg/kg dry substance
Total mineral oil C10 - C20			5600 mg/kg dry substance
Total mineral oil C20 - C40			0,8 mg/kg dry substance
PCB (sum 7 congeners) 62			

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