



THE PUMA FOREVER BETTER
SUSTAINABILITY HANDBOOKS
CHEMICAL STANDARDS



FOREWORD

At PUMA, we believe that our position as a creative leader in the Sports industry gives us the opportunity and the responsibility to contribute to a better world for generations to come. Sustainability remains a key value of the PUMA brand. We are working towards a more just and sustainable future, accelerating positive change in the industry and the world. We believe that by staying true to our values, inspiring the passion and talent of our people, working in sustainable, innovative ways and doing our best to be Fair, Honest, Positive, and Creative, we will keep on making the products our customers love and at the same time bring our vision of a better world a little closer every day.

We aim to bring our trading practices in line with the principles of sustainable development. This means that we do not just want to provide high-quality products, but it is our duty to ensure that these products are manufactured in workplaces where human rights are respected and workers' health and safety as well as the environment are protected.

PUMA takes on responsibility for everybody involved in the production process, whether they are PUMA employees or not. However, this responsibility can neither replace nor substitute the responsibility of our Vendors within their own manufacturing facilities. Our "Code of Conduct" expresses the expectations we have of our Vendors. It is integrated into our manufacturing agreement, which delimits the business relationship we share with our partners. PUMA takes this shared responsibility seriously. We reserve the right to terminate business relations with any partner who does not respect the letter or the spirit of our Code of Conduct or Corporate Sustainability Policies.

Only by partnering up with our Vendors we will be able to have a positive impact and contribute to making a better world for the communities we operate in, the workers who make our great products, our customers and our own employees and, of course, for future generations.



Anne-Laure Descours

Chief Sourcing Officer

~~**FOLLOW**~~
MASTER
THE RULES

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Introduction

FOREVER BETTER Sustainability Handbooks

The PUMA Code of Conduct defines clear minimum standard for supply chain partners. Our Code of Conduct is displayed in all our directly contracted partner factories and is also an essential part of purchasing contracts.

The Code's standards are based on International Labor Organization standards and other internationally accepted standards.

PUMA requires all vendors, their subcontractors and their suppliers to comply in full with this Code of Conduct. All PUMA Vendors must have met all minimum legal requirements. In addition, each must comply with PUMA standards (which may exceed legal requirements) as defined in the four (4) PUMA Forever Better Sustainability Handbooks: (the "Handbooks"):

- "Social Standards" elaborates upon PUMA's position on labor rights
- Guidelines for sustainability and environmental protection are contained in "Environmental Standards"
- "Occupational Health & Safety" outlines our standards for and health and safety throughout our supply chain
- Guidelines for Chemicals, Materials and Restricted Substances are in "Chemical Standards"

These Handbooks are subject to continuous updates. Any feedback or suggestions for improvement is welcome (contact your PUMA Sustainability Team representative or email sustain@puma.com).

PUMA is committed to ethical and responsible corporate behavior, as prescribed in our Code of Ethics, which our employees and business partners have pledged to uphold.

Legal Disclaimer:

The content of this handbook is not intended to replace local or national regulations, nor will following the guidelines in the Handbooks guarantee compliance with them. At all times, it remains the sole responsibility of our own entities, Vendors and their Subcontractors, to ensure compliance with all applicable local and national regulations, including those labor, worker health and safety, and environmental and product safety.

Sec. 1 – PUMA Sustainability Approach

1.1 Strategic approach

SUSTAINABLE DEVELOPMENT GOALS

The United Nations Sustainable Development Goals (SDGs) define global development priorities for 2030 and aim to join efforts among businesses, governments and civil society around a defined set of targets. The PUMA 10FOR25 Sustainability Targets are linked to the SDGs.

UN GUIDING PRINCIPLES

The UN Guiding Principles on Business and Human Rights are a set of guidelines for states and companies to prevent, address and remedy human rights abuses. Human Rights are featured with an own target section in PUMA's 10FOR25 strategy.

POSITIVE IMPACT

Our PUMA sustainability strategy is centered around creating maximum positive impact. This means integrating sustainability into our main business and volume styles.

PARTNERSHIP WITH VENDORS

The majority of our environmental and social impact is created in our supply chain. Therefore, we are working in partnership with our vendors to achieve our common goals - from ensuring fair working conditions and effective pollution controls to the development and use of more sustainable materials.

STAKEHOLDER DIALOGUE

Striving for a more sustainable world puts us all on the same team. To do our part and become an ever more sustainable company, we depend on what our stakeholders and industry peers share with PUMA. The feedback and expertise of our stakeholders, as well as the collaborations with our industry peers is indispensable for our progress.

In an industry where many suppliers are shared among brands, we cannot do it alone. Therefore, we are working with our industry peers towards harmonizing sustainability standards and joint efforts towards implementing good practices to create positive impact.

1.2 Track Record

JUDGING THE SCORE

Our sustainability department is in constant exchange with PUMA's Managing Directors and top management on sustainability topics. Through executive reports as well as in-person meetings, PUMA aims to keep all internal stakeholders informed to be able to react quickly. In turn, we receive frequent feedback from them as well as external stakeholders.

The Board of Management reports to PUMA's shareholders via the Supervisory Board as well as our Annual Report, which contains a detailed sustainability section.

SUSTAINABILITY TEAM MANAGERS

In terms of sustainability, the highest governance body at PUMA is the Executive Sustainability Committee at SE level. This group of Managers is responsible for the supervision and setting-up of our sustainability strategy. In regular meetings, the members oversee the progress of PUMA against our sustainability targets.

1.3 Sustainability Strategy

PUMA has updated its global sustainability strategy that balances three (3) dimensions—**Economic**, **Social**, and **Environment** (see Fig. 1)—to achieve sustainable business development. The new strategy includes a drive to mainstream sustainability, create impact and ensure industry alignment.

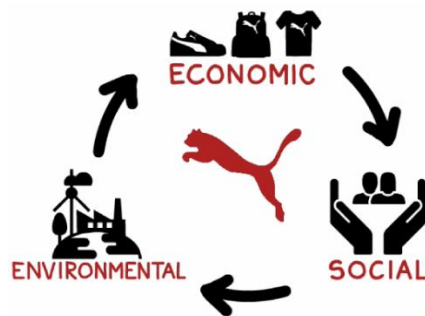




Figure 1: Three dimensions of PUMA's Sustainability Strategy






1.4 Sustainability Targets



*SDG: United Nations Sustainable Development Goals

Figure 2: PUMA 10FOR25 Sustainability Targets

Target	Definition	Target for 2025
 01 Human Rights	Embedding human rights and compliance to ILO Core Conventions in all our operations and suppliers. Making a positive impact on communities where PUMA is present.	<ol style="list-style-type: none"> 100.000 direct and indirect staff trained on women empowerment 150.000 hours of community engagement (in total) Mapping of subcontractors and major T2 suppliers for human rights risks based on geography
 02 Health and Safety	Reducing injury rates significantly to achieve zero fatal accidents and injury rates below industry average.	<ol style="list-style-type: none"> Zero fatal accidents within PUMA and suppliers Reduce injury rates for PUMA Core Suppliers below 0.5 (per 100 full time employees) Reduce injury rates for PUMAs own staff below 0.5 (per 100 full time employees) Ensure functioning OHS committees are in place at all PUMA entities over 100 staff and all suppliers globally

Target	Definition	Target for 2025
 03 Chemicals	Achieving Zero discharge of all hazardous chemicals from our supply chain.	<ol style="list-style-type: none"> 1. Ensure 100% of PUMA products are safe 2. Maintain RSL compliance rate above 90% 3. Reduce organic solvent usage in core footwear manufacturing under 10gr/pair
 04 Water and Air	Meeting industry good practice on wastewater quality and air emissions to 90% for PUMA core suppliers.	<ol style="list-style-type: none"> 1. Ensure 90% of PUMA Core Suppliers with wet processing comply to ZDHC wastewater guideline foundational level 2. Ensure 90% of PUMA Core Suppliers comply the ZDHC Air Quality Guideline (in development) 3. Reduce water consumption at PUMA core suppliers by additional 15% (on 2020 baseline)
 05 Climate	Taking a leading role in Climate Action within our industry and implementing our existing science-based greenhouse gas emission reduction target.	<ol style="list-style-type: none"> 1. Align PUMA Climate Target to 1.5 Degree Pathway 2. Move all PUMA entities to renewable electricity 3. Increase percentage of renewable energy used by core suppliers to 25%
 06 Plastics and the Oceans	Joining forces on reducing plastic pollution.	<ol style="list-style-type: none"> 1. Support initiative and scientific research on microfibers (use phase + production); work with core suppliers to reduce microfiber release 2. Eliminate plastic bags from PUMA Stores, review hangers and fixtures 3. Research biodegradable polyester options for products
 07 Circularity	Moving toward a more circular business model.	<ol style="list-style-type: none"> 1. Build, setup or join product takeback schemes in major markets 2. Reduce production waste to landfill by 50% 3. Develop recycled material options for leather, rubber, cotton and PU




Target	Definition	Target for 2025
 08 Products	Ensuring 90% of our products contain more sustainable materials and components.	<ol style="list-style-type: none"> 1. 90% of all PUMA Apparel and Accessories contain >50% more sustainable materials 2. 90% of all Footwear contain at least one more sustainable component 3. Increase recycled polyester use (apparel and accessories) to 75%
 09 Fair Income	Mapping and improving wage practices in major sourcing countries.	<ol style="list-style-type: none"> 1. Carry out Fair Wage Assessments including mapping of specific wage ladder for top 5 sourcing countries to help improve their wage levels and practices 2. Ensure bank transfer payment (to workers) for all core suppliers by 2022 3. Ensure effective and freely elected worker representation in all core T1 suppliers through collaboration with other brands
 10 Biodiversity	Promoting biodiversity by using certified and traceable materials.	<ol style="list-style-type: none"> 1. 100% of cotton leather and viscose from certified sources 2. Support setting up a Science Based Target on Biodiversity 3. Zero use of exotic skins or hides

Figure 3: PUMA Action Plans on 10FOR25 Sustainability Targets

Sec. 2 – Compliance

2.1 Vendor Requirements

PUMA pursues and maintains contractual relationships only with those **factories** and **Licensees** that have agreed to comply with the guidelines and directives set out in the PUMA Forever Better Sustainability Handbooks. All PUMA **factories** are contractually bound to start and pursue business relationships only with **Subcontractors** that are also in compliance with the Handbook

2.2 Conflicting Requirements & Conflicts of Interest

Vendor compliance programs must guarantee compliance with all relevant local, national, and international legislation. In case of conflicting requirements, the stricter regulation prevails.

Factories shall always make company decisions objectively, and free of any bias that could result in a conflict of interest. Examples of potential biases include:

- Business dealings (e.g. having relationships or investment with competitors)
- Social ties (e.g. friends or relatives influencing decisions)
- Other personal considerations (e.g. offering or accepting bribes; receiving gifts from Suppliers, Subcontractors etc.)

2.3 Limitations Regarding Antitrust

PUMA will not willingly violate any antitrust legislation by sharing commercial information or other information considered a violation by government authorities. However, we acknowledge that when Vendor compliance programs converge with other business-related activities (e.g. when Suppliers engage in production planning) the compliance-related data may imply some commercial information.

Thus, **Suppliers** are responsible for maintaining the confidentiality of commercial information, and must inform all relevant customers, including PUMA, of what information the Supplier shares with which parties.

2.4 Anti-Corruption

Around the world, corruption remains a considerable obstacle to sustainable economic and social development. It threatens the reputations of companies as well as those in their supply chains. Furthermore, new, and stringent anti-corruption regulations continue to emerge worldwide. As a signatory of UN Global Compact, PUMA is committed to uphold the ten (10) Global Compact principles in our operations and supply chain. This commitment includes fighting corruption. As part of this commitment, PUMA has added “Ethical Business Practices” to the PUMA Code of Conduct (see Appendix A). PUMA believes:

Corruption impedes business growth, escalates costs and poses serious legal and reputational risks. It also raises transaction costs, undermines fair competition, and distorts sustainable development priorities. **For factories**, corruption can also negatively impact value. It also poses financial, operational, and reputational risks, both for factories and their stakeholders.

As part of PUMA’s supply chain, **factories** must implement robust anti-corruption measures and practices to protect against such risks for all potentially impacted parties as follows:

- Conduct regular training to raise awareness on anti-corruption within their organizations
- Conduct an Anti-Bribery and Corruption Risk Assessment
- Develop an anti-corruption policy and program
- Implement a whistleblowing mechanism

Sec. 3 – Factory Monitoring Program

PUMA’s environmental monitoring program applies, in principle, to all factories producing PUMA products (semi-finished or finished) or manufacturing materials, components, raw materials, trims, labels or packaging.

Currently, we implement a compulsory and annual factory monitoring program for core T1 (product manufacturers) and core T2 (fabric/material/label, packaging, trim manufacturers covering 80% of PUMA’s sourcing business volume). We aim to expand this program to non-core T1 and T2.

Vendor Due Diligence

Vendors are expected to conduct due diligence on Human Rights & Labor, Environmental and Integrity risks (Listed in table) as per the recommendations of the [OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector | en | OECD](#) and the UN Guiding Principles and other relevant Responsible Business Conduct standards.

Human Rights & Labor Risks	Environmental Risks	Integrity Risks
<p>Child labor</p> <p>Discrimination</p> <p>Forced labor</p> <p>Occupational health and safety (e.g., worker related injury and ill health)</p> <p>Violations of the right of workers to establish or join a trade union and to bargain collectively</p> <p>Non-compliance with minimum wage laws</p> <p>Wages do not meet basic needs of workers and their families</p>	<p>Hazardous chemicals</p> <p>Water consumption</p> <p>Water pollution</p> <p>Greenhouse Gas (GHG) emissions</p>	<p>Bribery and corruption</p>

Due diligence is an ongoing process, in which Vendors can identify, mitigate, prevent and account for how they address their existing and potential adverse impacts (e.g., child labor, discrimination, hazardous chemicals and etc.). An enterprise is expected to conduct due diligence on its own activities and on its suppliers across its supply chain and other business relationships. An enterprise shall embed responsible business conduct in own policy and management systems, identify actual and potential harms in the enterprise’s own operations and its supply chain. Cease, prevent or mitigate harm in own operation and its supply chain, keep tracking and communicating with relevant stakeholders, provide for or cooperate in remediation when appropriate.

In response to the COVID-19 pandemic and the possibility of future crises, vendors are recommended to conduct their due diligence checks virtually when necessary.

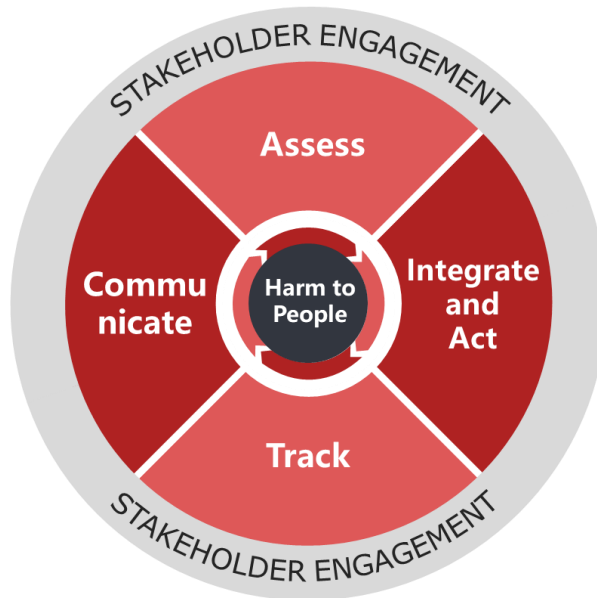


Figure 4: Vendor Due Diligence Process

PUMA Approach

At PUMA, we want consumers and athletes to be safe when they wear our products.

The figure below shows input-process-output streams with industry tools and standards that PUMA adopted:

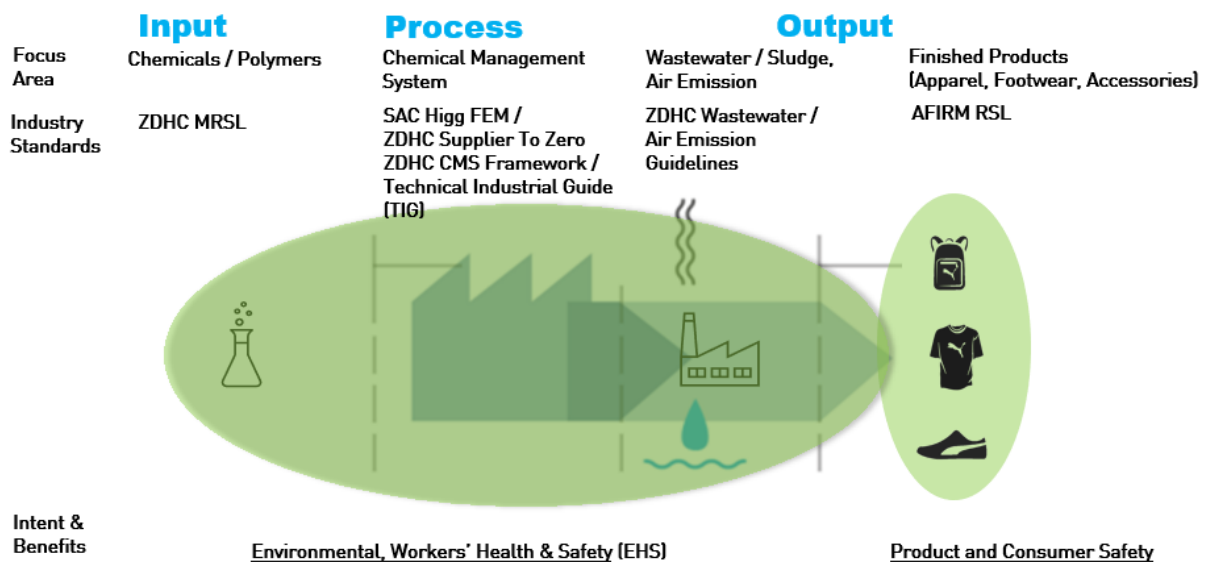


Figure 5 Input-Process-Output Chemical Management Model

We use industry standards, tool, guidelines and platforms, from industry associations such as Apparel and Footwear International RSL Management (AFIRM) Working Group, Sustainable Apparel Coalition (SAC) and Zero Discharge of Hazardous Chemicals (ZDHC) Foundation. PUMA's suppliers are expected to adopt and implement accordingly. Details can be found in Appendix F or at the websites in Appendix C of this handbook.

In case of non-compliance, PUMA T1 & T2 suppliers are required to conduct a Root Cause Analysis (RCA) and set up a Corrective Action Plan (CAP) as per an agreed timeline. Examples of non-adoption or non-implementation of industry

standards, tools, guidelines and platforms including ZDHC MRSL, ZDHC approved chemical Inventory platform (such as BHive, CleanChain, e3), ZDHC InCheck Report, MRSL Conformance Guidelines, ZDHC Wastewater Guidelines [textiles, leather, MMCF (Man-Made Cellulosic Fiber)], ZDHC ClearStream Report, DETOX.Live & IPE disclosure, ZDHC Gateway - Chemical Module & Wastewater Module, Supplier To Zero, Chemical Management System, ZDHC Academy for capacity building, annual RSL testing, Master Summary RSL Summary (covering all materials for finished products) or SAC verified FEM may lead to business consequences.

PUMA's Sustainability Team follow-up and monitor the factories' performance. The factories' performance is shared with the PUMA Sourcing Teams through regular meetings (e.g., bi-weekly and quarterly) and with PUMA T1 & T2 suppliers (e.g. supplier meetings, capacity building training sessions, emails), via reports and/or supplier score cards with the aim to incentivize suppliers with a good performance or review business plans for suppliers with a weak performance.

3.1 PUMA Declaration of Principles

All suppliers must sign the PUMA Declaration of Principles, declaring their intention and conviction to comply with all relevant national and local laws, as well as with the policies set forth in the PUMA Forever Better Sustainability Handbooks. The Declaration also affirms the suppliers' commitment to only choose subcontractors for the manufacturing of PUMA products that comply with the Handbooks.

PUMA reserves the right to conduct
Compliance Audits without advance notice.

PUMA may visit **core factories** more frequently. However, not all assessments will be in the form of audits. For example, core suppliers may be visited to validate social, environmental, and chemical-related KPIs.

AUDIT SCORE SUMMARY

- I. Only factories with a passing grade of **A**, **B+** or **B-** will be authorized for PUMA production.
- II. Existing factories that receive a **C** rating will be given a specific timeframe (6 months) to resolve noncompliance Critical Issues. Based on successful completion, the factory will be upgraded to a **B** rating and production authorization will be given.
- III. Factories given a **D** rating are considered unprepared for compliance with the PUMA Standards. If this concerns an initial audit of **a potential new factory**, the business relationship will not be started. For an assessment of **an existing factory**, a phase-out plan could be considered, leading to the eventual termination of the business relationship, i.e., deactivation.

3.2 New Factory Application

Pre-Screening Visits

Before a PUMA audit is conducted at a factory seeking PUMA supplier accreditation, sourcing partners usually conduct a pre-screening to get an overview of the factory's compliance status. Based on an initial visit and investigation at the factory, the sourcing partner may fill out an initial compliance report that can be used to prepare the full audit.

Factory Self-Assessments

In addition, before a Compliance Audit is scheduled, each factory will be asked to complete a self-assessment questionnaire. This self-assessment questionnaire is similar in scope to the PUMA Compliance Audit. It also allows the

factory in question to compare its existing compliance system with PUMA’s requirements and work on potential areas for improvement before the full audit is conducted.

3.3 Zero Tolerance (“ZT”), Critical (“CI”), Major (“MI”) and Regular (“RG”) Issues

PUMA’s system for rating Code of Conduct compliance organizes instances of noncompliance into four categories: Zero Tolerance (“ZT”) Issues; Critical (“CI”) Issues, Major (“MI”) Issues, and Regular (“RG”) Issues. When an instance of noncompliance is found, the result is a reduction of the factory’s audit score according to the following schedule:

A ZT results in a 30-point reduction and automatic failure of the audit.

A CI issue results in a 10-point reduction and a requirement that the factory takes immediate action to remediate, in order to maintain an opportunity to pass the audit.

A MI issue results in a 5-point reduction, where the factory may still achieve a passing grade but must nonetheless take action to remediate; and

An RG issue results in a 1-point deduction. RG issues are considered non-urgent, and factories are given reasonable timeframes in which to address them.

Zero Tolerance (“ZT”) Issues

Zero Tolerance Issues are unacceptable violation of PUMA’s Code of Conduct. If a ZT issue is discovered, the factory will automatically fail its audit.

There is no possibility for the new supplier to produce any PUMA goods if ZT issues are present.

ZT issues can be found as follows:

NO.	ZT ISSUE	DEFINITION
1	Illegal Discharge of Wastewater (see Environmental Standards handbook)	Discharging untreated wastewater into natural water bodies such as rivers and streams (or into the ground)
2	Illegal disposal of Hazardous Waste (see Environmental Standards handbook)	Illegally disposing hazardous waste (such as used chemicals, used oils, used batteries etc.) in unauthorized waste disposal sites.
3	Falsified Records (see also PUMA Sustainability Handbooks Social Standards)	In all instances, a false representation of a matter of fact whether by word, conduct, or documentation. Examples include hiding records, illegal practices, (such as coaching workers for falsified answers in interviews, paying bribes or wherein documentation is found to be inconsistent with other records found at the facility, including verification from workers and other entities, such as civil society and government, as may be pertinent).
4	Unauthorized Sub-Contracting (see also PUMA Sustainability Handbooks Social Standards)	Any operation that suppliers carry out in outsourced factories, that has not been approved or audited by PUMA

Critical (“CI”) Issues

Critical Issues constitute a serious violation of PUMA’s Code of Conduct. They will be treated with higher priority than other findings. Discovery of one (1) or more CIs may lead to a **failure** of the PUMA Compliance Audit or to a significant downgrade of the final audit grade. Examples of CI issues can be found as follows:

NO.	CI ISSUE	DEFINITION
1	Sub-license Mission (Environment Permit, Fire Safety Permit, etc.)	Missing or invalid fire safety, building safety or environmental license/permit/certification, as legally required by local authorities.
2	No testing for Restricted Substances (see also PUMA Sustainability Handbooks Social Standards)	Lack of a procedure to regularly test incoming materials for restricted substances (as per the Restricted Substances List; “RSL”).

Major (“MI”) Issues

Major Issues are crucial violations of PUMA’s Code of Conduct. **Suppliers** are expected to remediate issues with immediate action or within a reasonable timeframe. We define MI issues as follows:

NO.	MI ISSUE	DEFINITION
1	Missing MRSL Procedure / Using Banned Chemicals (see also PUMA Sustainability Handbooks Social Standards)	There is no procedure in place for regular testing of incoming materials for restricted substances (MRSL). The factory does not have a system to keep proper inventory of chemicals such as a Safety Data Sheet (SDS, formerly named as Material Safety Data Sheet MSDS), storage, usage and disposal record of the chemicals and appropriate SDS in local language for all chemicals made available in areas where chemicals are stored/used.

3.4 PUMA Monitoring and Chemical Performance Rating System

PUMA has moved from individual brand chemical and environmental audits to the use of industry-wide tools, such as the Higg Index Facility Environmental Module (FEM) 3.0. PUMA requires an annual external verification of the self-assessment FEM modules. This external verification may be completed by approved verifiers from PUMA’s internal team, other credited brands, or third-party organizations on the approved list from SAC.

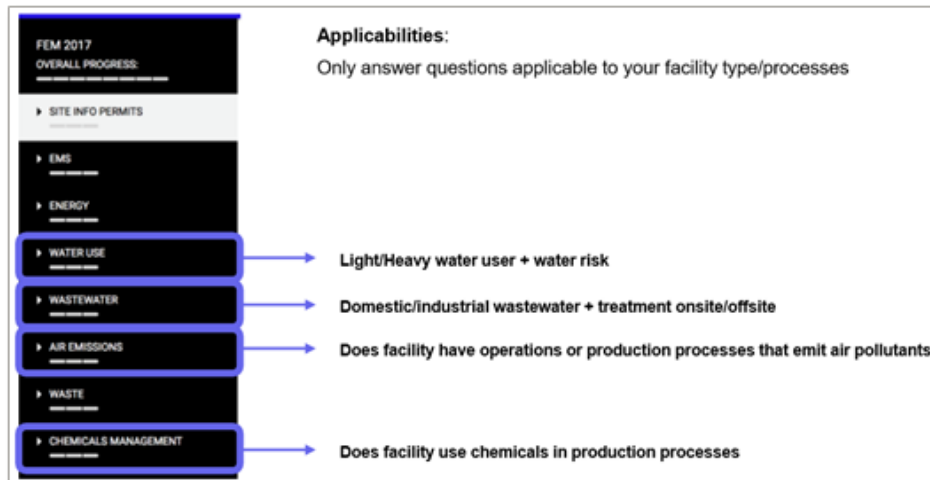


Figure 6: SAC Higg Index FEM 3.0

The use of chemicals in a facility's production processes and operations can be extremely toxic and hazardous to the environment and human health if not managed systematically and appropriately. The FEM Chemical Management Section measures factory performance from inventory and purchasing, to production, storage and waste. This contains the following areas:

- Chemical management policies, compliance procedures, and commitments:
- Employee training and communication
- Chemical procurement and purchasing practices
- Chemical storage, transportation, handling and use practices
- Chemical inventory management
- Emergency Response Plan (ERP), accidents, incidents and spills remediation plan
- Product traceability, quality and integrity
- Chemicals and process innovation

Each supplier shall appoint a Sustainability Compliance Officer (SCO) (or named as Chemical Management Responsible Person in the area of chemical sustainability or RSL / MRSL Point Person) who is knowledgeable and competent and is dedicated to understand and enact chemical sustainability programs and matters. He/she is to be the main point of contact between the factory and the PUMA Sustainability Team on chemical sustainability matters and external stakeholders such as suppliers and the laboratories. This person shall have the requisite authority from suppliers' leadership, required to drive chemical sustainability within the facility's scope, with support across the designated functions (including Development, Purchase, Production, Materials Control, QA/QC, Wastewater, etc.) within the suppliers. He/she has the role and responsibility to promote the internal development of the chemical sustainability program and monitor their effectiveness to aid and ensure full compliance with this handbook, industry standards and regulatory requirements.

Based on the size of operations, the supplier can determine the number of staff required for Chemical Management System implementation. A Core Team from cross-functions (as determined by the supplier) together with the Chemical Management Responsible Person can be established, comprising of trained, capable and experienced personnel to oversee the implementation and monitoring of a chemical management system.

PUMA Sustainability Team **representatives** or designated representatives by PUMA (such as PUMA appointed third party company) can visit T1 & T2 factories that manufacture or supply PUMA products or materials for an on-site check. Examples of such on-site checks can be a request from PUMA Sourcing to understand capability of new supplier, follow up the low chemical management performance (e.g. repeated RSL failures or RSL failure that have impact on the shipment schedule). For an on-site check, the following steps should be covered:

1 Preliminary Briefing: PUMA representatives should explain to the factory management and Chemical Management Responsible Person the visit process together with the objectives, purpose and scope.

2 Facility Tour (Process Review and Operators Interviews): PUMA representatives should be accompanied by the Chemical Management Responsible Person or factory representative, should discuss with the operators in charge and observe the implementation.

3 Document Review: PUMA representatives should review the documentation related to chemical management.

4. Summary Meeting: PUMA representatives should communicate with the factory representatives the findings with suggestion and corrective action to resolve any noncompliance; should provide an opportunity for factory representatives to react to the findings

5. Audit Summary: PUMA representatives should prepare a summary with the findings. The Chemical Management Responsible Person shall conduct the Root Cause Analysis and provide a Corrective Action Plan within 10 days.

- PUMA suppliers shall take actions to address the findings with improvement as soon as possible, if the audit has revealed shortcomings. Evidence of actions and improvement shall be submitted to PUMA Sustainability for desktop verification. In case of significant concerns, a re-audit timeline for on-site verification shall be agreed and conducted.
- For those findings that may have significant impact on the business such as non-compliance of regulations that impact shipment or use of hazardous chemicals in production or non-adoption of ZDHC standards, tools, guidance and platforms, the PUMA Sustainability Team should inform PUMA Sourcing with recommended actions. Examples of non-adoption of ZDHC standards, tools, guidance and platforms can be no or incomplete adoption or non-implementation of industry standards, tool, guidelines and platform including ZDHC MRSL, ZDHC approved chemical Inventory platform (such as BHive, CleanChain, e3), ZDHC InCheck Report, MRSL Conformance Guidelines, ZDHC Wastewater Guidelines, ZDHC ClearStream Report, DETOX.Live & IPE disclosure, ZDHC Gateway - Chemical Module & Wastewater Module, Supplier To Zero, capacity building under ZDHC Academy training, annual RSL testing with pass results, Master Summary RSL Summary (covering all materials for finished products), SAC verified FEM. In case of very serious violations, this may affect the business relationship with the factory or lead to the discontinuation of a business relationship with the factory, subject to the final decision from the business.

PUMA's Chemical Performance Rating System is based on the ratings developed from the factories' verified Higg FEM scores under Chemical Management Section as verified by SAC approved verifiers: **A, B+, B-, C** and **D**. The minimum passing grade from the chemical perspective is 40% (i.e., only **A, B+** and **B-** ratings are passable) and **C** and **D** are **failure** ratings. Considering the tool and the ratings and corresponding grades are:

RATING	DEFINITION
A	<p>80% to 100% PASSED – VERY GOOD RESULT</p> <p>Routine: Once per calendar year</p> <ul style="list-style-type: none"> Aspirational level of chemical performance achieved. The PUMA Chemical Sustainability requirements have been met, and there are indications of strategic initiatives to maintain chemical compliance with the PUMA Code of Conduct and policies.
B+	<p>60% to 79,99% PASSED – GOOD RESULT</p> <p>Routine: Once per calendar year</p> <ul style="list-style-type: none"> Progressive level of chemical performance achieved. Minor issues are of relatively insignificant importance and can be rectified immediately. The most basic requirements are mostly met.
B-	<p>40% to 59,99% PASSED – SATISFACTORY RESULT - REMEDIATION NECESSARY</p> <ul style="list-style-type: none"> Foundational level of chemical performance achieved. Minimum level required for a PUMA supplier. Routine: Once per calendar year. Factories need to provide an action plan to address the findings listed in the Performance Improvement Plan (PIP) in the next 6 Months for checking by PUMA Chemical Sustainability Team onsite and / or offsite Noncompliance issues are of minor importance, but there are a larger number of such issues found compared to a B+ rating. The most basic requirements are, in general, met.
C	<p>20% to 39,99% FAILED (PASSED in 2022)</p> <ul style="list-style-type: none"> Foundational level of chemical performance not achieved. Routine: Once per calendar year. Factories need to provide an action plan to address the findings listed in the Performance Improvement Plan (PIP) in the next 4 Months for checking by PUMA Chemical Sustainability Team onsite. Serious or numerous issues found during the assessment that must be rectified immediately. For existing factories, a follow up PIP progress verification is conducted by PUMA Chemical Sustainability Team within four (4) months to check the remediation status of identified issues. New factories will not be provided with manufacturing authorization until the issues identified are rectified and an A or B rating is achieved. Considering Higg FEM and the Chemical Rating system is still new tools for the suppliers, C rating is still considered as PASSED in 2022, with the requirement of proper actions and follow up on the open findings from verified FEM result.
D	<p>19,99% or below FAILED – FACTORY LACKS BASIC CHEMICAL MANAGEMENT SYSTEMS (PASSED in 2022)</p> <ul style="list-style-type: none"> Many serious non-compliant issues found. If this concerns an initial audit of a potential new factory, a business relationship will not be started. For an assessment of an existing factory, a phase-out plan could be considered, leading to the eventual termination of the business relationship, i.e., Deactivation.

Figure 7: PUMA Rating System for PUMA Suppliers' Chemical Performance

PUMA suppliers shall identify the opportunity to improve through a Root Cause Analysis and set up a Corrective Action Plan to be reviewed and agreed by the PUMA sustainability Team. The table below has showed the examples of improvement opportunities and actions for the suppliers to get the improvement.

Performance Parameter	Improvement Opportunities	Actions to be taken by Suppliers
RSL Performance	<ul style="list-style-type: none"> - Consecutive RSL failures or non-fulfilment of RSL targets (e.g., failures in a month, 5 failures in a season, 3 failures for the same materials/suppliers) - Market recall / withdrawal, product issues non-compliance from NGO and government authorities on RSL, product return from customers 	<ul style="list-style-type: none"> - Implement Root Cause Analysis (RCA) & Corrective Action Plan (CAP)
Verified FEM Score Under Chemical Management	<ul style="list-style-type: none"> - Non-fulfilment of verified FEM score as agreed with PUMA Sourcing 	<ul style="list-style-type: none"> - Implement Root Cause Analysis (RCA) & Corrective Action Plan (CAP) with adoption of recommendations from SAC - Improve implementation through ZDHC Supplier To Zero - Have capacity building by joining ZDHC Academy Training Courses or designated training courses as suggested by PUMA
MRSL / Wastewater Conformance	<ul style="list-style-type: none"> - Not implemented or not meeting the targets of ZDHC standards, tools, guidelines and platforms 	<ul style="list-style-type: none"> - Implement Root Cause Analysis (RCA) & Corrective Action Plan (CAP) with adoption of recommendations from ZDHC - Improve implementation through ZDHC Supplier To Zero - Have capacity building by joining ZDHC Academy Training Courses or designated training courses as suggested by PUMA

3.5 Input Stream - MRSL Monitoring Process

This section provides an overview of PUMA’s requirements for input-stream management, or the governing of chemicals and other materials (polymers) that are added to the factory’s production system. One important aspect of implementing an input-stream management system is controlling the chemistry used in the production process.

PUMA uses ZDHC standards, tool, guidelines and platform.

For details of the ZDHC standards, tool, guidelines and platform, please refer to Appendix F.2 of this handbook or via [Roadmap To Zero - About](#) for the latest update and release from ZDHC accordingly.

3.5.1 ZDHC Manufacturing Restricted Substances List (MRSL)

The ZDHC MRSL is a list of chemical substances which should not be used for processing textile materials, leather, rubber, foam, adhesives and trims. The latest version of the ZDHC MRSL can be downloaded [here](#).

In line with PUMA's chemical policy, PUMA has adopted the ZDHC MRSL. All suppliers shall comply with ZDHC MRSL standards

PUMA requests that its suppliers source chemicals and materials that comply with the ZDHC MRSL. PUMA prohibits the intentional use of MRSL-listed substances in supplier facilities. MRSL requirements apply to chemicals substances in chemical formulations and materials commercially available.

ZDHC MRSL applies to PUMA T1 & T2 suppliers for our three product divisions (apparel, footwear & accessories) and all materials including textile, synthetic, leather and polymers.

The ZDHC MRSL applies to all the production processes using chemicals and materials as laid down in the scope of ZDHC MRSL (not limited to):

- Production of raw materials
- Wet processing
- Maintenance
- Wastewater treatment
- Sanitation
- Pest control

ZDHC MRSL applies to industrial wastewater discharged and sludge produced from wastewater treatment operations of textile, home, apparel and footwear suppliers with wet processing facilities including, (not limited to):

- Dyeing and finishing of textiles, yarns, fibers, threads, trims, and laces
- Yarn dyeing (including pretreatment and chemical treatment)
- Fabric finishing (including dyeing and textile effect)
- Laundries, washing and finishing
- Synthetic materials (of natural and/or synthetic fibers or textile-polymer composite microfibers), coated with PU, PVC or similar that holds the appearance of leather but is not made from animal skin or hide
- Tanning (including beamhouse; wet end, crusting and/or finishing such as, washing, degreasing, re-tanning, dyeing, fat liquoring, oiling, coating; vacuum dryers such as toggle, paste dryers

- Printing facilities (including water used in production and coming from washing for example, screens, scrapers, molds, equipment, tool & in the serigraphy process)
- Vertical finished goods manufacturing facilities where any of the above processes occur or are integrated

For more information about ZDHC MRSL, Appendix F.2 of this handbook or see this [web page](#).

3.5.2 Chemical Inventory

Suppliers shall establish a chemical products & materials inventory database.

PUMA requests that suppliers provide and maintain information about their materials suppliers and the different chemical formulations and materials used in all production processes and in the premises.

PUMA T1 & T2 suppliers shall use one of the ZDHC approved Chemical Inventory Platforms: BHive, CleanChain, E3.

PUMA suppliers shall upload their Chemical Inventory Lists (CILs) on a monthly basis on or before 15th of each calendar month.

Information on chemical product				Volume related information		ZDHC MRSL	ZDHC MRSL 3rd party certification (optional)		Storage	LOT	Expiry Date- OPTIONAL	SDS Information
Chemical formulation	Chemical formulator (manufacturer)	Chemical supplier	ZDHC use category	Monthly usage (amount)	Monthly usage (unit)	ZDHC MRSL conformance level, if registered	Name/type of certification	Valid until	Location	Number		SDS date of issue
<i>Insert the full name of the formulation, including any prefix/suffix to the name. This is the formulation</i>	<i>Insert the name of the chemical formulator of the formulation as given in the SDS or container label</i>	<i>Insert name of the supplier of the formulation in case it is not purchased from the manufacturer (formulator)</i>	<i>Choose from the dropdown menu the use category that best describes the intended use of this formulation.</i>	<i>Insert the amount of this chemical formulation used within the month of the CIL.</i>	<i>Define the unit of monthly usage e.g. kg, litres etc</i>	<i>Choose level (Not-Registered, Registered, 1,2,3) from dropdown</i>	<i>Insert certification standard</i>	<i>Write the date of validity of the certificate (dd/mm/yyyy)</i>	<i>Add location of Storage on site</i>	<i>Add the lot number of the drum/ chemical product in storage</i>	<i>Expiry date of the chemical product (dd/mm/yyyy)</i>	<i>Insert date as written on the SDS document (dd/mm/yyyy)- if blank that means SDS is missing</i>
			1.2.a. Bleaching	300	kg	Level 1	GOTS 5.0 Tex FMD	20.10.2020 01.05.2022				15.10.2018

Figure 8 Chemical Inventory List (CIL)

These steps will enhance transparency and traceability, making it easier to identify risks where hazardous chemicals may be used.

A MRSL-conformed chemical is defined as one that does not contain banned chemicals listed on the MRSL. Such conformance shall be in coherence with the MRSL conformed chemical formulation as reflected on ZDHC Gateway and will meet performance requirements as per PUMA’s standards.

3.5.3 ZDHC Gateway – Chemical Module

To ensure the MRSL conformance of chemicals and materials against the MRSL conformance levels, PUMA T1 and T2 suppliers shall either collect information on chemical conformity through their chemical suppliers or use the ZDHC Gateway – Chemical Module to check if chemical formulations and materials have been already registered.

PUMA T1 & T2 suppliers should also invite their sub-suppliers and contractors to register ZDHC Gateway - Chemical Module and use the ZDHC standards, tools, guidelines and platforms. This can further help to improve the MRSL conformance rate. If the sub-suppliers are chemical suppliers, they shall work directly with ZDHC to get a ChemCheck Report for the chemical formulations and materials supplied to PUMA T1 & T2 factories.

PUMA T1 and T2 suppliers are required to get a ZDHC Gateway user account and connect with PUMA to facilitate and share their MRSL conformance level of their chemical inventory.

The **ZDHC Gateway** is an online platform that contains a section for chemicals, referred to as the **Chemical Module**. Chemical suppliers shall register their chemical formulation and materials in this Gateway with substantiated evidence on MRSL conformance. Different conformance levels are assigned to the chemical formulations depending on the information provided; compliance levels range from the lowest level of one (1), to the highest level of three (3). The figure below is extracted from the document "[MRSL Conformance Guidance](#)." PUMA suppliers can also search for ZDHC MRSL compliant chemical formulations or materials through [ZDHC Gateway - Chemical Module](#) or contact their upstream suppliers for substantiated evidence that can be accepted by ZDHC.

PUMA requires suppliers to source chemical products and materials that fulfill **at least** a ZDHC MRSL conformance **Level 1**, (third party test reports or documentation review); **Level 2** (product stewardship) **OR Level 3**.

Positive listing chemical products that conform with ZDHC MRSL- **level 3** can be found as follows:

- bluesign® FINDER: [bluesign® FINDER](#)
- OEKO-TEX® ECOPASSPORT: [OEKO-TEX® buying guide](#)

MRSL Conformance Level	Register Chemical Supplier with ZDHC Gateway - Chemical Module	Register Formulation Name and SDS with ZDHC Gateway - Chemical Module	Self-declaration of MRSL Conformity	Test report meeting ZDHC Quality Criteria (Annex A)	Third-party review of documentation against MRSL	Chemical Supplier Product Stewardship Review	Chemical Supplier Site Visit
registered	x	x					
1	Automatic when formulation certified by ZDHC accepted body		As required by certification body	Test report OR third-party review of documentation			
2				As required by certification body	x	x	
3				As required by certification body	x	x	x

Figure 9 Requirements for Registration and MRSL Conformance Levels for Chemical Products and Materials under ZDHC

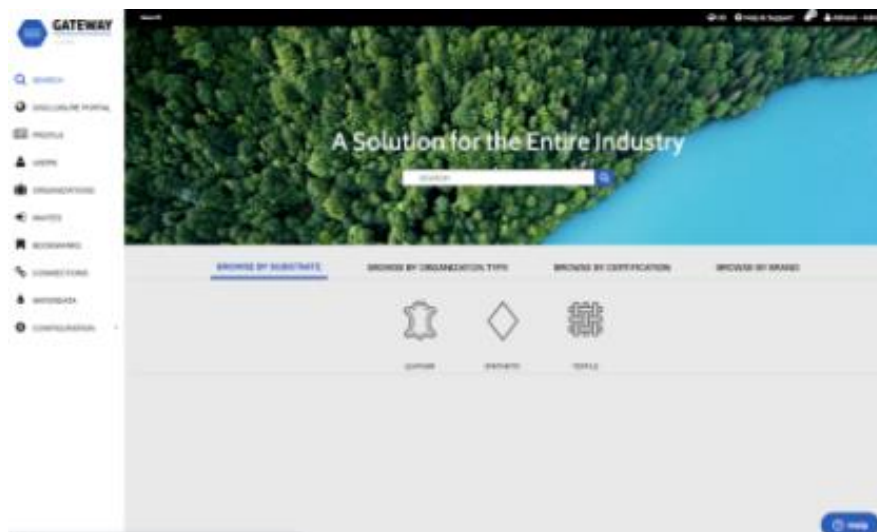


Figure 10 ZDHC Gateway - Chemical Module

ZDHC MRSL Conformance Level 1: This is the minimum requirement for chemicals and materials under ZDHC MRSL. To achieve this conformance level, **chemical suppliers should meet the steps listed below:**

- Registration in ZDHC Gateway - Chemical Module
- Registration of formulation name and Safety Data Sheet (SDS) on ZDHC Gateway - Chemical Module
- Self-declaration on compliance to ZDHC MRSL
- Test report or Documentation review by ZDHC accepted laboratories

To supplement **ZDHC MRSL Conformance Level 1**, PUMA recommends that Suppliers ask for evidence that the **chemical supplier** manufactures according to ISO standards (for quality or environmental management systems) and has committed to the **Responsible Care® initiative** (e.g. via membership with a committed trade association).

ZDHC MRSL Conformance Level 2: This is a higher ZDHC MRSL conformance with additional security through product stewardship. compared with level 1..

ZDHC MRSL Conformance Level 3: This conformance level includes an on-site third-party certification of the chemical supplier. This is the highest MRSL conformance level under ZDHC MRSL conformance standard and is preferred MRSL conformance level that PUMA aims to reach.

In addition to MRSL conformance, PUMA suppliers shall also comply with PUMA Chemical Policies including elimination of PFC, ban of PVC, elimination of DMFa, biocidal (anti-microbial / anti-bacterial) policy and nanomaterials policy when selecting chemical formulations and materials.

PUMA T1 & T2 suppliers shall ensure that only ZDHC Gateway registered and approved MRSL conformed chemical formulations and materials are used.

3.5.4 ZDHC InCheck Report

The ZDHC InCheck report shows the MRSL Conformance level of the chemical formulation and materials. This can help to identify which chemical formulations and materials comply with ZDHC MRSL and which ones do not. As examples, suppliers and PUMA can visualize chemical products & material

1. Not meeting MRSL conformance level 1
2. In compliance with MRSL conformance level 1, 2 or 3

The following chemicals and materials should be included:

Type of chemical product	Included in ZDHC MRSL scope	Included for Performance InCheck Report (only during transition period)
All Dyes, Pigments and Inks directly applied in process	Yes	Yes
Functional finishes (such as antimicrobials, flames retardants, OWR)	Yes	Yes
Printing thickeners and binders	Yes	Yes
Commodity Chemicals	Yes	No
Chemicals used in wastewater/ effluent treatment process (except commodity chemicals)	Yes	Yes
Chemicals used in engraving, developing and washing of printing screens	Yes	No
Sizing chemicals used for in-house warping or weaving	Yes	Yes
Weaving or Knitting oils	Yes	Yes
Beamhouse, wet-end and finishing auxiliaries for leather production	Yes	Yes
Dyestuffs and Pigments used in wet-end and finishing for leather production	Yes	Yes
Printing inks and auxiliaries used for printed leathers production	Yes	Yes
Adhesives and rubbers used in footwear and leather-goods production	Yes	Yes
Paints & chemicals used for building repairs	No	No
Chemicals used in Quality Control laboratory tests	Yes	No
Utility chemicals used for machinery maintenance (such as lubricants, grease)	Yes	No
Pest control chemicals	Yes	No
Floor cleaning/sanitation detergents	Yes	No

Figure 11 Scope of Chemical Inventory List (CIL) and InCheck Report under ZDHC

Please refer to the latest updated scope of the ZDHC MRSL InCheck Report.

[ZDHC Performance InCheck Guidelines](#) provide more contents for suppliers to learn about the ZDHC InCheck solution and – specifically – how to work with the InCheck Report.

PUMA T1 & T2 suppliers shall follow the steps for MRSL conformance improvement as below:

- Contact your chemical formulators to ensure that they acknowledge and understand ZDHCs MRSL and declare their products through the ZDHC Gateway.

- Ensure your staff are aware of tools such as the ZDHC Gateway Chemical Module, which is an easily-accessible tool to help identify and purchase high performing, safe chemicals
- Download and share this report with all of your staff and customers to build conformance and grow your business
- Contact ZDHC Foundation with any questions at gateway@zdhc.org
- Search for alternative chemical products which are published on ZDHC Gateway as ZDHC MRSL Level 1, 2, or 3 by utilizing the search engine

In case of non-compliance with MRSL, PUMA T1 & T2 suppliers are required to conduct a Root Cause Analysis and create a Corrective Action Plan. Business consequences may apply when suppliers have no Chemical Inventory List and/or no InCheck report or whenever a regulatory violation may significantly impact the business, reputation, or chemical sustainability targets of PUMA. This has to be subjected to a review and determined by PUMA business / sourcing team.

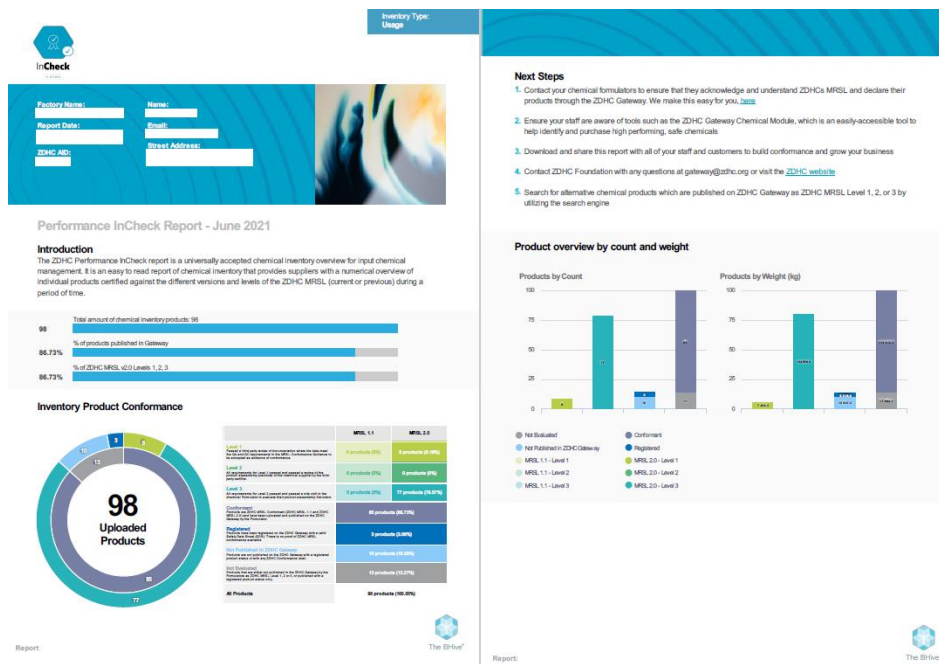


Figure 12 ZDHC InCheck Report to show MRSL Conformance for Chemicals Products and Materials in use in a Factory

3.6 Process Stream - Factory Chemical Management System

3.6.1 ZDHC Supplier To Zero (StZ)

All PUMA T1 & T2 suppliers should register and engage in ZDHC’s Supplier to Zero (StZ) Program. This is particularly helpful to set up, evaluate and improve the chemical management system.

ZDHC StZ provides an entry gate to the ZDHC Chemical Management System (CMS) Framework and comes with more than 150 hands-on industry standards and best-practice guidance sheets. The recommendations provide a structured implementation plan which PUMA’s suppliers should follow for improvements.

There are three different levels under ZDHC StZ:

- **Foundational Level** - The Foundational Level is based on the principles of the ZDHC Chemical Management System (CMS) Framework. By reaching this Level, suppliers can demonstrate both awareness and implementation of ZDHC sustainable chemical management.

- **Progressive Level** - The Progressive Level allows suppliers to demonstrate continuous improvement. It includes a performance review. Additional content is to be provided, supporting suppliers' efforts by offering deeper insights on industry best practice and the optimal techniques available.
- **Aspirational Level** - The Aspirational Level equips the suppliers to position themselves as a leader in tackling the use of hazardous chemicals. Earning this status allows the suppliers to demonstrate performance in sustainable chemical management. At the Aspirational Level, suppliers can further reduce risk and help to drive transparency across the value chain.

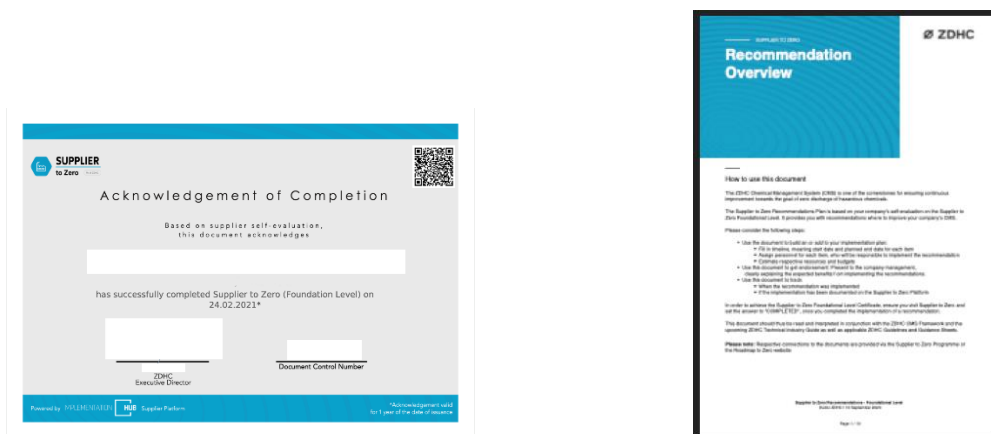


Figure 13 Certificate and Recommended Overview under ZDHC Supplier To Supplier (StZ) for a Factory

PUMA T1 and T2 suppliers shall complete assessment to ZDHC StZ. Annual assessments as per SAC Higg FEM and ZDHC StZ are required to assure a functional chemical management system is implemented. For details of SAC Higg Index, please refer to PUMA Sustainability Handbook - Environmental Standards.

3.6.2 Capacity Building and Training

PUMA supports the development of its suppliers in chemical management through capacity building projects, which aim to maintain and improve chemical sustainability and compliance performance. PUMA's Suppliers shall evaluate qualification and experience in chemical management of the Sustainability Compliance Officer (SCO), or Chemical Management Responsible Person or equivalent. The knowledge and skill sets can be improved and strengthened through trainings with webinars and training sessions from industrial organizations, the PUMA Team, third party laboratories and external consultants as recognized by industrial organizations.

The knowledge and skill set of the Chemical Management Responsible Person (and/or the Core Team) can be improved and strengthened through capacity building by:

- industry organizations: webinars from ZDHC and SAC, e-learning (e.g., Introduction to ZDHC) and approved or recognized training courses (5 training courses, see below in this section) from ZDHC Academy; chemical compliance seminars from AFIRM
- PUMA Sustainability: capability building program [e.g., regular meetings with PUMA suppliers, webinars on RSL / MRSL, trainings on understanding and implementing industrial standards, tools, guidelines, platform and reporting such as ZDHC MRSL, ZDHC Gateway - Chemical Module and Wastewater Module, ZDHC InCheck Reports, ZDHC ClearStream Reports, Supplier To Zero Program, RCA and CAP, best practices sharing, etc. as per yearly planning]
- reputable external entities such as third-party laboratories and consultants as recognized by industrial organizations

Engagement in raising the knowledge of the factory's Chemical Management Responsible Person (or / and the Core Team) can be considered as investments in potential chemical risk management and/or chemical non-compliance mitigation.

ZDHC Academy

PUMA T1 & T2 Suppliers shall plan and engage in capacity building, at least on a yearly basis, for the designated Chemical Management Responsible Person (and / or Core Team), offered by ZDHC Academy.

These trainings can provide adequate skill for examples in case of repeated RSL non-compliance or failures (e.g., 2 or more RSL failures within a month, several wastewater / sludge non-conformances on MRSL parameters in 2 or more consecutive tests, use of MRSL non-conformance chemicals or polymer, non-fulfilment of ZDHC Supplier To Zero recommendation or low SAC Higg FEM score (chemical management system) etc.

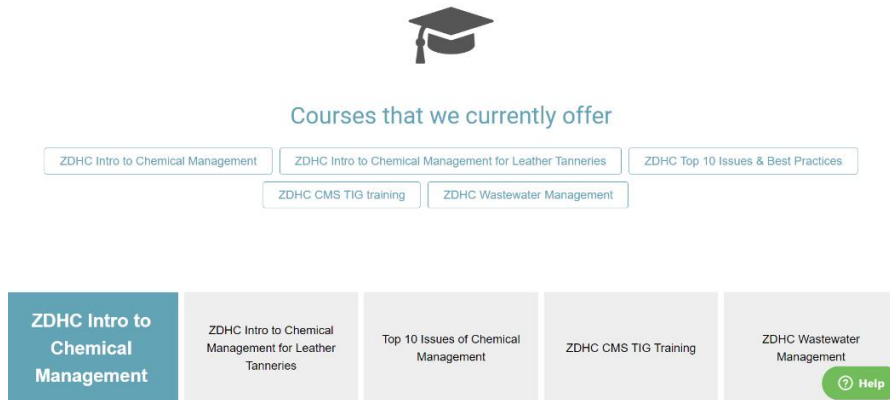


Figure 23 Five Chemical Management Training Courses as offered by ZDHC Academy

There are currently 5 training courses as offered by ZDHC Academy. In the future, ZDHC Academy plans to develop more training courses that can help build better capacity for the suppliers. PUMA suppliers shall follow the development of training courses by ZDHC Academy for enrollment as appropriate. The training need can also be reviewed and considered to include other team members in the factories who are also working and supporting chemical management. For example, one of the five trainings, ZDHC Wastewater Management, can also be considered for the team members in the factories who are managing and operating wastewater treatment plant. For more details, please refer to the [ZDHC Academy website](#).

In addition, suppliers are encouraged to share their best practices, including lessons learned, about implementing chemical management with other stakeholders and with the industry to drive better norms in chemical sustainability along the supply chain. This can be done through regular PUMA suppliers' meetings, for example.

Suppliers may engage in these investments either jointly with PUMA or on their own. In some cases, such activities may be conducted by the supplier as a form of corrective action arising from an audit. In these circumstances, PUMA shall be given regular updates on the progress and results of keeping the Corrective Action Plan in place.

The PUMA Sustainability Team is available for support in these matters. PUMA also supports capacity-building projects and conducts regular training or projects with factories to improve the level of compliance within these facilities.

More detailed guidance on the skill set of the Chemical Management Responsible Person and/or Core Team for Chemical Management can be found in the [ZDHC CMS Technical Industry Guide \(TIG\)](#).

3.7 Output Stream- RSL Monitoring Process

3.7.1 AFIRM Restricted Substances List (RSL)

PUMA adopts the AFIRM RSL, as binding RSL standard for PUMA manufacturers and suppliers at all levels of the supply chain across apparel, accessories, and footwear to comply with for PUMA product safety.

The AFIRM RSL provides a single set of restricted substances. This standard can be found at [AFIRM Restricted Substances List – AFIRM Group \(afirm-group.com\)](https://www.afirm-group.com/afirm-restricted-substances-list). Other AFIRM guidance such as Chemistry Toolkits and Chemical Information Sheets as listed at Appendix F.3 of this handbook should be applied by PUMA's suppliers and can be found at [Publications – AFIRM Group \(afirm-group.com\)](https://www.afirm-group.com/publications).

A Restricted Substances List (“RSL”) refers to harmful substances restricted in materials and finished products on apparel, footwear and accessories with different countries regulations or laws.

For the PUMA RSL program including testing matrix, testing frequency and database, the process can be found in this section with details in Appendix F of this handbook. Only materials with a pass test report can be used in the production of PUMA products.

PUMA does not tolerate any violation of chemical product safety regulations that could endanger the health of our consumers or lead to costly product recalls, loss of consumer confidence, and negative publicity.

- The AFIRM RSL shall be used as mandatory requirements.
- The AFIRM RSL applies to all components found in PUMA products. PUMA requires all components of its products to be tested before they are used and they are tested on an **annual basis** in minimum.
- To ensure compliance with the AFIRM RSL, PUMA conducts random testing on finished products and materials on an annual basis.

In case of failure in RSL compliance, **PUMA reserves the right to charge a penalty** to the manufacturer as stipulated in the Manufacturing Agreement with its Declaration of Principles.

In case of a product recall due to noncompliance to RSL requirements, **the factory shall bear all costs incurred during the recall process**. Please refer to the Manufacturing Agreement for further details.

To learn more about how to implement a successful RSL Compliance Program and manage risk to meet our RSL requirements, please refer to the AFIRM [“Chemistry Toolkit”](#). The Toolkit provides suppliers technical information to reduce or eliminate restricted substances in finished goods, as well as information on testing procedures, RSL implementation strategies, risk assessment, and resolution of RSL failures.

The AFIRM RSL and Chemistry Toolkit are publicly available in different languages including English, Chinese, Vietnamese, Spanish, Japanese and Indonesian.

We expect all suppliers to ensure that only AFIRM RSL-compliant materials and PUMA Policy-compliant chemical formulations and materials are used for the manufacture of PUMA products. We therefore implement strict penalties for breaches of our RSL policies.

3.7.2 Acceptance of OEKO-TEX® STANDARD 100 & BLUESIGN®

OEKO-TEX® Standard 100 and bluesign® are two of the most known certifications for the compliance with restricted substances in textile industry. PUMA accepts OEKO-TEX® Standard 100 and bluesign® certificates as the validation of chemical compliance on materials and products. Suppliers can submit the certifications to PUMA RSL Database as an alternative of regular AFIRM RSL testing.

3.7.3 Acceptance of AFIRM brands' test report

PUMA adopts AFIRM RSL and recognizes the AFIRM test report from other AFIRM brand members within 1 year validation period, given that the test items listed in PUMA RSL matrix are FULLY covered in the test report. Additional testing on individual item shall be arranged when there are missing parameters.

3.7.4 RSL Compliance Process

The flow chart below illustrates a simplified version of the PUMA RSL compliance process:

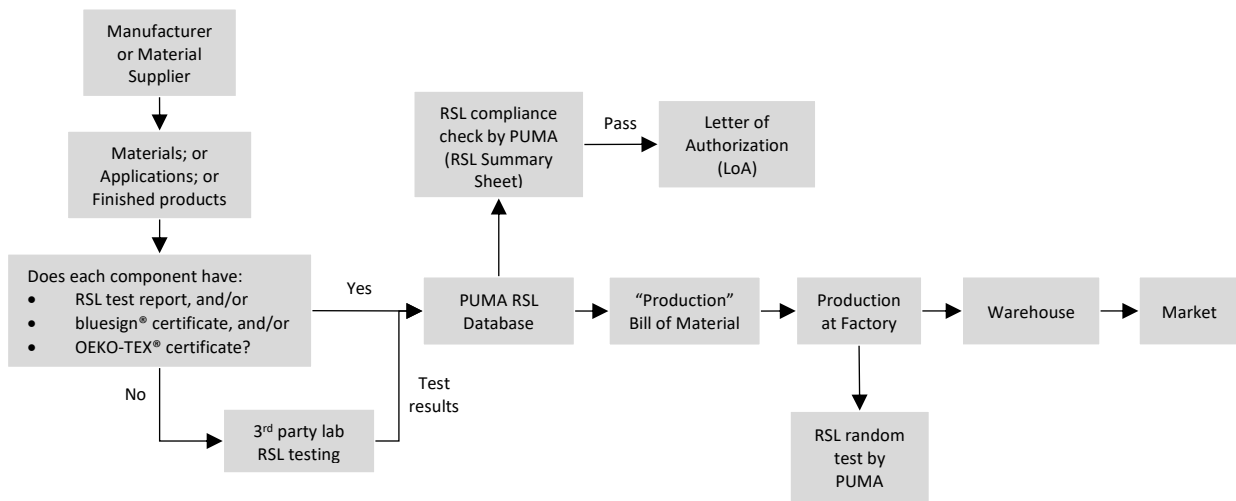


Figure 14 Simplified RSL Compliance Process Flow Chart

3.7.4.1 Regular Testing Program

Suppliers are mandated to arrange regular testing to demonstrate the compliance with PUMA RSL requirements. Materials or products shall be tested in nominated 3rd party laboratories and the test reports are valid for 1 year. Suppliers shall re-new the test reports once they are expired.

In alternatives, supplier can submit OEKO-TEX® Standard 100 or bluesign® certificate or the material to PUMA RSL Database as the validation. Suppliers must ensure the certificates of the materials are up to date.

PUMA reserves the right to change the testing cadence.

3.7.4.1.1 PUMA RSL Test Matrix

Products, materials and components shall be tested against PUMA RSL matrix. The matrix is reviewed and updated regularly. Contact PUMA Product Compliance team for the latest version.

Material & Product

Version 1 - 2023
Date: 1-APR-2023

PUMA RSL TEST MATRIX FOR MATERIAL AND PRODUCT



PUMA RSL Test Matrix	Leather		Textiles				Polymers, Plastics							Print/Coating	Glue	Metal	Feather & Down	Natural Material	Paper	Others
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
For CAS-numbers, details on included substances, test methods and limit values, please see AFIRM RSL (http://afirm-group.com/afirm-rsl/)																				
Must use PUMA RSL DB for all tests.																				
1	Acetophenone and 2-Phenyl-2-Propanol																			
2	Acidic and Alkaline Substances (pH)	●11	●11	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3	Alkylphenols (APs) + Alkylphenol Ethoxyates (APEOs) + including all isomers	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
4	Azo-amines and Arylamine Salts	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1	●1
5	Bisphenols (2)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6	Chlorinated Paraffins (SCCP & MCCP)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
7	Chlorophenols (PCP, TeCP, TricP, etc.)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
8	Chlorinated Benzenes and Toluenes	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9	Dimethylformate (DMF)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
10	Dyes, Forbidden and Disperse			○1	○1	○1														
11	Dyes, Navy Blue			○1	○1	○1														
12	Flame Retardants (3)																			
13	Formaldehyde	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
14	Heavy Metals - Chromium VI	●	●	○5	○5	○5	○5													
Heavy Metals - Extractable																				
15	Antimony (Sb)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Arsenic (As)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Barium (Ba)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Cadmium (Cd)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Chromium (Cr)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Cobalt (Co)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Copper (Cu)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Lead (Pb)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Mercury (Hg)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Nickel (Ni)	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
16	Nickel (Ni) - release (in metal parts)																			
Heavy Metals - total digestion																				
17	Arsenic (As)	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Cadmium (Cd)	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Lead (Pb) (6)	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Mercury (Hg)	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
18	Monomers - Styrene	○	○																	
19	N-Nitrosamines																			
20	Organotin Compounds	○	●	●		○	○													
21	Ortho-Phenylphenol	○	○	○	○	○														
22	Per- and Polyfluoroalkyl Substances (PFAS) (8)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
22	PFAS - Organic Fluorine Content (8)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
23	Phthalates	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
24	Polycyclic Aromatic Hydrocarbons (PAHs)	●9	●9																	
25	Quinoline		●																	
26	Solvents/Residuals, DMF	●10	●10																	
27	Solvents/Residuals, DMAC, NMP	●10	●10																	
28	Solvents/Residuals, Formamide																			
29	UV Absorbers/Stabilizers																			
30	Volatile Organic Compounds (VOC)	●	●																	
PVC is not allowed in any material or product.																				
● = Mandatory; ○ = Optional																				
(1) Dyed / colored textile and leather only																				
(2) Material in direct skin contact only																				
(3) Only if treated with flame retardant finish (e.g. F1 drivers gear and suit). PUMA does not allow flame retardant finish for products intended to normal users																				
(4) Wood, Paper and Straw materials only																				
(5) Mandatory if Ext. Cr > 1 mg/kg																				
(6) Crystal is exempt for Lead																				
(7) Styrene based polymers, e.g. Polystyrene, SBR																				
(8) Mandatory when oil, stain & water repellent, wicking, anti-wicking finishing is applied. PUMA does not allow use of any short or long chain PFCS on material / product. Limit of Organic Fluorine Content = 50 mg/kg.																				
(9) Black color only																				
(10) PU-based material only																				
(11) Requirement for ALL Leather is 3.5 - 7.0.																				
Remark																				
I	Batteries, Electrical and Electronic Accessories (e.g. head sets, light and sound accessories, etc.) and Food Containing Products (e.g. water bottle, lunch box, etc.) are not fully covered by AFIRM RSL. Additional testing is required to comply relevant requirements in destination market, such as ROHs for E&E products, FCM (Food Contact Material) for food containing products in EU. Contact Puma Product Compliance Team for detail.																			
II	Processing chemicals (e.g. cement, glues, primers, cleaning agents, dye formulation, etc.) must be compliant to ZDHC MRSL. Test program is available in the RSL Database based on ZDHC MRSL Version 2.0. Limit values and test methods.																			
III	Composite materials or components with multiple material types (e.g. zipper) should test against corresponding material test packages. (e.g. sockliner → Syn. Textile + EVA + Glue; Zipper → Polymer + metal + textile)																			
Please contact Baron.Shum@puma.com & Edelberto.Anli@puma.com if you need further instruction.																				

Packaging

Version 1 - 2023
Date: 1-APR-2023

**PUMA RSL TEST MATRIX
FOR PACKAGING**



PUMA RSL Test Matrix	Leather		Textiles					Polymers, Plastics	Print/ Coating	Glue	Metal	Natural Material	Others
	Natural Leather / Fur Skin	Coated Leather	Artificial Leather / Coated or Laminated fabric	Natural fibers e.g. cotton, wool, linen	Mixed/blend fibers e.g. cotton/polyester	Synthetic fibers e.g. polyester, polyamide, polypropylene	All other forms, plastics or polymers	Prints, inks, coatings	Common adhesive (Dried / applied condition)	Metal parts	Natural Material (including paper & cardboard)	Silica Gel	
For CAS-numbers, details on included substances, test methods and limit values, please see AFIRM Packaging RSL (https://afirm-group.com/packaging-restricted-substance-list/) Must use PUMA RSL DB for all tests.													
1 Alkylphenols (APs) + Alkylphenol Ethoxylates (APEOs) + including all isomers	●	●	●	●	●	●	●	●	●		●		
2 Azo-amines and Arylamine Salts	●1	●1	●1	●1	●1	●1	●1	●1	●1		○		
3 Bisphenols	○	○	○		○	○	○				●2		
4 Butylhydroxytoluene (BHT)							○3						
5 Dimethylfumarate (DMFu)	○	○										●	
6 Formaldehyde	○	○	○	○	○	○		○	●		●		
7 Heavy Metals in Packaging [Cd, Cr, V, Pb, Hg] = 100 mg/kg	●	●					●	●	●	●	●	●	
8 Organotin Compounds	○	○	○		○	○	○	○	○				
9 Per- and Polyfluoroalkyl Substances (PFAS) [4]	●	●	●	●	●	●	●	●	●	●	●		
PFAS - Organic Fluorine Content [4]	●	●	●	●	●	●	●	●	●	●	●		
10 Phthalates	●	●	●				●	●	●				
PVC is not allowed in any packaging.													
● = Mandatory; ○ = Optional													
(1) Dyed / colored textile and leather only													
(2) Paper materials only													
(3) Polybag only													
(4) Mandatory when oil, stain & water repellent, wicking, anti-wicking finishing is applied. PUMA does not allow use of any short or long chain PFCS on material / product													
Please contact Aaron.Shum@puma.com & Edelberto.Anil@puma.com if you need further instruction.													

3.7.4.2 Letter of Authorization

Letters of Authorization (“LoA”) for production are issued for export of PUMA products from production countries only to those manufacturers that successfully completed a Social Compliance Audit and prepared the RSL Summary Sheet in the RSL Database.

The RSL Summary Sheet must be created in the PUMA RSL Database by the manufacturer (Tier 1 Supplier). It shall list all materials used by the manufacturer as well as the RSL test status for each. RSL Summary Sheets can be created for each style, style group (for styles with same material and similar design), or for all materials as a single RSL Summary “Master Sheet” (which must be created for each season to assure all materials have valid RSL passed results). RSL summaries per styles are also accepted. Please contact PUMA’s Sustainability Team if you need a Letter of Authorization.

The PUMA RSL Policy Documents contain more detailed guidelines and procedures to facilitate PUMA suppliers' compliance with RSL requirements. There are specific requirements for shipment to designated countries such as the US, Korea, Turkey and United Arab Emirates (UAE). Please refer to Appendix F.5 for details or contact the PUMA Product Compliance Team for details.

Suppliers may create their own RSL Compliance Program, but the program must include, at least, the following components:

- An internal system in place to ensure all materials are RSL-compliant before they are used for production.
- A process in place that uses the PUMA RSL Database for uploading test reports and creating the RSL Summary Sheet(s); and
- RSL random test of finished products or materials to ensure the validity of material suppliers’ RSL compliance declarations.

3.7.4.3 Random Testing Program

PUMA implements RSL Random Testing Program on finished products to validate and assure the product compliance with PUMA RSL requirements.

RSL Random Testing Program focuses on high-risk materials and products identified from PUMA RSL test data, market regulations and product recalls. Each season, PUMA Product Compliance team will pick finished products in Production Stage and suppliers are required to send samples to designated 3rd party laboratories for testing (selected by PUMA). Shipment shall be ceased if the product is found non-compliant.

PUMA is responsible for the testing cost of the first test and suppliers are responsible for the additional cost incurred by any non-compliance identified.

Procedures

- i. PUMA Product Compliance Team to inform suppliers and provide sample submission instruction before production starts.
- ii. Suppliers to send samples picked from production line to designated 3rd party laboratories for testing.
- iii. 3rd party laboratories to arrange the product test and complete within 10 working days.
- iv. Shipment is approved automatically with a PASS report. For any non-compliance, PUMA Product Compliance Team should be informed to instruct the next step.

3.7.5 RSL Testing Procedure

PUMA has developed a test matrix to provide clear guidance for suppliers on which tests are required for different substance types. This test matrix can be found in PUMA RSL Database "DOCUMENT" page. Additional chemical testing may be required for specific product claims. **All materials, components and packaging should be tested.**

All samples for laboratory testing shall be sent with the Test Request Form (TRF) created in the PUMA RSL Database for the laboratories to identify the samples and upload test results to the PUMA RSL Database directly.

Suppliers shall keep a reference sample in the factory for one (1) year. This reference sample can be used in case additional tests that may be required for test results interpretation, potential claims, as well as subsequent requirements for re-testing.

Composite (mix) testing – PUMA allows to test of mixed samples with same material type. This applies to mixed samples with a maximum of three (3) colors. In the case of preliminary failure or inconclusive results among mixed samples, individual testing for each material from the mixed sample must be conducted to arrive at conclusive and final test results for each material.

Reasonable testing – All material and color combinations must comply with our RSL standards. If multiple colors are produced using the same material (i.e. composition) by the same factory, PUMA accepts a reduced number of tests per material, based on risk level of the substance.

Tests shall be performed in a composite of three high-risk colors (e.g. black, brown, red, yellow, purple, metallic color) of the same material as representative samples of all colors produced. Non-compliance in any of these representative colors, all color variations shall be tested against the failure substances to ensure compliance across all variations.

3.7.6 PUMA RSL Database

The PUMA RSL Database serves as the central storage place for RSL test reports. **All test information for materials and finished products shall be uploaded to this database.**

Suppliers of all tiers, PUMA-approved laboratories, and PUMA employees may access the database at [Link \(greenarrowlabs.com\)](https://greenarrowlabs.com). To log in, enter the log-in details or register for a new account. Registered users may then access the "DOCUMENT" page, where the PUMA RSL Supplier Manual is available for download. Training is also provided to new suppliers during the onboarding process.

Each party has its roles and responsibilities regarding the use of the PUMA RSL Database. See below for the different tasks required of manufacturers, material suppliers, and third-party testing institutions.

3.7.7 Responsibilities

Manufacturers (Tier 1)

- Ensure all materials are RSL-compliant before using in the manufacture of PUMA products. Ensure the finished goods are RSL-compliant
- Ensure materials' RSL test report or certificates (i.e. bluesign® or OEKO-TEX® Standard 100) are uploaded to PUMA RSL Database
- Create a RSL Summary Sheet for all materials used in PUMA production
- Apply for a PUMA Letter of Authorization for production by submitting a RSL Summary Sheet to PUMA Product Compliance Team
- Initiate Non-Compliance Management when non-conformity is found
- Have a reasonable RSL compliance program in place
- Monitor the performance of materials suppliers
- Are responsible for all REGULAR testing or certification costs
- Are responsible and liable for loss and damage suffered by PUMA, should any material, component, or finished product be non-compliant

Materials/Component Suppliers (Tiers 2 and 3)

- Ensure all materials are RSL-compliant before sending to product manufacturer.
- Ensure materials' RSL test report or certificates (i.e. bluesign® or OEKO-TEX® Standard 100) are available and uploaded to PUMA RSL Database
- Arrange RSL testing or certificate on materials in 3rd party laboratories according to PUMA RSL Testing Procedures via PUMA RSL Database
- Initiate Non-Compliance Management when non-conformity is found
- Are responsible for all REGULAR testing or certification costs

Third-Party Testing Institutions

- Access the Test Request Form (TRF) in the PUMA RSL Database, and create a sample submission in the system to upload test results
- Select correct test package and ensure all testing items are completed according to PUMA RSL Matrix
- Contact the suppliers when information in the RSL Database is incomplete or uncertain
- Contact the suppliers when the submitted samples are insufficient to complete all testing or are unsatisfactory (e.g. damaged, stained, etc.)
- Enter test results into the system and upload a test report (PDF) to complete the submission

3.7.8 Remediation in case of RSL Failures

Proper investigation through a Root Cause Analysis must be carried out to identify the reason of RSL failure and a Corrective Action Plan should be set up and implemented.

Suppliers have the obligation to ensure the PUMA materials and products are compliant to PUMA RSL requirement. When a non-compliance case is identified from PUMA RSL Testing Programs, market recall or customer complaint, suppliers shall immediately initiate a Root Cause Analysis to investigate the reason of RSL non-compliance.

Suppliers shall submit a Corrective Action Plan (CAP) within 10 calendar days to PUMA Product Compliance Team that provides short-term solution to keep up with the production or shipment schedule and long-term implementation plan to prevent recurrence.

Suppliers shall also send the remediated materials or products to the same 3rd party lab. to retest the non-compliance parameters. Until the material passes the test, proving compliance with PUMA RSL requirements, it shall not be used in any manufacturing of PUMA products.

Based on the finding in the Root Cause Analysis, PUMA Product Compliance Team may arrange further verification on the corrective actions, including desktop review, additional 3rd party laboratories testing or on-site visit.

When suppliers are observed with frequent or multiple RSL non-compliance, PUMA Product Compliance Team will work with suppliers for a continuous improvement and implement a closer monitoring, including factory visit, tightened testing program, material or product random testing etc.

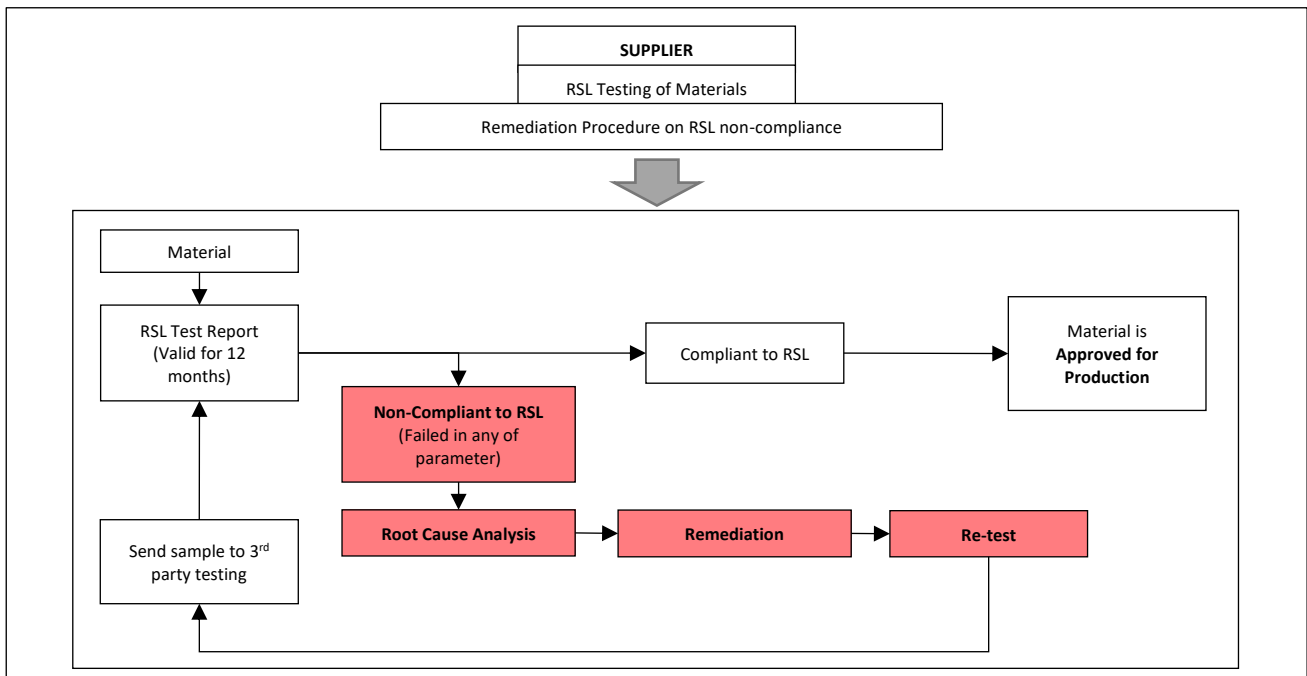


Figure 15 RSL Testing and Remediation Procedure in case of RSL Failure

3.8 Output Stream Management - Wastewater

This section provides an overview of PUMA's requirements for output-stream management, with a focus on wastewater & sludge, air emission and hazardous waste that come out of production processes for PUMA products. The following sections provide definitions for wastewater & sludge, air emission and hazardous waste, as well as relevant targets, standards, and compliance requirements.

Beginning in 2014, PUMA requested specific wastewater & sludge tests from wet processing suppliers, covering at least 80% of our material sourcing volume. In 2014, the required testing parameters focused on 11 priority chemical substances groups including, the following:

- Phthalates
- Flame retardants
- Azo dyes
- Organotin compounds
- Chloro-Benzenes
- Chlorinated solvents
- Chloro- Phenols
- SCCP
- AP & APEO
- PFCs
- Heavy metals

More chemicals groups and chemical substances have been added to the restricted substances list, with updates to the ZDHC Wastewater Guidelines to be more proactive in driving chemical sustainability in the output stream.

In the end of 2016, ZDHC published the first official Wastewater Guidelines, PUMA adopted it and progressively implement it in its supply chain globally. As of 2017, PUMA requires all wet-processing factories with industrial wastewater / sludge generation to upload their tests reports as per ZDHC requirements to the ZDHC Gateway with ClearStream Report.

All of PUMA's core factories with industrial wastewater generation such as wet processing **with industrial wastewater must schedule and perform wastewater & sludge testing according to ZDHC Wastewater Guidelines twice per year.**

3.8.1 Wastewater – Definitions

Wastewater: any water that has been affected by human use, whether through washing, flushing, manufacturing, or other activities. Wastewater is the largest waste stream from most textile mills' operations, including from washing, bleaching, and dyeing operations. Textile mill wastewater is often contaminated with process chemicals (e.g. dye, salt, bleach, detergent, etc.), as well as oil and energy from hot water discharges.

As a result, wastewater **discharge** permit limits are often difficult to meet. Permit limits may exist for the following types of wastewater discharge:

- Wastewater volume
- BOD (biological oxygen demand)
- COD (chemical oxygen demand)
- Aquatic toxicity
- Heavy metals content
- Others per local regulation

Industrial Wastewater: Water that has been used for manufacturing processes and no longer meets the quality standard for beneficial use. Where domestic wastewater is blended with industrial wastewater within the boundaries of a supplier that is the source of both wastewater types, the resultant flow is considered industrial wastewater.

Domestic Wastewater: Wastewaters originating from plumbing fixtures and appliances that support human life such as sanitary systems (toilets), baths, and kitchens. These are out of the scope of ZDHC Wastewater Guidelines. If a supplier discharges industrial wastewater with domestic wastewater, the wastewater is classified as industrial wastewater, to which ZDHC Wastewater Guidelines would apply.

Indirect Discharge: Wastewater is discharged to a central or common effluent treatment plant (CETP) that is not under direct control and/or ownership of the supplier.

Direct Discharge: Wastewater is discharged to streams, lakes, oceans, or other receiving water bodies such as land.

Zero Liquid Discharge (ZLD): The concept that no water leaves a supplier in liquid form. At a supplier with an on-site ZLD treatment system, almost all the wastewater is treated and recovered such that the only water discharged from the supplier exits by evaporation or as moisture in the sludge from treatment plant operations. A supplier is not considered to have a ZLD treatment system if there is a liquid discharge.

Under ZDHC, industrial wastewater is within the scope of interest, not domestic wastewater. The ZDHC Wastewater Guidelines apply to suppliers with direct discharge, indirect discharge and on-site Zero Liquid Discharge (ZLD) treatment plants.

Sludge: the solids or semi-solids separated during wastewater treatment process, including septic and ZLD systems.

For more information on wastewater discharge standards, please refer to ZDHC Wastewater Guidelines or contact the PUMA Sustainability Team.

3.8.2 Wastewater – Targets (Legal Compliance and ZDHC Requirements)

All suppliers must have the necessary permits and licenses from their local authorities to **extract** water from local supplies (whether using underground water, surface water, or other public sources), as well as to discharge wastewater into the public sewer system. Moreover,

- Before the final discharge of wastewater into the public sewer system, PUMA suppliers or PUMA entities must comply with national environmental regulations and standards in their jurisdiction.
- Under no circumstances shall wastewater from PUMA suppliers or PUMA entities be discharged into the environment (including natural bodies of water, groundwater and lands) and surrounding communities without undergoing a treatment process approved by local authorities.

For on-site wastewater treatment plant, the discharge of the treated water must comply with the parameters defined by local environmental regulations and the [Wastewater Guidelines](#) (including [Leather Wastewater Guidelines Addendum](#), [MMCF](#)) of the ZDHC. Wastewater treatment is a complex process and treatment solutions may vary from plant to plant, ZDHC develop [Wastewater Treatment Technologies](#) and [Wastewater Treatment System Operator Minimum Qualifications Guidelines](#) along with other training programs to support suppliers in their daily operation.

<p>Suppliers with direct discharge are expected to follow (option 1 under ZDHC Wastewater Guidelines):</p> <ul style="list-style-type: none"> • All conventional parameters complying with their legal wastewater discharge permit and achieved the foundational limits for conventional parameters under ZDHC Wastewater Guidelines 	<p>Suppliers with indirect discharge are expected to follow (option 1 under ZDHC Wastewater Guidelines):</p> <ul style="list-style-type: none"> • All conventional parameters complying with their legal wastewater discharge permit and/or commercial agreements with the receiving central effluent treatment plant • All ZDHC MRSL parameters in discharged wastewater and in 	<p>Suppliers with an on-site ZLD treatment system to follow (ZLD option under ZDHC Wastewater Guidelines):</p> <ul style="list-style-type: none"> • All ZDHC MRSL parameters in raw wastewater and sludge to be at concentrations that are at, or below the reporting limits per appendices for wastewater & sludge under ZDHC Wastewater Guidelines.
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<ul style="list-style-type: none"> All ZDHC MRSL parameters in discharged wastewater and in sludge to be at concentrations that are at, or below the reporting limits per Appendices for wastewater & sludge under ZDHC Wastewater Guidelines 	<p>sludge to be at concentrations that are at or below the reporting limits per appendices for wastewater & sludge under ZDHC Wastewater Guidelines.</p>	
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Figure 17 Wastewater Requirements for Different Types of Industrial Wastewater Discharges

For more information on wastewater discharge standards, please check with local authorities on the regulatory requirements and also The [Wastewater Guidance](#) Documents of ZDHC as showed in Appendix F.2 in this handbook.

3.8.3 Wastewater – ZDHC Wastewater Testing

The purpose of wastewater testing is twofold and achieves the following aims:

- It ensures PUMA’s vendors and material suppliers apply adequate wastewater treatment methods and technology to their processes, avoiding any negative environmental impact on the receiving body of water
- It ensures industry-specific priority hazardous chemicals (as defined in the ZDHC’s Manufacturing Restricted Substances List (MRSL) have been eliminated from PUMA’s supply chain

Testing the water and sludge from different steps of production, such as incoming, process, or wastewater, is one approach for discerning whether the production process includes the use of hazardous chemicals. This is an option that can be used for clarifying where hazardous chemicals may have entered the facility in the production process. Suppliers shall manage their wastewater properly to protect the environment.

- Industrial wastewater from production must be treated by a wastewater treatment plant before it can be discharged into the environment. Suppliers may use their own treatment plants, or public municipal wastewater treatment plants, where available.
- All suppliers must follow and comply with national regulations for wastewater discharge.
- Wastewater testing shall be conducted per ZDHC Wastewater Guidelines. The Guidelines address legislations and additional parameters designed for environmental protection. These include general chemistry (Conventional Parameters and Metals of guidelines), legal parameters as well as Priority Hazardous Chemicals (MRSL Parameters of guidelines) and sludge parameters (Sludge Parameters of guidelines). Please refer to the PUMA Sustainability Handbook’s Environmental Standards for details.

3.8.4 Wastewater Reporting - ZDHC Gateway Wastewater Module

In demonstrating wastewater conformity in a consistent way, PUMA suppliers (with industrial wastewater generated or wet processing) are required to register a ZDHC Gateway user account and connect with PUMA for wastewater test data exchange and disclosure as per ZDHC requirements.

Sampling, testing and reporting on conventional and sludge parameters specified in the ZDHC Wastewater Guidelines are to be completed at least twice per year, at the latest by April 30 and October 31 (hereafter referred to as reporting deadlines), with the following cycles:

01 November - 30 April and 01 May - 30 October

Sampling, testing and reporting can occur anytime during each of the reporting cycles, so long as there are at least three months between sampling for the two reporting deadlines. Reporting here means the submission of test results into the ZDHC Gateway – Wastewater Module by a ZDHC Accepted Laboratory on behalf of the supplier.

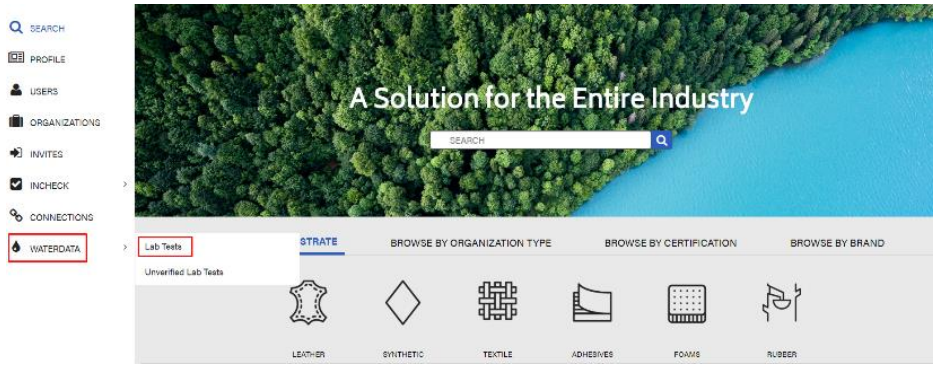


Figure 18 ZDHC Gateway - Wastewater Module

3.8.5 ZDHC ClearStream Report

PUMA suppliers are required to generate the ZDHC ClearStream report and review the information and the results. Suppliers have 20 days from the date that ZDHC approved laboratory uploads results, to “accept and publish results” or to “decline lab results”. Accepted test reports will be automatically shared with PUMA ‘connections’, provided that the PUMA supplier and PUMA have already been connected in ZDHC Gateway.

The ZDHC ClearStream report measures the supplier's performance against each parameter in the ZDHC Wastewater Guidelines. The report provides opportunities for continuous improvement for MRSL conformance of chemical formulation and materials at input stream, process, and Effluent Treatment Plant (ETP) management at output stream. Wastewater test results exceeding the limits per ZDHC Wastewater Guidelines may be an indication of impurities in the incoming water and/or deteriorated infrastructure of the facilities or ETP.

PUMA reports the progress made across its supply chain to ZDHC in its annual financial and sustainability reporting. We adhere to the Right-to-Know Principle¹ to ensure transparency and keep the public informed of the environmental impact of our business activities.

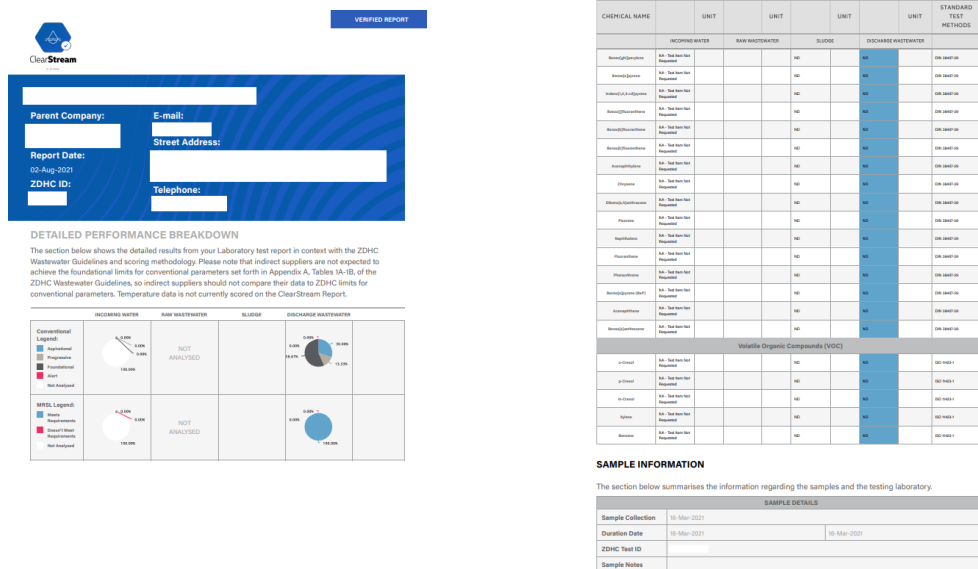


Figure 19 ZDHC ClearStream Report to show conformance of Wastewater Test Results for a Wet-Processing Facility

¹ The Right-to-Know Principle is defined as a practice that allows members of the public access to environmental information – in this case specifically about the use and discharge of chemicals based on reported quantities of releases of hazardous chemicals to the environment, facility-by-facility, year-by-year.

PUMA suppliers shall ensure regulatory compliance and achieve foundational level and higher for conventional parameters and metals, to achieve progressive and aspirational levels to better accomplish its chemical sustainability targets.

PUMA T1 & T2 suppliers should also invite their sub-suppliers and contractors to register with the ZDHC Gateway – Wastewater Module and use standards such as the ZDHC Wastewater Guidelines. This can further help to improve the engagement and transparency on ZDHC wastewater / sludge conformance.

For more information about ZDHC wastewater / sludge, see the PUMA Sustainability Handbook’s Environmental Standards, Appendix F.2 of this handbook or the [ZDHC web page](#).

3.8.6 Wastewater Testing Results Follow-up

The ZDHC ClearStream Report may indicate an alert, i.e., a parameter exceeds the limit set by the WWS Guidelines. Suppliers shall utilize the RCA and CAP modules available on the ZDHC Supplier Platform. The RCA must be started within 45 days of the ZDHC ClearStream Report indicating the alert. Suppliers have six months to resolve the alert before the next round of wastewater/sludge testing, i.e., the next round ClearStream Report, and use this report to demonstrate progress and to show improvement.

The suppliers shall upload the completed RCA/CAP into the ZDHC Gateway. The RCA/CAP documents need to be shared with PUMA Sustainability via email. Business consequences may be imposed if there is no commitment to the adoption of the ZDHC Wastewater Guidelines or conformance, no follow-up on non-conformities or significant regulatory violation of wastewater discharge rules, that may significantly impact business reputation or chemical sustainability targets. This is subject to review and determined by PUMA Sourcing and Business Units.

After assessing wastewater testing results against the ZDHC Wastewater Guidelines, PUMA suppliers are required to create a roadmap to continuously improve. They also have to proactively develop and manage a data-driven strategy, policies and steps needed to continuously improve their operations and achieve an aspirational level for conventional parameters together with metals and conformance with MRS L parameters.

PUMA strongly encourages suppliers to put in place self-monitoring and assessing systems, feedback loops, and to build knowledge and capabilities with other ZDHC solutions and guidelines (such as Input Control Chemistry, ZDHC Manufacturing Restricted Substances List and ZDHC InCheck Report, ZDHC Chemical Management System Framework (CMS), ZDHC Chemical Management System Technical Industry Guide (TIG), ZDHC Wastewater System Operator Minimum Qualifications Guidelines), all of which enable suppliers to tackle chemical management in a more holistic way. In addition, PUMA suppliers shall utilize the ZDHC Academy for continuous learning about and improvement of Central Effluent Treatment Plants (CETPs) for indirect discharge.

Wastewater & Sludge Root Cause Analysis & Corrective Action Plan Fishbone Diagram Template

Template Usage Instruction
 ZDHC recommends the suppliers to use the following fishbone template to determine the potential root cause(s) to non-conformance found in the wastewater and sludge testing report. While the template contains 6 different aspects to guide you to derive the root cause. You are strongly encouraged to think outside the box, and where needed, change the title, add or remove main branches as your team deems appropriate. Where more space are needed to fill in your ideas, feel free to put in additional rows or columns.
 Each template should be related to one non-conformance. In case you have multiple non-conformances, you should consider creating additional copies of this tabs to diagnose other non-conformances.

Cause					Effect
Equipment	Process	People	Other Aspects?		
Primary Cause					
Primary Cause					
Secondary Cause					
Secondary Cause					
Sub-Category					
Primary Cause					
Primary Cause					
Secondary Cause					
Secondary Cause					
					PROBLEM
Materials	Environment	Management	Other Aspects?		

Figure 20 Template for Root Cause Analysis (RCA) & Corrective Action Plan (CAP)

3.8.7 Wastewater Test Data Disclosure

PUMA believes in transparency and local stakeholders’ right to know what is being discharged into local water bodies or land. PUMA requests that suppliers with wet processes test their industrial wastewater twice per year and upload the test results to a publicly accessible online platform such as the Chinese NGO platform provided by the Institute of Public and Environmental Affairs (IPE). To upload or access the published test reports, please visit this [webpage](#). The list of suppliers who have uploaded reports on IPE is available on PUMA’s official website.

More information about chemical discharge in wastewater is available in the [ZDHC Chemical Information Sheets](#).

In addition, there is a web-based platform, DETOX.Live, which has integrated the global facilities of wastewater testing, completed as per ZDHC Wastewater Guidelines. The performance, after uploading the test data to ZDHC Gateway Wastewater Module is shown in three different color codes:

- green means a facility has met requirements
- red means the facility did not meet the requirements
- orange means that while requirements are not met, corrective action was taken

Here is the link for the [DETOX.Live map](#). “Verified data mean as shown on map” means the tests were done by ZDHC accepted laboratories. For suppliers, this has many benefits. It reduces the need to retest, as the same test results are being equally accepted by other brands. That reduces duplication of effort for suppliers and saves a lot of resources. Further, the transparency and trust surrounding verified data also gives suppliers a platform to showcase the good work they are doing. At the same time, all the brands and other stakeholders have a common standard to use in reading their environmental performance in chemical sustainability.



Figure 21 DETOX.Live Platform for the disclosed factories

PUMA reports the progress made across its supply chain toward ZDHC in its annual financial and sustainability reporting. We adhere to the Right-to-Know Principle² to ensure transparency and keep the public informed about the environmental impact of our business activities.

Factories listed in PUMA’s supply chain can be found at [PUMA® - PUMA's manufacturing factories](#) whereas those factories with wastewater discharge can also be found at [Map \(DETOX.Live\)](#).

² The Right-to-Know Principle is defined as a practice that allows members of the public access to environmental information – in this case specifically about the use and discharge of chemicals based on reported quantities of releases of hazardous chemicals to the environment, facility-by-facility, year-by-year.

3.9 Output Stream Management - Air Emission

ZDHC developed a position paper on air emission aiming to

- establish required parameters and minimum tracking expected by facilities to ensure that air emissions do not have an adverse impact on communities and the environment
- share best practices and recommended limit values for quantitative testing of air pollutants produced by facilities' operations and manufacturing

These priorities were determined based upon preliminary research and investigation into which parameters contribute the largest impact on both the environment and human health:

1. World Health Organization (WHO) pollutants
2. Globally regulated air pollutants.
3. ZDHC Manufacturing Restricted Substances List (ZDHC MRSL) parameters
4. Greenhouse Gases (GHG)

This document applies to industrial air emissions discharges produced from facility operations and process operations associated with textile, apparel, footwear and accessories suppliers. Facility Operations refers to any sort of combustion or other facilities-based air emission sources, and Process Operations address the production process, production line equipment, and manufacturing processes.

PUMA, as one of the signatory brands under ZDHC, follows up closely on the development and the progress of this air emission standards and guidelines and will apply in the supply chain as applicable, once details are available.

For more information about air emissions from a regulatory perspective, please refer to the PUMA Sustainability Handbook's Environmental Standards.

3.10 Output Stream Management - Hazardous Waste

3.10.1 Hazardous Waste – Definition

Hazardous waste is defined as a type of waste that cannot be disposed of by common means, given its substantial, or potential, threat to public health and/or the environment. Hazardous waste can be found in gas, liquid or solid form. The United States Environmental Protection Agency ("EPA") defines hazardous waste as materials that are known or tested to be toxic, corrosive, flammable, or reactive.

Characteristics of various types of hazardous waste are defined below:

- **TOXIC:** Containing a concentration of certain substances that exceeds regulatory thresholds and/or are expected to cause injury or illness to human health or harm to the environment
- **CORROSIVE:** Acid waste (with a pH less than or equal to 2) or bases (with a pH greater than or equal to 12.5) that are capable of corroding metal containers such as storage tanks, drums and barrels (e.g., battery acid)
- **FLAMMABLE:** Flammable or ignitable waste can cause fire under certain conditions, spontaneously combust, or have a flash point of less than 60°C (e.g. waste oil and used solvents)
- **REACTIVE:** Materials that are unstable under normal conditions and can cause explosions, toxic fumes, gases or vapor when heated, compressed, or mixed with water (e.g., lithium-Sulphur batteries and explosives)

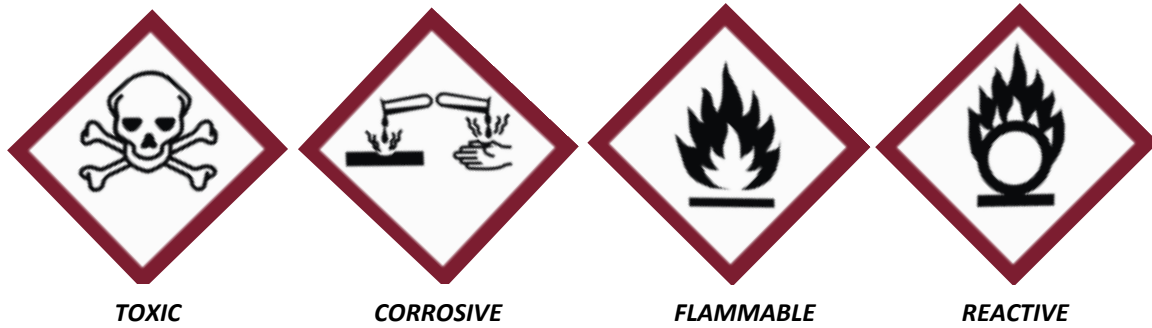


Figure 22 Examples of Labels from the Globally Harmonized System (GHS) of Classification

3.10.2 Hazardous Waste – Standards

PUMA **requires** all factories to comply with all relevant local and international laws related to storage, handling, labelling, transport and final disposal of hazardous waste with proper documentation. These may include:

- Register the type and quantity of hazardous waste generated from their operations
- Have trained personnel on staff to handle the treatment and disposal of hazardous waste
- Have a legitimate and duly authorized hazardous waste transporter
- Have a legally authorized hazardous waste disposal and treatment facility

For more information about hazardous waste from a regulatory perspective, please refer to the PUMA Sustainability Handbook's Environmental Standards.

Sec. 4 – Chemical Policy

We recognize that protecting our environment is an ongoing process. We strive to comply with local and international chemical-related legislations, be transparent with our stakeholders about the chemical-related impact of our work, and continuously improve our performance. Our Policy applies to all PUMA branches worldwide, and we request that our suppliers and service providers adhere to the same principles. Our Policy is comprised of five (5) key aims:

1. **Ensure compliance to all legal regulations and set standards that exceed minimum legal requirements, Enforcing the highest chemical-related standards,** both at PUMA and through our business partner levels, benefits PUMA economically by eliminating and/or mitigating risk associated with illegal noncompliance; pre-empting new regulations and maintaining a good practice position to generate positive momentum on chemical-related issues within the company and our stakeholders. PUMA scans active factories if they have any regulation violation record, for example using tools provided by IPE and its local partner in China and Vietnam. If any violation record is detected, the factories will be required to respond publicly and remediate until the non-compliance point is closed.
2. **Fully integrate PUMA's Chemical Policy into the Corporate Strategy aligned with key stakeholders.** Sustainability goals cannot be achieved by an individual department or brand alone, success in this area requires coordination and collaboration among all individuals and stakeholders to serve a common goal.
3. **Find 'win-win' solutions that serve both financial and chemical-related interests.** PUMA believes that meeting our 10FOR25 targets to reduce the consumption and use of hazardous chemical substances, will generate financial savings in the long term. Aligning our chemical strategy with goals for long-term growth will enhance staff and consumer loyalty to our brand and enhance our competitive advantage, all while reducing PUMA's impact on the environment.
4. **Communicate PUMA's Chemical Policy to different levels of our organization and main stakeholders.** Once we establish these standards, we aim to effectively communicate to all PUMA employees and factory representatives to raise awareness and enlist support in implementing them within all divisions of PUMA, in the practices of our business partners and consumer product use and to highlight to highlight our ambition to optimize the environmental footprint regarding PUMA business.
5. **Strive for continuous improvement.** PUMA strives to undertake more sustainability activities and produce our products in a more sustainable way by continuously monitoring our performance against established targets.

4.1 Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

All PUMA products must fulfill the requirements of REGULATION (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

PUMA does not allow any Substances of Very High Concern (SVHC) to be present in PUMA products or materials above a concentration of 0.1%, measured by weight (w/w) for each individual material within all PUMA finished products, including packaging materials.

The "Candidate List of substances of very high concern for Authorization" can be found under the following link: <https://echa.europa.eu/candidate-list-table>. Selected chemicals from this list that are known to have a risk of contaminating materials used in all apparel, footwear & accessories are also included in PUMA's screening tests.

PUMA strictly follows the EU REACH regulations. All PUMA products must comply with applicable clauses, rules and restrictions stated under the EU REACH regulations.

4.2 Persistent Organic Pollutants (POPs)

Persistent organic pollutants (POPs) are organic substances that persist in the environment, accumulate in living organisms and pose a risk to our health and the environment. POPs are regulated worldwide by the Stockholm Convention and the Aarhus Protocol. All PUMA products must comply with the restrictions under POPs regulation and no POPs shall be used in the manufacturing process.

4.3 Ban of Polyvinylchloride (PVC)

PUMA forbids the use of PVC in any component of PUMA products. This ban has been in place since 2003. For validation, please use the Beilstein Test for qualitative analysis, and the FTIR test method to confirm results if initial tests are positive.

4.4 Elimination of Per- and Poly-Fluorinated Chemicals (PFCs)

PFCs are commonly used to provide a Water Repellent ("WR") function to make the surface water-, oil-, stain- and dirt-repellent. PFCs are also used in the production of membranes made of Poly tetrafluoro-ethylene (PTFE).

PUMA has banned the use of long-chain PFCs since 2015 and the use of any PFCs since the end of 2017. Any exceptions must be reviewed approved by the PUMA Sustainability and Product Compliance Team before using in the manufacture of PUMA products.

4.5 Elimination of Volatile Organic Compounds (VOCs) in Adhesives

By 2025, PUMA aims to reduce the VOC (solvent) consumption to below 10 grams for every pair of shoes. **We highly recommend the use of water-based adhesives and cleaners in place of solvent-based adhesives.** Vendors are required to ask the PUMA production or development team to approve the use of solvent-based adhesives if needed for applications.

We regularly collect information on VOC consumption from Factories and report our progress towards our goal in our annual report.

4.6 Elimination of Dimethylformamide (DMFa)

Polyurethane (PU) material is used in a wide range of PUMA products, including shoes and bags. PU materials are manufactured using either water-based or solvent/dimethylformamide-based technologies. Dimethylformamide (DMFa) is widely used in the production of PU coatings and PU synthetic leather. However, DMFa is classified as toxic to human reproduction systems and listed as carcinogenic by the California Proposition 65 regulation. EU REACH also has classified DMFa as one of the Substances of Very High Concern (SVHC).

The current AFIRM RSL limit for DMFa is 500ppm, but PUMA recommends its Suppliers to use DMFa-free and water-based technologies instead, wherever economically and technically feasible. ZDHC has already put DMFa under candidate list of MRSLS to be phase-out.

In addition, we recommend adopting the bluesign® BSSL limit value of 50ppm as a proactive approach to ensure full legal compliance and maximize consumer safety. Please note that replacing DMFa with Dimethylacetamide (DMAc) is not an acceptable solution as it is also classified as toxic by REACH and California Proposition 65.

4.7 Materials with Food or Mouth Contact

For PUMA products that are intended to be in contact with food or the mouth (such as water bottles), additional requirements must be fulfilled. The following European regulations are applicable for those products and **must be followed**:

- **Regulation (EC) No. 1935/2004**, which covers general rules applicable to all materials and articles intended to be in contact with foodstuffs.
- **GMP Regulation (EC) No. 2023/2006** (Good Manufacturing Practice / GMP)
- **Regulation (EC) No 10/2011**, on plastic materials and articles intended to be in contact with food
- **BfR Recommendations** on Food Contact Materials

Other additional or latest countries requirements should be followed. Please contact PUMA approved third party laboratories for more information regarding chemical testing requirements. Substantive evidence (including declaration, third party test reports and relevant documentation as required by regulations for the marketing countries / regions) must be available to prove compliance.

Please note that requirements from both AFIRM RSL and Food or Mouth Contact must be fulfilled.

4.8 Biocidal (Anti-microbial / Anti-bacterial) Finish

The use of biocidal (anti-microbial / anti-bacterial) finishes (including materials) in PUMA products is prohibited. In case of necessary use of biocidal (anti-microbial / anti-bacterial) finishes (including materials) on specific performance (including anti-odor, odor control or odor management) for designated styles and seasons to specific markets, such use shall

- be proven to be necessary for the intended applications and business needs; and
- meet all relevant legislations and applicable standards, including approval of any active substances or authorization of any biocidal products under ALL applicable requirements such as (NOT LIMITED TO) European Union Biocidal Products Regulation [BPR, Regulation (EU) 528/2012], the United States Environmental Protection Agency (EPA)'s Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) [7 U.S.C. §136 et seq. (1996)], Canada Pest Control Products Act (PCPA) (S.C. 2002, c. 28), China and with the consideration of the marketing countries and regions; and
- meet all PUMA chemical standards; and
- meet all latest AFIRM RSL and ZDHC MRSL requirements
- all substantiated evidence (including declaration, third party test and assessment reports, checklist and relevant authority approval / authorization documentation) to be reviewed by PUMA Legal and Sustainability and approval by PUMA CSO (Chief Sourcing Officer) before use in the manufacture of PUMA products.

Please note that compliance to AFIRM RSL, ZDHC MRSL, bluesign® and OEKO-TEX® Standard 100 does not mean compliance to PUMA Policy and legislations on biocides.

4.9 Ban of Flame Retardant Finish

The use of chemical flame retardants finishing in PUMA products is prohibited, except specific Personal Protective Equipment (PPE). All flame retardants restricted under regulations (e.g. EU REACH, EU POPs, US Federal & State regulations) are not allowed. In case of necessary use of chemical flame-retardant finishing, material shall be tested in nominated 3rd party lab. In addition, please contact Product Compliance team for approval.

4.10 Ban of Mercury and Mercury Compounds

PUMA prohibits the use any mercury and mercury compounds in the products and manufacturing process.

4.11 Nanomaterials

Under the “Commission Recommendation of 18/10/2011 for the definition of nanomaterial” (2011/696/EU) defines nanomaterials as structural components with a size range of 1 to 100 nanometers in at least one (1) dimension.

Nanomaterials or any materials that fall under this definition must be evaluated and pre-approved by PUMA’s Sustainability Team before use in the manufacture of PUMA products.

Suppliers shall provide records (including declarations, third party reports and other relevant assessment documentation) to understand potential risks and impacts to human health and the environment. The toxicity, exposure mechanisms, and movement in the environment should be included in the assessment.

Please note that compliance to AFIRM RSL, bluesign® and OEKO-TEX® Standard 100 does not mean compliance to PUMA Policy and legislation on nanomaterials.

Sec. 5 – Sustainability Data Collection & Reporting

5.1 Global Reporting Initiative (“GRI”) Sustainability Reporting

PUMA has been publicly reporting its sustainability performance in accordance with the guidelines of the Global Reporting Initiative (“GRI”) since 2004. Since 2010, PUMA’s Sustainability and Financial Reporting have been integrated into the consolidated PUMA Annual and Sustainability report.

PUMA continues to encourage its Core Suppliers to publish sustainability reports that adhere to GRI guidelines to further transparent sustainability reporting across the supply chain.

Please visit the PUMA website for a copy of our [Annual Report](#).

5.2 Reporting of Chemical data

Here is the summary showing the key chemical data to be collected from PUMA Suppliers in different stages within the chemical management model. The chemical data are used to reflect the progress and implementation of different parameters in chemical management. The scope of data collection and chemical parameters have been listed as below:

Stream	Performance Parameters	Scope of Data Collection	Process to collect data
Inputs	<ul style="list-style-type: none"> MRSL Conformance (% by weight and by count) 	<ul style="list-style-type: none"> T1/T2 Suppliers with use of chemicals and materials under scope of ZDHC Standards 	<ul style="list-style-type: none"> Upload CIL by PUMA suppliers through ZDHC approved Chemical Inventory tool into ZDHC Gateway (by count and weight in monthly basis)
	<ul style="list-style-type: none"> VOC Consumption (g/pair) 	<ul style="list-style-type: none"> FTW T1 Suppliers with use of VOC (for gluing, cleaning. etc.) 	<ul style="list-style-type: none"> Collect VOC consumption data from PUMA T1 suppliers to PUMA FTW Team (monthly basis)
	<ul style="list-style-type: none"> DMFa Usage (kg/yard) 	<ul style="list-style-type: none"> FTW T2 PU Suppliers 	<ul style="list-style-type: none"> Collect DMFa consumption data from PUMA T2 PU suppliers to PUMA FTW Team (annual basis)
Process	<ul style="list-style-type: none"> Verified Higg FEM Scores - Chemical Management (& ZDHC Supplier To Zero) 	<ul style="list-style-type: none"> T1/T2 Suppliers with use of chemicals & materials under scope of SAC FEM (& ZDHC Supplier To Zero Certificate) 	<ul style="list-style-type: none"> Upload FEM (& Facility Foundations) results and scores into Higg platform by PUMA suppliers and verifiers (& ZDHC Supplier Platform) (annual basis)
Output	<ul style="list-style-type: none"> RSL Test Results 	<ul style="list-style-type: none"> All PUMA T1 & T2 Suppliers 	<ul style="list-style-type: none"> Upload RSL test results by 3rd party laboratories on "LINK" for each material (annual basis)

<ul style="list-style-type: none"> ZDHC Wastewater Test Results 	<ul style="list-style-type: none"> All wet-processing factories with industrial wastewater (average $\geq 15\text{m}^3/\text{day}$) 	<ul style="list-style-type: none"> Upload wastewater test results (twice per year) into ZDHC-Wastewater Module by ZDHC approved laboratories with factory disclosure in Detox.Live & IPE platforms
<ul style="list-style-type: none"> ZDHC Air Emission Test Results 	<ul style="list-style-type: none"> All T1/T2 Suppliers with use of air emission materials under scope of ZDHC Standards 	<ul style="list-style-type: none"> Upload air emission data into ZDHC upcoming designated platform

Figure 24 Matrix of Collection and Reporting for Chemical Data

Sec. 6 – Industry Collaboration

PUMA has placed a large emphasis on industry collaboration and, where possible, supporting existing industry initiatives. Collaboration with our peers is paramount to streamline the sustainability efforts of our industry. We believe that encouraging alignment of individual industry organizations, e.g., converging use of tools and processes, makes the overall system more efficient. Examples of actions PUMA has taken are adopted Industrial best practices from different industrial organizations including Sustainable Apparel Coalition (SAC), Zero Discharge of Hazardous Chemicals (ZDHC) Foundation, and Apparel and Footwear International RSL Management (AFIRM) Working Group in formulating, implementing and evaluating performance on chemical management.

These and similar coordinated efforts potentially free up resources currently spent by brands and Suppliers alike. Examples of what we believe are redundant processes include:

- Multiple chemical management audits and chemical testing for the same Factory
- Multiple test reports for hazardous chemicals on the same materials and effluents or discharge
- Multiple capacity-building and training projects focused on similar subjects and Suppliers

By de-duplicating efforts across the industry through collaboration across brands, we aim to use our own resources more effectively. This, in turn, achieves stable, long-term positive impact on our direct and indirect employees, as well as the Factories, communities and environment in which we operate. Our new “10FOR25” targets guide our work in this respect.

6.1 Zero Discharge of Hazardous Chemicals (ZDHC) Foundation

ZDHC is defined as elimination of any and all discharge of hazardous chemicals³ from the entire lifecycle and production procedures associated with the make and use of PUMA products.

PUMA recognizes the urgent need to reduce and eliminate industrial releases of all hazardous and harmful chemicals. In 2011, we collaborated with a group of major apparel and footwear brands and retailers to create a shared commitment to help lead the industry towards **zero discharge of hazardous chemicals by 2020 and beyond**. PUMA and other participants published the release of a joint roadmap towards zero discharge within the supply chain through ZDHC Foundation. The ZDHC Foundation oversees the implementation of the Roadmap to Zero Programme and is a global multi-stakeholder initiative of more than 160 contributors within the fashion and footwear industry. The vision is widespread implementation of sustainable chemistry, driving innovations, and best practices to protect consumers, workers, and the environment. ZDHC uses collaborative engagement to drive a holistic, industry-focussed, and practical approach to sustainable chemical management. ZDHC guidelines, platforms, and solutions drive large-scale industry-wide implementation that advances the industry as a whole towards the zero discharge of hazardous chemicals. The roadmap towards ZDHC sets a standard of chemical and environmental performance for the global apparel, footwear and accessories industry, moving beyond 2020. It includes specific commitments and timelines for realizing this shared goal with ZDHC-member brands.

As one of the co-founder brands and long-term partner of ZDHC, PUMA has publicly committed to zero discharge of hazardous chemicals into the environment, keeping emphasis on prevention and the precautionary principle, as well as our commitment to the United Nations Sustainable Development Goals

³ The hazardous chemicals refer to ZDHC MRSL-listed chemicals.

Find more information about ZDHC at www.roadmaptozero.com.

6.2 Sustainable Apparel Coalition (SAC)

The Sustainable Apparel Coalition (SAC) is a global multi-stakeholder nonprofit alliance for the fashion industry. It's made up of more than 250 leading apparel, footwear and textile, brands, retailers, suppliers, service providers, trade associations, nonprofits, NGOs, and academic institutions working to reduce environmental impact and promote social justice throughout the global value chain. Leveraging the Higg Index suite of tools for the standardized measurement of value chain sustainability, the SAC is working to transform business for exponential impact.

Through multi-stakeholder engagement, the Coalition seeks to lead the industry toward a shared vision of sustainability, built upon a common approach for measuring and evaluating the sustainability performance of apparel and footwear products. This seeks to illuminate priorities for action alongside opportunities for technological innovation.

PUMA became an active member of SAC in 2011 and remains actively engaged in working groups within the Coalition, including those focused on environmental and social issues. Active membership in the SAC gives PUMA and PUMA's suppliers the opportunity to collaborate with industry peers toward the achievement of common goals. These goals are related to creating environmentally friendly products, improving production processes, and enhancing working standards within our global supply chains.

In 2012, the Sustainable Apparel Coalition launched the Higg Index, and in 2018, the Higg Index FEM (Facility Environmental Module) 3.0 has been rolled out to all suppliers. The Higg Index FEM 3.0 is an indicator-based sustainability assessment tool that measures a facility, brand, or product's Environmental Impact. PUMA requires core factories in tiers 1 and 2 to complete the self-assessment + verification modules available from the Index for their environmental performance. Completion of these modules will help prepare suppliers for future PUMA product scoring and serve as a valuable source of information on sustainability trends and best practices. Core suppliers shall also conduct external verification for the module once the service is available. Facility Foundations which is a simplified version for FEM has also been launched by SAC in 2021.

Find more Information for SAC at <https://apparelcoalition.org/>

6.3 Apparel and Footwear International RSL Management (AFIRM)

AFIRM is established in 2004. AFIRM's mission is to reduce the use and impact of harmful substances in the apparel and footwear supply chain. AFIRM's purpose is to provide a forum to advance the global management of restricted substances in apparel, footwear and accessories, communicate information about chemical management to the supply chain, discuss concerns, and exchange ideas for improving chemical management. Currently, AFIRM has 35 branded company from the industry globally.

AFIRM continues to be a recognized global center of excellence, providing resources to enable continuous advancement of chemical management best practices. AFIRM does this based on transparency, science, and collaboration with relevant industries and experts to build safer and more sustainable chemistry within the apparel, footwear and accessories supply chains.

It is understood that in adopting this vision, AFIRM's mission, objectives, and projects will continue to be product-focused or RSL-related.

Find more information about AFIRM at [AFIRM Group – Reduce the use of harmful substances \(afirm-group.com\)](https://afirm-group.com) and in Appendix F.3 of this handbook.

APPENDIX

A. The PUMA Code of Conduct

PUMA SE, PUMA WAY 1, D-91074 Herzogenaurach

FOREVER FASTER PUMA 

CODE OF CONDUCT

PUMA respects Human Rights. This respect defines our engagement with the societies in which we operate, and with our partners throughout our supply chain. PUMA respects the environment. We are determined to manage, reduce and report on the impact on the environment of both our organization and our supply chain.

These two commitments are expressed publically and transparently in the PUMA Code of Conduct. All our Employees, Vendors and their Subcontractors are required to comply in full with this Code of Conduct. Where differences or conflicts arise, the highest standard shall apply.

EMPLOYMENT RELATIONSHIP

Vendors and their subcontractors shall adopt and adhere to rules and conditions of employment that respect workers, and, at a minimum, safeguard their rights under national and international labor and social security laws and regulations.

NO CHILD LABOR

Vendors and their subcontractors may not employ anyone below 15 years of age, or the local legal minimum age, or the age for completing compulsory education, whichever of the three is higher.

SAFE WORKING ENVIRONMENT

Vendors and their subcontractors must provide a safe and hygienic working environment for all employees. Vendors and their subcontractors must take all possible precautions to prevent accidents at the workplace, and should actively promote good occupational health and safety practices.

FREEDOM OF ASSOCIATION & COLLECTIVE BARGAINING

Vendors and their subcontractors must guarantee the right of their employees to join unions, or other work or industry related associations, and to bargain collectively. These rights must be given without fear of harassment, interference or retaliation.

NO DISCRIMINATION

Vendors and their subcontractors do not discriminate against any of their employees. Employees are treated with respect and equality regardless of religion, age, gender, pregnancy, marital status, disability, nationality, race, ethnic origin, political views or sexual orientation.

ETHICAL BUSINESS PRACTICES

PUMA SE will not tolerate corruption neither in the supply chain nor in its own operations.

DIGNITY AND RESPECT

Harassment, corporal punishment and physical, sexual, psychological or verbal abuse is not tolerated in the PUMA supply chain. Vendors and their subcontractors cannot use any form of forced labor including prison labor, indentured labor or bonded labor.

FAIR COMPENSATION






Every worker has a right to compensation for a regular work week that is sufficient to meet the worker's basic needs and provide some discretionary income. Employers shall pay at least the minimum wage or the appropriate prevailing wage, whichever is higher, comply with all legal requirements on wages, and provide any other benefits required by law or contract. Where compensation does not meet workers' basic needs and provide some discretionary income, each employer shall work with their relevant stakeholders to take appropriate actions that seek to progressively reach a level of compensation that does.

NO EXCESSIVE WORKING HOURS

Vendors and their subcontractors employees must not be obliged to work in excess of the regular workweek and maximum overtime allowed by local labor law. A regular workweek shall not exceed 48 hours and one day off shall be guaranteed for every seven-day period. Other than in exceptional circumstances, the sum of regular and overtime hours in a week shall not exceed 60 hours. Overtime shall be voluntary and compensated at a premium rate and not be requested on a regular basis.

RESPECT THE ENVIRONMENT

Vendors and their subcontractors must respect local environmental protection legislation or international industry standards, whichever is higher. All Vendors and their subcontractors must measure and progressively reduce their impact on the environment.

REGION	TELEPHONE	LANGUAGES
Southeast Asia	+84 989385612 +628 11 227 2143	
South Asia	+880 1708469256	
East Asia	+86 13622884924	
Americas	+503 77871132	
Europe, Middle East & Africa	+49 15114743876 +90 532 483 6685	

Vendors and their subcontractors accept that their business practices are subject to scrutiny. All subcontractors must be authorized by PUMA and it is the responsibility of the vendor to ensure that this Code of Conduct is respected at their subcontractors.

PUMA SE reserves the right to cease trading with any company which is found to violate this Code of Conduct.

Please direct all enquires, complaints and suggestions regarding this code and its implementation to sustain@puma.com or contact your local PUMA Sustainability Team.

V. 06. 2016

B. The PUMA Code of Ethic

PUMA PRINCIPLES

It is great to have a set of values that guide the way we conduct our day to day business. However, you may ask yourself how all of this applies to you.

Find on the next pages the guiding principles of how we behave and make decisions at PUMA. We will discuss the tricky positions you can find yourself in, in which the correct behavior does not seem so clear. The Q&As will help you understand such situations.

Remember in case of doubt there is always someone you can speak to at PUMA.

As a PUMA employee you also have to comply with mandatory internal policies for specific risk areas. These internal policies and the **Code of Ethics** exist to protect both you and PUMA's reputation and goodwill.

As a manager you have to make sure everybody in your team understands these rules and sticks to them.

We want everybody to be attentive, to look closer and to speak up whenever the principles are being violated.



PRINCIPLE 1 — HUMAN RIGHTS

WE TREAT EVERYONE WITH FAIRNESS AND RESPECT.



We want you to be you when you come to work!

The people who work at PUMA come from many backgrounds and nationalities. Our differences make us stronger. We want a diverse workforce and we do not tolerate discrimination, harassment or bullying in any form. We know that the colour of your skin, your gender, age, who you love, how you worship or how you self-identify does not affect your ability to do your job. We always come from a place of openness and respect.

PRINCIPLE 3 — LEARN FROM MISTAKES

WE TAKE RESPONSIBILITY FOR OUR ACTIONS AND OWN UP TO OUR MISTAKES.



At PUMA, we employ humans, not robots.

Every now and then mistakes happen. Own up to your mistakes and do not try to cover them up. We see mistakes as learning opportunities.

PRINCIPLE 5 — PROTECTION OF PUMA ASSETS

WE USE PUMA ASSETS RESPONSIBLY.

As part of your job, you may be given a laptop, a company car or some other tool to make sure you can perform properly. Also, for example during 360 we give you access to many new products.

We expect you to treat these assets with care and respect. Do not steal, waste or misuse them.

Use your common sense when using PUMA assets and make sure you keep them safe.



PRINCIPLE 2 — HEALTH & SAFETY

WE PROVIDE A SAFE WORK ENVIRONMENT FOR OUR EMPLOYEES.



You should be able to go to work without fear of injuring yourself or getting sick.

We do not cut corners or look for ways to save when it comes to health and safety.

In fact, we are investing more in these areas to ensure you have a safe, healthy environment so you can do your job to the best of your ability.

PRINCIPLE 4 — INTELLECTUAL PROPERTY

WE RESPECT INTELLECTUAL PROPERTY — OURS AND OTHERS'.



Our designers and developers come up with creative and innovative ideas that make us a successful and competitive brand.

Our logo is one of our most valuable assets.

That is why we make sure we protect PUMA's intellectual property. We show the same respect and care for trademarks, patents and designs owned by others. We only use the intellectual property of others if we have the permission or the license to do so.

PRINCIPLE 6 — SUSTAINABILITY

WE WORK TOWARDS A SUSTAINABLE FUTURE.

We only have one planet so we have to take care of it.

Sustainability means ensuring that our success does not exploit our suppliers' workers nor our own staff, our natural resources or our investments.

We reject any violation of human rights by suppliers, and any form of forced

labor, and exploitative child labor or discrimination in any form.

It is important for us that our suppliers give a fair day's pay for a fair day's work.

We expect our suppliers to adhere to regulations about minimum working age and minimum wage.

PRINCIPLE 7 – QUALITY & SAFETY

WE MAKE SAFE PRODUCTS.

At PUMA, we take pride in our work. We make innovative, high-quality products for athletes of all levels, across the globe.

When someone buys a PUMA product, they can expect that they or the people they care about are not put at risk and neither are the people who produce it. Therefore, we ensure that our products are designed and produced in compliance with applicable safety and trade compliance standards.



PRINCIPLE 8 – SELECTION OF BUSINESS PARTNERS

WE SELECT OUR BUSINESS PARTNERS CAREFULLY.



We can only achieve our goal of becoming the fastest sports brand in the world if we work with the best business partners available.

This is why we carefully select third party business partners based on objective criteria. Favoritism and nepotism have no place at PUMA. We expect our business partners, especially our sourcing partners, to respect human rights, to know the rules by which we play and ask them to adhere to the values we have set out in our Code of Conduct for suppliers.

PRINCIPLE 9 – CONFLICTS OF INTEREST

WE ACT WITH PUMA'S BEST INTEREST AT HEART.

A conflict of interest can arise when you are somehow personally invested (financially, genetically, romantically) in a business decision.

We cannot avoid all conflicts of interest, but we can take steps to ensure we always act objectively and without bias.

We do this by disclosing and managing potential and existing conflicts of interest. This way we make objective decisions which benefit PUMA as a whole and not only us as individuals.



PRINCIPLE 10 – INSIDER TRADING

WE DO NOT USE INSIDE INFORMATION OUTSIDE OF THE COMPANY.



PUMA is a listed company.

Therefore, we comply with capital markets law. Working at PUMA means you may have access to inside information about the company. Inside information is not only a confidential information but could, if made public, affect an investor's decision to buy or sell PUMA shares thus affecting the market price of the PUMA share.

Inside information can include information about sales, earnings or other important financial performance figures, significant transactions, changes in key personnel or the entry into a new market. Using inside information for your own gain, be it personal or business, or for recommending to another person to buy or sell PUMA shares creates an uneven playing field. More importantly, it's illegal and can lead to serious criminal and civil penalties and fines for you and PUMA.

PRINCIPLE 11 – ANTI-MONEY-LAUNDERING

WE PREVENT MONEY LAUNDERING.



If someone were to receive money illegally, that money would need to be 'laundered' before it can be put into the financial system and spent. Money laundering means falsifying or disguising where that money came from, then returning it to the criminal. There are many ways this can be done, such as with shell companies, large cash payments or through elaborate transfers.

PUMA takes a strong stance against money laundering and takes active steps to ensure our payment channels cannot be used for illegal activities.

Stay alert! It's important that you speak up if you see anything suspicious.

Red flags can include:

- » **Transfer payment to or from entities or countries not related to the transaction**
- » **Process a transaction in a way that circumvents the normal process**
- » **Payments in cash.**

PRINCIPLE 12 – TRADE COMPLIANCE

WE COMPLY WITH NATIONAL & INTERNATIONAL TRADE LAWS.

We have fantastic products and it is no surprise that customers around the globe love them and want access to them.

We are committed to complying with import and customs law, export controls, economic sanctions, denied parties lists etc.

For example, we will not conduct business with persons or companies that are subject to any type of trade embargoes, economic

sanctions or other official restricted lists. Make sure you engage our Trade Compliance Team to review movements of our products across international borders before they take place. All activities, especially contracts, involving sanctioned countries must be reviewed by the legal and compliance departments.

PRINCIPLE 13 – COMPETITION

WE COMPETE FAIRLY.



Winning from an unfair advantage is not winning.

We are successful because we work hard and play by the rules. PUMA is committed to ensuring a level playing field and fair and equal conditions for competition. This is not just about protecting our reputation and avoiding lawsuits, but about benefitting our customers and business partners: competition creates more choice, lower prices and higher-quality products for consumers.

Antitrust laws regulate anti-competitive behavior between businesses. These laws prohibit discussions, agreements and understandings among actual or potential competitors regarding price or restriction of market, boycotting certain suppliers or customers.

We do not condone behavior that violates antitrust laws.

PRINCIPLE 14 – ANTI-CORRUPTION

WE CANNOT BE BOUGHT AND WE DO NOT OFFER BRIBES.

When we win, in life and in business, we want to do so on merit. When we lose, we want it to be because our competitors were better, not because they paid a bribe.

PUMA does not accept and does not offer bribes in any way, shape or form.

PUMA does not make donations or other contributions to political parties, politicians or related institutions.



PRINCIPLE 15 – FINANCIAL INTEGRITY

WE KEEP ACCURATE RECORDS.



Bookkeeping isn't just a fun word with three consecutive repeated letters (one of only three in the whole English language), it is the supportive insole in the shoes of any company.

We keep complete, accurate, timely and understandable records to give a fair and complete view on PUMA's performance and to help us do business.

We do not make false statements, misleading entries, material omissions in any of PUMA's books, financial records, personnel records and systems.

PRINCIPLE 16 – TAX COMPLIANCE

WE PAY OUR FAIR SHARE

PUMA respects all tax laws and international standards in all countries where we operate.

We aim to be a good corporate citizen and pay in full all local and national taxes as required by the law.

Details are stipulated in the PUMA Group Tax Guideline.

PRINCIPLE 17 – CONFIDENTIALITY

WE PROTECT CONFIDENTIAL INFORMATION.



As a PUMA employee you have access to a lot of information that could be valuable to our competitors.

Information about new sponsorship deals, the latest sales figures, new designs or patents could hurt PUMA if it ended up in the wrong hands. Do keep PUMA's confidential business information and the one of our business partners to yourself.

In addition, we invest a lot in technical solutions to prevent cyber criminals from disrupting our business.

PRINCIPLE 18 – DATA PRIVACY

WE PROTECT PERSONAL INFORMATION.



Employees, customers and business partners share personal data with us.

When you give us your information, you establish a trust relationship with us, and we take this relationship very seriously.

We protect the data entrusted to us by handling it properly, using it only for the intended and authorized purposes, and considering the full rights of the data owner at all times.

SPEAK UP. REACH OUT. PLAY FAIR.

We have now explained the guiding principles of how we behave and make decisions at PUMA.

If you notice any behavior or actions you feel go against those principles, we want you to speak up. You are the best asset we have to ensure a level playing field for PUMA and its competitors: you are on the ground, you deal with these issues every day and you are in the best position to speak up and let us know if we have missed something.

It's not easy, but it's important.

Sharing a suspicion about your colleagues can be tough. You may feel you are betraying their confidence by doing so. But ignoring unethical or inappropriate behavior only serves to make the problem worse, while doing nothing to fix it.

If someone gets away with something once, they are more likely to do it again. If you are in doubt, it is always better to ask for advice than to ignore it. Clear and open communication is the quickest way to conflict resolution.

For the full version, please see PUMA FOREVER BETTER website: [PUMA Code of Ethics](#)

C. Contacts

If you have any questions or need additional information, please contact us. Below are main PUMA contacts by relevant areas:

ZDHC MRSL & Supplier To Zero	Ms. Mia Gunawan Ms. Helen Pham	mia.gunawan@puma.com helen.pham@puma.com
PUMA RSL Database, Restricted Substances List, AFIRM, RSL Remediation Procedure	Mr. Aaron Shum Ms. Danney Song	Aaron.shum@puma.com Danney.song@puma.com
ZDHC approved chemical Inventory platform	Ms. Mia Gunawan	mia.gunawan@puma.com
ZDHC Wastewater Guidance IPE Platform	Ms. Mia Gunawan Ms. Helen Pham	mia.gunawan@puma.com helen.pham@puma.com
ZDHC Air Emission	Ms. Mia Gunawan	mia.gunawan@puma.com
SAC Higg FEM & Facility Foundations (Chemical module)	Ms. Mia Gunawan Ms. Helen Pham	mia.gunawan@puma.com helen.pham@puma.com
Oeko-Tex® Standard 100	Mr. Aaron Shum	Aaron.shum@puma.com
Biocides (anti-microbial / anti-bacterial), nanomaterials	Mr. Aaron Shum	Aaron.shum@puma.com
Issuance of Letter of Authorization (LoA) RSL Summary Sheets	Ms. Wendy Li Ms. Danney Song	LoA@puma.com Danney.song@puma.com

In case of any other questions, please contact the PUMA Sustainability Team and Product Compliance Team at:

For supply chain matters on sustainability

Ms. Veronique Rochet
Senior Director Sustainability
World Cat Limited

veronique.rochet@puma.com

26-27-28 Floor Lim Tower 9-11 Ton Duc Thang Street Ben Nghe Ward District 1, 700000 Ho Chi Minh, Vietnam

For corporate matters on sustainability

sustain@puma.com

For product compliance matters

Mr. Aaron Shum
Director Product Compliance
Puma International Trading Services Limited

Aaron.shum@puma.com

D. UN Global Compact Principles

THE TEN PRINCIPLES

The UN Global Compact's ten principles in the areas of human rights, labor, the environment and anti-corruption enjoy universal consensus and are derived from:

- [The Universal Declaration of Human Rights](#)
- [The International Labor Organization's Declaration on Fundamental Principles and Rights at Work](#)
- [The Rio Declaration on Environment and Development](#)
- [The United Nations Convention Against Corruption](#)

The UN Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labor standards, the environment and anti-corruption:

HUMAN RIGHTS

- [Principle 1](#): Businesses should support and respect the protection of internationally proclaimed human rights; and
- [Principle 2](#): make sure that they are not complicit in human rights abuses.

LABOR

- [Principle 3](#): Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- [Principle 4](#): the elimination of all forms of forced and compulsory labor;
- [Principle 5](#): the effective abolition of child labor; and
- [Principle 6](#): the elimination of discrimination in respect of employment and occupation.

ENVIRONMENT

- [Principle 7](#): Businesses should support a precautionary approach to environmental challenges;
- [Principle 8](#): undertake initiatives to promote greater environmental responsibility; and
- [Principle 9](#): encourage the development and diffusion of environmentally friendly technologies.

ANTI-CORRUPTION

- [Principle 10](#): Businesses should work against corruption in all its forms, including extortion and bribery.

E. Links and References

- 1) All Cradle2Cradle certificated Materials:
<http://www.c2ccertified.org/>
- 2) Apparel and Footwear International RSL Management (AFIRM) Working Group:
<http://www.afirm-group.com/>
- 3) bluesign®: <http://www.bluesign.com/>
- 4) bluesign® FINDER
<https://www.bluesign.com/en/business/finder>
- 5) Global Organic Textile Standard (GOTS):
<http://www.global-standard.org/>
- 6) Global Reporting Initiative:
<https://www.globalreporting.org/>
- 7) Greenpeace Detox:
<http://www.greenpeace.org/international/en/campaigns/toxics/water/detox/>
- 8) Leather Working Group (LWG):
<http://www.leatherworkinggroup.com/>
- 9) OEKO-TEX® buying guide: <https://www.oeko-tex.com/en/buying-guide>
- 10) Organic Exchange: <http://www.ecocert.com/en>.
- 11) PUMA Sustainability Reports:
<http://about.puma.com/en/sustainability/reports/puma-s-sustainability-reports>
- 12) Sustainable Apparel Coalition (SAC):
<http://www.apparelcoalition.org/>
- 13) SAC Higg FEM How to Higg Guide
[Summary of Updates to the How to Higg FEM Guide \(v1.5\) – User Resources: How To Higg](#)
- 14) SAC Facility Foundations Platform Guide
[Facility Foundations Platform Guide – User Resources: How To Higg](#)
- 15) Textile Exchange: <http://textileexchange.org/>
- 16) UN Global Compact:
<http://www.unglobalcompact.org/>
- 17) ZDHC Academy:
<https://academy.roadmaptozero.com/>
- 18) Zero Discharge of Hazardous Chemicals (ZDHC):
Foundation <http://www.roadmaptozero.com/>
- 19) ZDHC Knowledge Base Platform (Gateway):
<https://knowledge-base.roadmaptozero.com/hc/en-gb/categories/360003870658-Gateway>
- 20) ZDHC Supplier To Zero:
<https://www.implementation-hub.org/supplier-to-zero>

F. Additional Guidelines and Standards

F.1 US Consumer Product Safety Improvement Act (CPSIA)

The United States Consumer Product Safety Improvement Act (CPSIA) applies to all articles imported to the United States. ***This section applies only to those PUMA products destined for the U.S. market. (PUMA Sourcing informs Suppliers of the destination country for all products).***

CPSIA includes but are not limited to, provisions that address the following:⁴

- Lead
- [Phthalates](#)
- [Toy safety](#)
- [Durable infant or toddler products](#)
- [Third-party testing and certification](#)
- Tracking labels
- Imports
- ATVs
- [Civil](#) and [criminal](#) penalties
- [SaferProducts.gov](#), a publicly-searchable database of reports of harm.⁵

Products defined by the CPSIA as “children’s products” must adhere to the following policies:⁶

- Comply with all safety rules applicable to [children's products](#)
- Be [tested for compliance](#) by a laboratory accredited by the Consumer Product Safety Commission (“CPSC”), unless subject to an exception
- Obtain a written [Children’s Product Certificate](#) providing evidence of the product’s compliance
- Have permanent [tracking information](#) affixed to the product and its packaging, where possible

Note: Even if RSL test reports exist for a material, certain materials may still require additional testing to ensure CPSIA compliance.

F.1.1 PUMA CPSIA Requirements

The CPSIA requires manufacturers or importers to issue a [General Certificate of Conformity \(GCC\)](#) for non-children's products and a [Children Product Certificate \(CPC\)](#) for children's products. ***To issue a GCC / CPC, Suppliers must provide proof of having a reasonable testing program in place or, depending on the product type, a valid test report from an authorized test laboratory for each article.***

CPSIA requirements are provided in Table 1, below, which lists products that must be tested before shipment to the US according (and according to which legislation), as well as test methods and requirements.

⁴ Source: <http://www.cpsc.gov/en/Regulations-Laws--Standards/Statutes/The-Consumer-Product-Safety-Improvement-Act/>; date of access: 16/08/2017.

⁵ Source: <http://www.cpsc.gov/en/Regulations-Laws--Standards/Statutes/The-Consumer-Product-Safety-Improvement-Act/>; date of access: 16/08/2017.

⁶ Source: <http://www.cpsc.gov/en/Regulations-Laws--Standards/Statutes/The-Consumer-Product-Safety-Improvement-Act/>; date of access: 16/08/2017.

Table 1: US CPSIA Testing Requirements

US CPSIA TESTING REQUIREMENTS APPLY TO THE FOLLOWING PRODUCTS:							
	ADULT APPAREL	CHILDREN'S APPAREL (NOT SLEEPWEAR)	CHILDREN'S FOOTWEAR	CHILDREN'S ACCESSORIES	GIVEAWAYS (GIFT WITH PURCHASE)	TEST METHOD	REQUIREMENT
Lead, 16 CFR 1303 (applied surface coating)	No	Yes	Yes	Yes	Yes, All children's products	CPSC-CH-E1003-09 and/or ASTM F2853	≤ 90 ppm
		for products primarily designed for use by children below age of 12					
Lead content in substrates – CPSIA Section 101	No	Yes	Yes	Yes	Yes	Non-Metal products: CPSC-CH-E1001-08, and CPSC-CH-E1002-08, and CPSC-CH-E1002-08	100 ppm
Small Parts, 16 CFR 1501 (only for attached components)	No	Yes, if for children under 3 years	Yes, if for children under 3 years	Yes, If for children under 3 years	Yes, if for children under 3; for toys applicable even if no component or attachment	16 CFR 1501	No detachments
Sharp Points, 16 CFR 1500.48 Sharp Edges, 16 CFR 1500.49 (only for attached components)	No	Yes, if for children under 8 years	Yes, if for children under 8 years	Yes, if for children under 8 years	Yes, if for children under 8; for toys applicable even if no component or attachment	Sharp Points – 16 CFR 1500.48 Sharp Edges – 16 CFR 1500.49	No sharp points or sharp edges
Flammability of Fabric, 16 CFR 1610	Yes	Yes	No	No	Yes, textile parts	16 CFR 1610	Pass
Flammability of Children's Sleepwear (sizes 0-6), 16 CFR 1615	No	No	No	No	Yes, children's sleepwear sizes 0-6	16 CFR 1615	Pass
Flammability of Children's Sleepwear (sizes 7-14), 16 CFR 1616	No	No	No	No	Yes, children's sleepwear sizes 7-14	16 CFR 1616	Pass
Flammability in Vinyl Plastic Film (if contains synthetic coating) 16 CFR 1611	Yes	Yes	No	Yes, for bags that contain synthetic coating	Yes, if coats, bags, shirts, pants, etc. with synthetic coating	16 CFR 1611	Pass
Phthalates CPSIA Section 108	No	No	Not yet, but might be regulated	Yes, depends on article	Yes, if it is a toy	CPSC-CH-C1001-09. or GB/T 22048-2008	≤ 0.1% of each listed phthalate

More details on the test methods and requirements of the regulations can be found on the CPSIA [website](#).

F.1.2 PUMA CPSIA Compliance Procedure

All CPSIA tests must be uploaded to the PUMA RSL Database. When adding a material or finished product for CPSIA testing to the database, select "CPSIA" as the test program in the Test Request Form. Test packages based on the CPSIA test methods and standards are already pre-defined in the PUMA RSL Database and available for laboratories to choose from.

All individuals involved in CPSIA testing must sign and adhere to the Undue Influence Policy as part of PUMA's anti-corruption procedures. For more information on using the PUMA RSL Database for CPSIA testing, please refer to the PUMA RSL Database Training Manual, available for download in the "help" section of the PUMA RSL Database. After completion of successful testing in alignment with PUMA standards, manufacturers can print their GCC (referred to as the "CPSIA Certificate of Compliance") directly from the Database.

A list of CPSC-accepted laboratories can be found [here](#)

F.2 ZDHC Standards, Guidelines, Tool & Platforms

F.2.1 ZDHC Input-Process-Output Standards and Guidelines

Type	Input (MRSL Conformance)	Process (Chemical Management System)	Output (Wastewater and Air Conformance)
Guides	ZDHC has published guidelines and have coordinated supply chains to use the industrial best practice standards and guidelines to manage input-process-output to truly achieve Zero Discharge of Hazardous Chemicals (ZDHC) through collaborative efforts in the industry while minimizing duplication and costs.		
	ZDHC MRSL V2.0	ZDHC Chemical Management System (CMS) Framework	ZDHC Wastewater Guideline V1.1
	ZDHC MRSL Conformance Guidance V1.2	ZDHC CMS Technical Industry Guide (TIG) V1.0	ZDHC Leather Wastewater Guidelines Addendum V1.0
Others	ZDHC Performance InCheck Guideline V1.0	Chemical Inventory List Template (CIL)	ZDHC MMCF Guidelines V10
	ZDHC MRSL Industry Standard Implementation Approach V1.1		ZDHC Air Emissions Position Paper
	ZDHC Chemical Information Sheets (guidance sheets for different MRSL chemical substances groups)		
	ZDHC Accepted Conformance Indicators for Verification Against the ZDHC Manufacturing Restricted Substances List (ZDHC MRSL)		

Remarks:

1). Please click the hyperlinks (underlines) to get the designated ZDHC documents and information. As ZDHC will update the standards and information as per their updated plan, please go to [ZDHC website](#) to search for the latest version.

F.2.2 ZDHC Implementation Tool & Platforms

Type	Input (MRSL Conformance)	Process (Chemical Management System)		Output (Wastewater Conformance)
The ZDHC implementation tools support the input-process-output guidelines implementation to truly manage Hazardous chemicals in the supply chain and achieve Roadmap to Zero.				
Platform	ZDHC Gateway – Chemical Module	Supplier to Zero		ZDHC Gateway – Wastewater Module
User	T1 / T2 Suppliers Formulators (Chemicals Suppliers)	Suppliers with use of chemicals and materials (polymer) under ZDHC scope	Suppliers with use of chemicals and materials (polymer) under ZDHC scope	Suppliers with wastewater generation
Report	ChemCheck report - ZDHC Accepted Conformance Indicators for Verification the ZDHC MRSL Conformance	Search a Chemical InCheck report	Supplier to Zero Certification Supplier to Zero Introduction	ClearStream Report
Account	All PUMA T1 & T2 suppliers within the scope of coverage must register the production site to the ZDHC Gateway upon invitation by PUMA. - Apply for Gateway Account (For T1 / T2 Suppliers) After registering to the ZDHC Gateway, PUMA suppliers must send a connection request to the PUMA Brand account - Managing Connection in ZDHC Gateway with PUMA (For T1 / T2 Suppliers) PUMA Suppliers are expected to fill in the supplier profile information (Higg ID, sector, process, material; https://knowledge-base.roadmaptozero.com/hc/en-gb/articles/360009442978-Setting-up-your-Supplier-Organisation-Profile). Here is the ZDHC account set-up for chemical suppliers - Apply for Gateway Account (For Formulators / Chemical Suppliers)			
Operation Guides	-Receive Gateway Registration link - Company Registration	-Receive Gateway Registration link - Company Registration on Gateway		
	- Evaluate chemical MRSL conformance- MRSL Indicators - Upload chemicals and MRSL conformance documents - Set Subscription - Make chemicals published - Download ChemCheck report	-Prepare Chemical Inventory List- CIL -Contact ZDHC approved service provider -Performance InCheck Report	- Log in supplier to Zero via Gateway account - Self verification and improvement - Supplier to Zero Certification	-Contact ZDHC Approved WW labs - Labs upload WW report -Suppliers publish WW report - Clearstream report - RCA and CAP Process - Wastewater & Sludge Root Cause Analysis (RCA) & Corrective Action Plan (CAP) Template

Remarks:

- 1). Please click the hyperlinks (underlines) to get designated ZDHC Standards & information or enter the designated platform for data entry. As ZDHC will update the standards and information as per their updated plan, please go to [ZDHC website](#) to search for the latest version.
- 2). ZDHC air emission implementation tool and platform are under development through designated ZDHC Task Team.

F.2.3 Applicability of ZDHC Standards, Tool, Guidelines and Platforms to Suppliers

(1) Product Division	(2) Suppliers' Tier	(3) CIL	(4) Gateway (Connected with PUMA)	(5) MRSL	(6) Chemical Inventory Platform	(7) InCheck	(8) Industrial Wastewater / Sludge	(9) ClearStream	(10) Chemical Management System	(11) Supplier To Zero	(12) ZDHC Academy
Apparel	T1 – Assemblies (no production chemicals in use), Optional	X	X	X					X	X	X
	T2	X	X	X	X	X	X	X	X	X	X
Footwear	T1 – Assemblies (with adhesives / polymers in use)	X	X	X	X	X			X	X	X
	T2	X	X	X	X	X	X	X	X	X	X
Accessories	T1 – Assemblies (with adhesives / polymers in use)	X	X	X	X	X			X	X	X
	T2	X	X	X	X	X	X	X	X	X	X

Remarks:

- (1). This includes textile, synthetic, leather, polymers are being covered in each of the product division.
- (2). T1 suppliers here are referring to factories with core production process such as assemblies, cut & sew, pressing process (without chemicals use) for all three product divisions. For shoes and accessories T1 factories, use of chemicals and materials (polymer) such as rubber, foam & adhesives are included here. T2 suppliers are factories with use of chemicals generally in the production including dyeing, printing, tanning, etc. and with industrial wastewater generated from manufacturing processes. In case the T2 factories have no chemicals use of production and no use of polymers, the scope of ZDHC requirements are to be the same as assemblies, cut&sew, processing (without chemicals use) factories. For suppliers with vertical manufacturing in their factories or factories with chemicals use in their production, both T1 and T2 requirements are to be followed.
- (3). This is the Chemical Inventory List. For details of chemicals under the scope of applicability, please refer to [ZDHC Performance InCheck Guideline V1.0](#). For suppliers that are not using BHive or E3, the CIL should be uploaded to FFC in monthly basis.
- (4). PUMA suppliers shall be connected with PUMA through ZDHC Gateway (Chemical Module and Wastewater Module). InCheck and ClearStream Reports shall be available to PUMA through connection with the suppliers.
- (5). The scope of MRSL shall refer to [ZDHC MRSL V2.0](#) and [ZDHC Performance InCheck Guideline V1.0](#).

(6). Only platform as approved by ZDHC can be used. Currently BHive is the platform that PUMA has engaged with. Other platforms, CleanChain and E3 are also accepted by PUMA if the suppliers have already used such platform. PUMA suppliers are required to share CIL and InCheck reports regardless which platform may be used.

(7). The scope of InCheck shall refer to [ZDHC MRSL V2.0](#) and [ZDHC Performance InCheck Guideline V1.0](#). For suppliers that are not using BHive or E3, the InCheck Report should be uploaded to FFC in monthly basis.

(8). This covers factories with industrial wastewater / sludge generation including wet-processing facilities – direct, indirect and zero liquid discharge.

(9). ClearStream report shall be available after completion for each of the wastewater & sludge testing by ZDHC approved laboratories.

(10). This is the framework being covered for each of the factories. The extent of coverage is to be depend on the manufacturing process involved.

(11). PUMA accepts SAC Higg FEM. For suppliers who have been adopted FEM, the suppliers to follow Supplier To Zero programme.

(12). Suppliers shall evaluate capacity of their Chemical Management Responsible Person per [ZDHC CMS Technical Industry Guide \(TIG\) V1.0](#) to identify training needs at least in year basis.

Please note that the manufacturing supply chain can be complicated or different. Please contact PUMA Sustainability or ZDHC for better understanding and clarity as needed.

F.3 AFIRM Standards, Tool and Guidelines

Standards & Guidelines	Scope and Content	Different Languages Version
AFIRM RSL	<p>The AFIRM RSL has provided a single set of information for maximum and in-depth of restricted substances implementation within the supply chain. The use of AFIRM can be as follows:</p> <ul style="list-style-type: none"> • providing a tool for vendors to establish chemical management knowledge and processes. • building full or base compliance with AFIRM member chemical restrictions. • providing a common base for testing, which may be accepted by multiple AFIRM brands. AFIRM member companies determine and communicate to their vendors their testing requirements and acceptance of test reports 	English version
		Chinese version
		Vietnamese version
		Spanish version
		Indonesian version
AFIRM Packaging RSL	<p>The AFIRM Packaging RSL provided a single set of information for maximum and in-depth implementation within the supply chain. The uses for the AFIRM Packaging RSL include:</p> <ul style="list-style-type: none"> • providing a tool for vendors to establish chemical management knowledge and processes. • building base compliance with AFIRM member chemical restrictions. • providing a common base for testing packaging, which may be accepted by multiple AFIRM brands and communicate to their vendors their testing requirements and acceptance of test reports 	English version
		Chinese version
		Vietnamese version
		Spanish version
		Indonesian version
AFIRM Toolkits	<p>This is a handful industrial guide that has covered best practice in implementing RSL. It focuses on the needs of brands, suppliers, and upstream vendors— including material and chemical suppliers, mills, dye houses, trim and packaging suppliers, screen-printers, factories, and other business entities involved in the manufacture of apparel and footwear finished goods</p>	English version
		Chinese version
		Vietnamese version
		Spanish version
		Indonesian version
Chemical Information Sheet	<p>This is a comprehensive set of educational materials advising suppliers about best practices for chemicals management. Each chemical information sheet covers a chemical or class of chemicals, giving an overview of the substance(s), where they are likely to be found in the material manufacturing process, and how to maintain compliance with the AFIRM RSL. Currently, there are 32 Chemical Information Sheets being developed for the RSL chemicals groups as listed on AFIRM RSL.</p>	English version
		Chinese version
		Vietnamese version
		Spanish version
		Indonesian version
		Japanese version

Remarks:

1). Please click the hyperlinks (underlines) to get the designated AFIRM documents. AFIRM RSL to be updated in yearly basis while other guidelines are updated as needed. Please also check the [AFIRM website](#) as to get the latest version of the document.

F.4 SAC Higg FEM Guide and Facility Foundations

Here is the guide for Sustainable Apparel Coalition Higg Facility Environmental Module (SAC Higg FEM). The Higg FEM provides factories a clear picture of their environmental impacts including chemicals. It helps them identify and prioritize opportunities for performance improvements.

[Summary of Updates to the How to Higg FEM Guide \(v1.5\) – User Resources: How To Higg](#)

Points to be noticed:

- 1). Please click the hyperlinks (underlines) to get guide of How to Higg Guide for the FEM Module. There are different sections in the guide. Please refer to Chemical Management Section for the chemical management content.
- 2). How to Higg Guide is to be updated in yearly basis. Please check the website as to get the latest version of the document.

Here is the guide for Facility Foundation which is the simplified version of FEM. [Appendix A – Facility Foundations – User Resources: How To Higg](#).

F.5 PUMA's Compliance Procedures for Specific Market Restrictions

To ensure product compliance in specific region, PUMA established specific compliance procedures for shipment to certain countries / regions:

1. Shipment to Specific Countries / Regions
 - United States (US) Shipment for Children's Products (US CPSIA)
 - Korea Shipment (For Footwear)
 - Turkey Shipment (For Apparel / Accessories / Footwear)
 - United Arab Emirates (UAE) Shipment (For Apparel / Accessories)
2. Specific Restrictions
 - For Odor Management (Biocides / Anti-microbial / Anti-bacterial)
 - For Per- and Poly-Fluorinated Chemicals (PFC) Testing under PFC Elimination (with repellency and release performance such as water-, oil-, stain- and dirt-repellent)

Please contact PUMA Product Compliance Team as per Appendix C of this handbook for the detail.

F.6 Overview of PUMA Strategy, Goals & Actions with Data Platform, Performance Reporting, Certifications & Industry Associations under Chemical Management

