Xtep Group
Sustainable Chemicals Management Manual

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Background

As a globally leading sports footwear and apparel brand, Xtep Group possesses an extensive manufacturing system. Throughout every stage of footwear and apparel production—from fabric dyeing and finishing, adhesive bonding, coating treatment, to final product packaging—a substantial quantity of Chemicals is utilized. While these Chemicals enhance product performance and quality, they also carry potential risks to worker health, consumer safety, and the environment. Faced with increasingly stringent international regulatory demands and growing consumer concerns about product safety, Xtep Group acknowledges that establishing a systematic and scientific Chemicals management system is an essential step towards sustainable corporate development. We are dedicated to maximizing the protection of the rights and interests of all stakeholders through responsible Chemicals management, without compromising product quality.

This policy is applicable to all factories and partners within Xtep Group's global supply chain that are involved in the production of footwear, apparel, and related products and utilize Chemicals during the production process. It encompasses all production processes, including fabric sourcing, dyeing, printing, adhesive application, finished product manufacturing, and packaging, as well as all footwear, apparel, and related accessory products.

By implementing a stringent Restricted Substance List (RSL), setting sustainable Chemicals management requirements for factories, and establishing product and raw material testing systems, we ensure that the levels of harmful substances in our final products remain below safety thresholds, thereby safeguarding the health and well-being of consumers worldwide. Simultaneously, we provide a safe working environment for all employees who handle Chemicals, by standardizing Chemicals handling, usage, storage, and disposal procedures, providing necessary personal protective equipment and safety training, establishing an occupational health monitoring system, and regularly identifying and mitigating occupational disease risks.

Xtep Group recognizes that irresponsible Chemicals usage can lead to pollution of water bodies, soil, and the atmosphere. This policy is committed to promoting the adoption of low-toxicity, low-environmental-risk Chemicals alternatives, establishing a comprehensive wastewater treatment and pollution prevention and control system, minimizing the environmental impact of Chemicals, and driving the entire supply chain towards green production practices. We pledge to strictly adhere to national, regional, and international regulations in our target markets, regularly review and update our management policies to align with regulatory changes, and ensure ongoing compliance throughout the supply chain through audit and inspection mechanisms. We manage Chemicals to a standard that exceeds regulatory requirements, adopt internationally advanced frameworks such as the ZDHC Zero Discharge Roadmap, establish a transparent Chemicals management system, and set an industry benchmark for responsible business operations.

Statement of Policy

Xtep Group is dedicated to establishing and upholding an exemplary Chemicals management system within the global sports footwear and apparel supply chain. We acknowledge the critical significance of the safe and responsible utilization of Chemicals in safeguarding worker health, promoting environmental sustainability, and enhancing business resilience. To achieve this, we make the following solemn commitments:

- Integrate Sustainable Chemicals Management Practices Across the Supply Chain

We thoroughly integrate sustainable Chemicals management practices into every facet of our supply chain. Throughout the entire lifecycle—from raw material procurement and production process design to product manufacturing and waste disposal—we prioritize low-toxicity and low-environmental-risk Chemicals alternatives. We establish green Chemicals procurement policies, collaborate with industry associations to develop alternatives to hazardous Chemicals, and encourage suppliers to adopt safer and more eco-friendly substitutes. Regular evaluations and optimizations of Chemicals usage processes are conducted to minimize Chemicals consumption and reduce our environmental footprint.

- Adopt an International Advanced Management Framework

We pledge to fully embrace and implement the ZDHC (Zero Discharge of Hazardous Chemicals) Zero Emission Roadmap Guidelines, leveraging the professional platforms and tools provided by ZDHC. Specifically, we will: identify all Chemicals in use throughout the supply chain, strictly adhere to the ZDHC Manufacturing Restricted Substance List (MRSL) to ensure all Chemicals meet the highest international standards; actively participate in the ZDHC Gateway platform to achieve transparent management and real-time tracking of Chemicals data at the input stage, ensuring supply chain transparency and traceability; utilize the ZDHC StZ (Supplier to Zero) program or Higg Index FEM tool to promptly assess the Chemicals management capabilities of supplier factories, ensuring they consistently implement best practices; and adopt ZDHC wastewater guidelines to establish a comprehensive wastewater management and monitoring system, preventing harmful substances from entering water bodies.

- Prioritize Worker Health and Safety

The health and safety of our workers is our top priorities. We require all supplier factories to establish and maintain rigorous Chemicals safety procedures, including comprehensive safety protocols for Chemicals identification, storage, transportation, and usage. We provide necessary personal protective equipment (PPE) and safety training for employees handling Chemicals, implement an occupational health monitoring program for regular employee health checks to promptly identify and mitigate occupational disease risks, and establish an emergency response mechanism to ensure swift and effective action in the event of Chemicals spills, poisoning, or other incidents.

- Establish Traceability and Transparency Mechanisms

We are committed to embedding complete traceability and transparency into the daily operations of our supplier factories. All Chemicals at supplier facilities must have clear records of their origin and composition. A Chemicals inventory management system should be established to track the inflow and outflow of Chemicals in real time, along with their usage status. Relevant data should be disclosed to stakeholders through platforms like ZDHC Gateway, accepting social oversight and introducing third-party verification or audit mechanisms as necessary to continually enhance supply chain transparency and credibility.

- Establish a Continuous Improvement Management System

We commit to continuously monitoring, evaluating, and enhancing the effectiveness of our Chemicals Management System (CMS). This includes establishing a Key Performance Indicator (KPI) system to regularly collect and analyze data on supplier Chemicals usage, leaks, and emergency incidents; requiring suppliers to conduct regular internal and external third-party audits to identify management gaps; promptly adjusting and optimizing management measures based on audit findings, regulatory updates, technological advancements, and industry best practices; and regularly reviewing and updating policy documents to ensure their ongoing effectiveness and forward-looking nature.

- Conduct Capacity Building and Training

We pledge to provide systematic capacity building and training on the Chemicals Management System (CMS) for all our suppliers. Training content will cover, but not be limited to, the core

concepts and requirements of ZDHC CMS, safe Chemicals identification, usage, and emergency response, protection of workers' health rights, and environmental responsibilities. We ensure that all supplier representatives possess the requisite knowledge and skills to implement this policy effectively.

- Effective Communication and Stakeholder Engagement

We commit to communicating this policy statement and its implementation progress to all stakeholders, including employees, suppliers, consumer groups, and regulatory bodies, through regular communication, reporting, and dialogue to foster trust and consensus.

- Resource Allocation and Organizational Support

We pledge to allocate sufficient human resources, special funds, and technical support for the establishment, operation, and maintenance of the Chemicals management system, ensuring the effective implementation of our policies.

Revision Log

Version	Revision history	Effective Date
2026	First release	Jun 30, 2026

1. Organization and Department Responsibilities

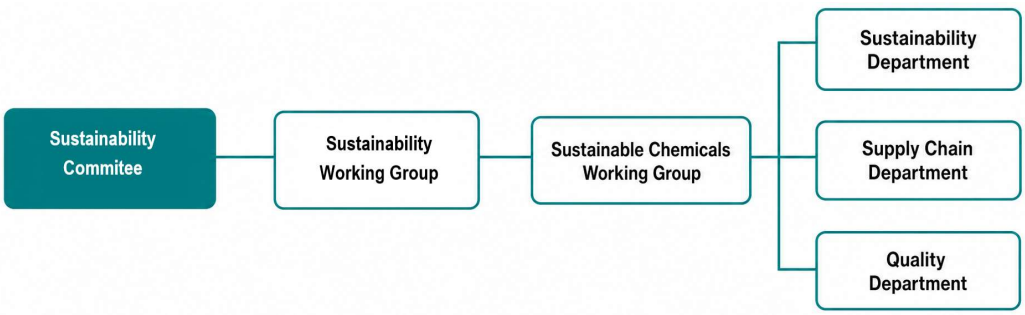
1.1 Xtep Group Chemicals Management Organization

Xtep Group has set up a cross-departmental Sustainable Chemicals Management Working Group, under the leadership of the Sustainability Committee, to orchestrate and advance the formulation, implementation supervision, and ongoing enhancement of supply chain Chemicals management policies. Each functional department has clearly defined roles, establishing a management framework characterized by "vertical integration and horizontal collaboration" to guarantee the effective enforcement of Chemicals management policies throughout the entire supply chain.

The Sustainable Chemicals Management Working Group convenes regular meetings (at least quarterly), spearheaded by the Sustainable Development Department and attended by key personnel from the Supply Chain Department and the Quality Department of the Group's Quality Management Center.

The primary responsibilities of the Sustainable Chemicals Management Working Group encompass deliberating and endorsing significant policy modifications in Chemicals management; evaluating the progress of management system implementation and key performance indicators; pinpointing and addressing cross-departmental coordination challenges; fostering innovation and continual improvement; and formulating improvement action plans.

Figure 1.1 Xtep Group's Chemicals Management Organization



1.2 Supplier Chemicals Management Organization

We mandate that all supplier factories establish a Chemicals Management Team, to be led by the factory operations manager. The team's membership should encompass the Chemicals Management Representative, the Production Department Head, the Quality Assurance Manager, the Human Resources Team, the Procurement Department, the Warehousing Department, and

the individual responsible for sewage treatment and waste disposal. This team shall undertake the specific implementation, daily oversight, and resolution of issues related to the group's Chemicals Management Policies.

It is advisable for suppliers to consult the following organizational structure and job descriptions, establish a Chemicals Management Team in accordance with their specific circumstances, delineate the organizational framework, and specify job responsibilities accordingly.

Figure 1.2 Supplier's Chemicals Management Organization

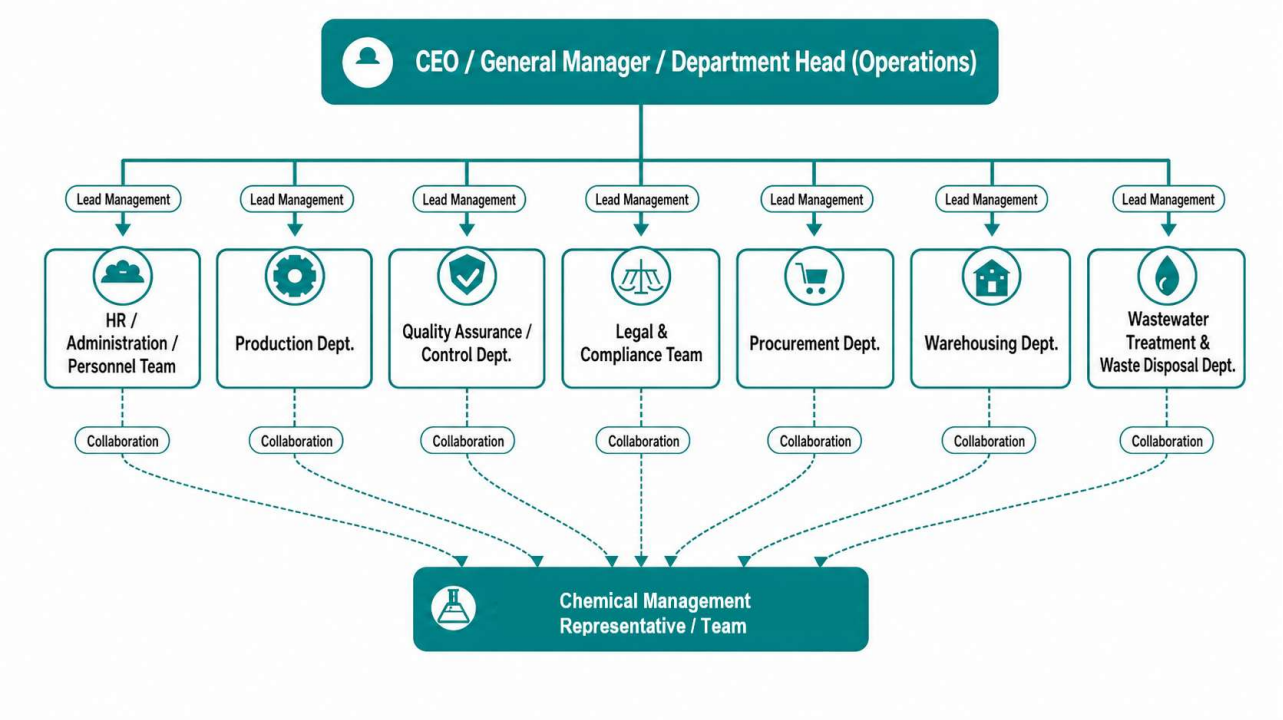


Table 1.1 Supplier Chemicals Management Roles and Responsibilities

Role	Responsibilities
Factory Operations Manager (Team Leader)	Lead the overall work of the Chemicals management team, and formulate factory-level Chemicals management objectives and annual plans Ensure sufficient human, financial, and technical resources are allocated for the Chemicals management system Regularly report the progress of Chemicals management to the group headquarters Host meetings of the Chemicals Management Team and coordinate the work of various departments Ensure that the factory fully complies with the Chemicals management

	policies of Xtep Group and relevant regulations
Chemicals Management Representative	Be in charge of the daily operation and upkeep of the Chemicals Management System (CMS), as well as the establishment of a Chemicals inventory management system. Take responsibility for uploading and updating data on the ZDHC Gateway platform, guaranteeing the precision and promptness of the information. Develop and revise safety operation procedures and emergency response plans concerning Chemicals. Conduct internal audits to detect deficiencies and pinpoint opportunities for enhancement within the management process. Coordinate third-party audits and verification tasks.
Production Department Supervisor	Monitor production line staff to ensure strict compliance with Chemicals safety operation protocols. Oversee the rational use and control the consumption of Chemicals in the production process. Promptly report any abnormalities, such as Chemicals leaks or pollution, that occur during production. Assist in identifying and implementing alternative Chemicals solutions that are less toxic and pose lower environmental risks.
Quality Manager	Responsible for the incoming inspection and acceptance of purchased Chemicals to ensure they meet quality standards and safety requirements. Establish Chemicals quality records to track the source and batch information of Chemicals. Responsible for handling and tracing non-conforming products related to Chemicals. Participate in the evaluation and certification of Chemicals alternatives.
Human Resources Team	Organize and implement Chemicals safety training to ensure that all employees who come into contact with Chemicals receive the necessary training. Establish an occupational health monitoring plan and organize regular health checkups for employees. Responsible for the configuration, distribution and management of

	personal protective equipment (PPE). • Record and track employees' Chemicals exposure and health status.
Purchasing Department	• Responsible for the procurement of Chemicals, ensuring that the procured Chemicals meet ZDHC MRSL standards. • alternatives with low toxicity and low environmental risk. • Communicate with suppliers to obtain Safety Data Sheets (SDS) and relevant certification information for Chemicals. • Evaluate and select suppliers with good Chemicals management capabilities • Technical evaluation and cost analysis of Chemicals alternatives
Warehousing Department	• Responsible for the safe storage of Chemicals, ensuring that the storage environment meets safety requirements. • Maintain clear labeling and categorized storage of Chemicals to prevent confusion and leakage. • Record the inbound and outbound status of Chemicals in real time and update the inventory management system accordingly. • Regularly check the storage conditions, expiration dates, and integrity of Chemicals. • Responsible for safe transportation of Chemicals, preventing leaks and contamination.
Wastewater treatment (where applicable) and Waste disposal person in charge	• Establish a comprehensive wastewater treatment and monitoring mechanism to ensure compliance with ZDHC wastewater guidelines. • Responsible for the classification, collection, and proper disposal of Chemicals waste generated during the production process. • Prevent harmful substances from entering water bodies and the environment and regularly monitor the quality of wastewater discharge. • Establish emergency plans for wastewater treatment and waste disposal to respond promptly to leaks and pollution incidents. • Regularly report on KPI data and compliance status related to wastewater treatment and waste disposal.

2. Sustainable Chemicals Management Policies Release and implementation

2.1 Chemicals Management Policies Release and Update Procedure

2.1.1 Drafting and Review

The Sustainable Chemicals Working Group assesses the need for policy formulation or revision based on regulatory updates, market demands, and industry best practices. It then forms an interdepartmental drafting team, inviting participation from departments such as supply chain management, product quality, and factory operations. After the drafting team completes the initial policy draft, relevant departments provide feedback and suggestions. The Sustainable Development Department consolidates this feedback and makes necessary modifications and enhancements.

2.1.2 Approval and Release

The revised policy text is submitted to the Sustainable Chemicals Management Working Group for review. Upon approval by the Working Group, it is forwarded to the Sustainability Committee for final approval and subsequently released by the Sustainable Development Department.

2.1.3 Document Numbering and Management

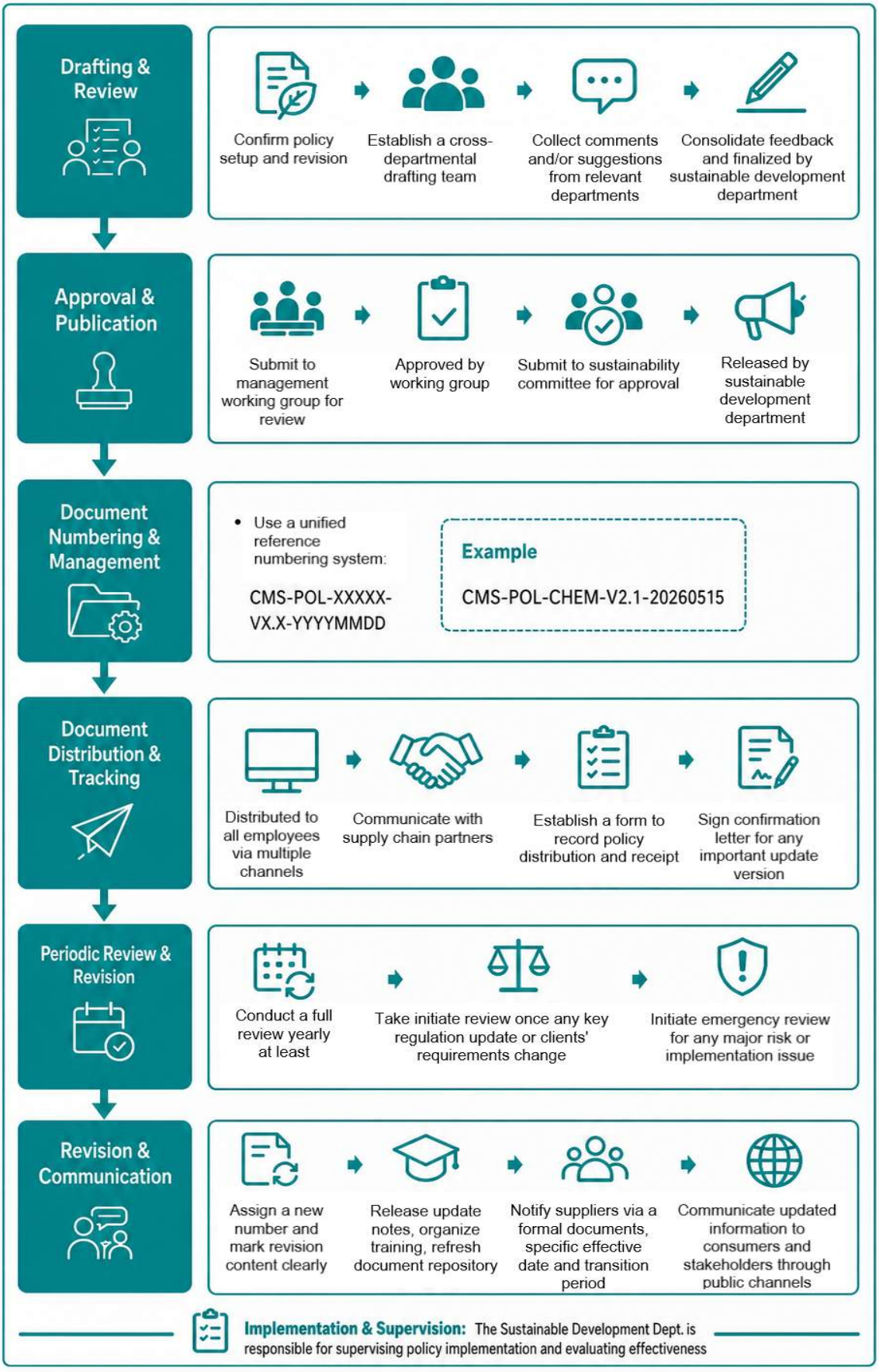
Document numbering and management can be integrated in accordance with existing document control procedures, utilizing a unified reference numbering system: CMS-POL-XXXX-VX.X-YYYYMMDD.

Reference example: CMS-POL-CHEM-V2.1-20260515

2.1.4 Document Distribution and Tracking

Documents are distributed to internal employees through multiple channels, including official corporate documents, internal systems, and emails. Communication with supply chain partners is facilitated through supplier conferences, written notices, and other means. A distribution registration form is established to document recipients, distribution dates, and acknowledgments. For critical updated versions, relevant parties are required to sign confirmation forms.

Figure 2.1 Flowchart for Release and Update of Chemicals Management Policies



2.1.5 Regular Review and Revision

This management policy undergoes comprehensive review at least annually. An interim review is conducted in response to significant regulatory changes or shifts in customer demands, while an emergency review triggered upon identification of substantial risks or implementation issues.

2.1.6 Revision and Communication

The revised policy is allocated new reference numbers, with the revised content distinctly indicated; an update notification is issued, targeted training programs are organized, and the documentation repository is updated accordingly; suppliers are formally notified through official documentation, specifying the effective date and transitional period, and supplier training sessions are conducted; updated information is disseminated to consumers and stakeholders via public channels.

2.2 Supplier Training Plan

Through a well-structured training program, we seek to deepen suppliers' comprehension and recognition of Xtep Group's sustainable Chemicals management system, bolster their compliance awareness and technical management skills, ensure their prompt and thorough understanding of Chemicals management requirements, and foster standardized operations and ongoing enhancements across the entire supply chain.

2.2.1 Training Content

The supplier training encompasses two modules: basic training and advanced training.

Table 2.1 Training Modules and Main Training Content

Training Module	Main Content
Basic Training	Xtep Group Chemicals Management Policy Understanding and Application of Restricted Substances List (RSL) ZDHC Zero Emissions Roadmap Framework and the Use of the Gateway Platform Regulatory requirements regarding restricted substances (EU REACH, China's mandatory product standards, etc.)

	• Establishment and implementation of a factory Chemicals management system
Advanced Training	• Interpretation and Implementation Guidelines for the Updated Content of the Chemicals Management Manual • Latest developments and requirements of Sustainable Chemicals management projects • Best practices for the procurement, use, storage, and disposal of Chemicals • Worker health, safety and environmental risk prevention • Management Manual Implementation Summary and Case Analysis • Common non-compliance issues and corrective measures for suppliers

2.2.2 Training Cycle

- ☑ All suppliers must participate in centralized training at least once a year.
- ☑ New suppliers must complete initial Chemicals management system training at the beginning of the cooperation.
- ☑ Specialized training should be organized when the Chemicals management manual undergoes a major update.

Suppliers with Chemicals non-compliance issues need to increase the training frequency to 2-4 times per year, including on-site guidance training, online supplementary training, and specialized skills training. The training content should be customized to address the specific non-compliance issues, and 3rd-party service agencies should be invited to provide training when necessary. After completing the training, an assessment must be conducted, and only those who pass can continue to cooperate.

2.2.3 Training Format

- **Offline training:** An annual supplier training conference is organized, inviting relevant suppliers to participate offline and inviting industry experts to give special lectures.
- **Online training:** Establish an online learning platform to publish training courses, policy documents, case study videos, etc. Suppliers can learn independently, which is suitable for geographically dispersed suppliers.

- **On-site training:** For key suppliers or factories with problems, organize professional teams to provide on-site guidance and training.
- **Workshops:** Small-scale workshops are organized around specific topics (such as ZDHC Gateway usage, Chemicals testing, etc.) to facilitate in-depth discussions and hands-on practice.

2.2.4 Training Organization

The ESG and Sustainable Development Division of Xtep Group takes charge of overall planning and coordination; the Supply Chain Management Division handles supplier notifications and engagement management; the Product Quality Division offers technical support and case studies, and, when necessary, invites external experts or third-party organizations like ZDHC to deliver lectures.

2.2.5 Training Management

Set up training archives to meticulously document each supplier's training participation, assessment outcomes, and progress in improvement; evaluate the participating suppliers by verifying their learning effectiveness through written examinations, case analyses, and other assessment modalities; confer training certificates upon suppliers who successfully pass the evaluation; integrate training participation records into the supplier evaluation system, serving as a pivotal reference for contract renewal and supplier rating.

2.2.6 Training Effectiveness Evaluation

The effectiveness of training is evaluated by comparing knowledge tests before and after training; the compliance improvements of suppliers after training are tracked; feedback from suppliers on training is collected regularly to continuously optimize training content and format; and an improvement mechanism is established to adjust the training plan based on the evaluation results.

2.3 Supplier Chemicals Management Performance Evaluation

Establish a supplier Chemicals management performance evaluation system to conduct compliance monitoring of all applicable suppliers and ensure they fulfill their sustainability commitments. Through a risk-based due diligence approach, combined with internal and external

information, comprehensively assess suppliers' Chemicals management levels, identify risks, and drive continuous improvement. This evaluation applies without exception to all suppliers using Chemicals in their production processes, including finished product suppliers and Tier 2 and lower-level suppliers.

2.3.1 Evaluation Scope

This applies to the supplier's entire process of Chemicals procurement, use, storage, and disposal, as well as related management systems for health and safety and environmental protection in the production process. For specific evaluation requirements, please refer to Chapters 3-5 of this policy regarding the requirements for supplier Chemicals inputs, processes, and outputs.

2.3.2 Evaluation Tools

It is recommended to prioritize the utilization of the Xtep Group Supplier Chemicals Management Evaluation Checklist (Annex I) and to encourage suppliers to adopt ZDHC StZ (Supplier to Zero; for further information, please refer to https://www.implementation-hub.org/supplier-to-zero), Higg Index FEM (Facility Environmental Module; for further information, please refer to https://howtohigg.cascale.org/higg-index-tools/higg-fem/), or other third-party tailored Chemicals management evaluation systems for a comprehensive evaluation of the maturity and compliance of suppliers' Chemicals management systems.

2.3.3 Evaluation Methods and Cycle

- **Supplier Self-assessment:** Suppliers should use the Xtep Group Supplier Chemicals Management Evaluation Checklist (Attachment 1), ZDHC StZ or Higg FEM tools to conduct a self-assessment and upload the assessment report.
- **Document Review:** The ESG department reviews the supplier's Chemicals management implementation records, including but not limited to procedure documents, CIL records, training and emergency drill records, etc.
- **On-site Audit:** Conduct on-site inspections of key or high-risk suppliers to verify the actual situation of Chemicals management.

- **3rd-party Audit:** Invite a 3rd-party organization to conduct an independent assessment or certification of the supplier.

All suppliers must undergo a performance evaluation at least once a year; new suppliers must complete their initial evaluation at the beginning of the cooperation.

2.3.4 Follow-up Process

Upon completion of the supplier management performance evaluation, the evaluation results should be promptly communicated to the supplier. In instances where non-conformities are identified, the supplier must submit a corrective action plan within a stipulated timeframe. The supplier management team will review this plan and offer on-site guidance if deemed necessary. Progress on the rectification should be regularly monitored, with the supplier required to submit periodic rectification reports. Once rectification is finalized, a verification audit (conducted either online or on-site) should be carried out to ensure the issues have been satisfactorily resolved. The details of the rectification should then be documented in the supplier's file for future evaluation reference.

3. Supplier Input Management

3.1 Chemicals Procurement Policy and Implementation

The Suppliers utilizing Chemicals during production should develop a written Chemicals procurement policy, explicitly defining the technical standards that their Chemicals formulators must comply with. This policy should be grounded in the principle of source control, ensuring rigorous oversight during procurement to fundamentally mitigate and eliminate Chemicals hazards and risks, thereby achieving economically efficient risk management.

3.1.1 Procurement Policy Content Requirements

The supplier's Chemicals purchasing policy should encompass at least the following key clauses: compliance standards, preferential purchasing from approved lists, supplier qualification criteria, and requirements for information transparency. Refer to Figure 3.1 for further details.

3.1.2 Procurement Policy Implementation Process

Suppliers' Chemicals procurement policies should include at least the following key procedures:

❶ Pre-assessment of Chemicals Formulation Manufacturers

Scrutinize the duplicate of the business license and pertinent sales permits of the Chemicals preparation manufacturer to ascertain its legal eligibility; secure a compliance agreement or letter of commitment signed by the manufacturer, ensuring its adherence to compliance commitments grounded in a comprehensive understanding of the technical specifications for Chemicals. Building upon this foundation, suppliers ought to undertake a stratified assessment of Chemicals formulators, encompassing at least the following criteria: the supplier's compliance track record and historical performance; verification of whether the Chemicals supplied originate from the approved list; the thoroughness and precision of Safety Data Sheets (SDS) and ingredient information; as well as the promptness and degree of cooperation in responding to the company's compliance mandates.

❷ Graded Management

Based on the evaluation outcomes, Chemicals Formulation Manufacturers shall be classified into

three grade: excellent, qualified, and improvement. The priority shall be accorded to the procurement of Chemicals from formulators rated as excellent, while those requiring improvement shall be mandated to formulate improvement plans or be phased out gradually.

❸ Chemicals Risk Assessment

Obtain the Safety Data Sheet (SDS) of the Chemicals formulator and conduct a detailed assessment of the information on hazardous substances, concentrations, and uses. If the concentration of restricted substances in the Chemicals is close to or may exceed the limit, request the Chemicals formulator to provide safe use instructions to ensure that the final product meets the requirements.

❹ New Product Introduction Control

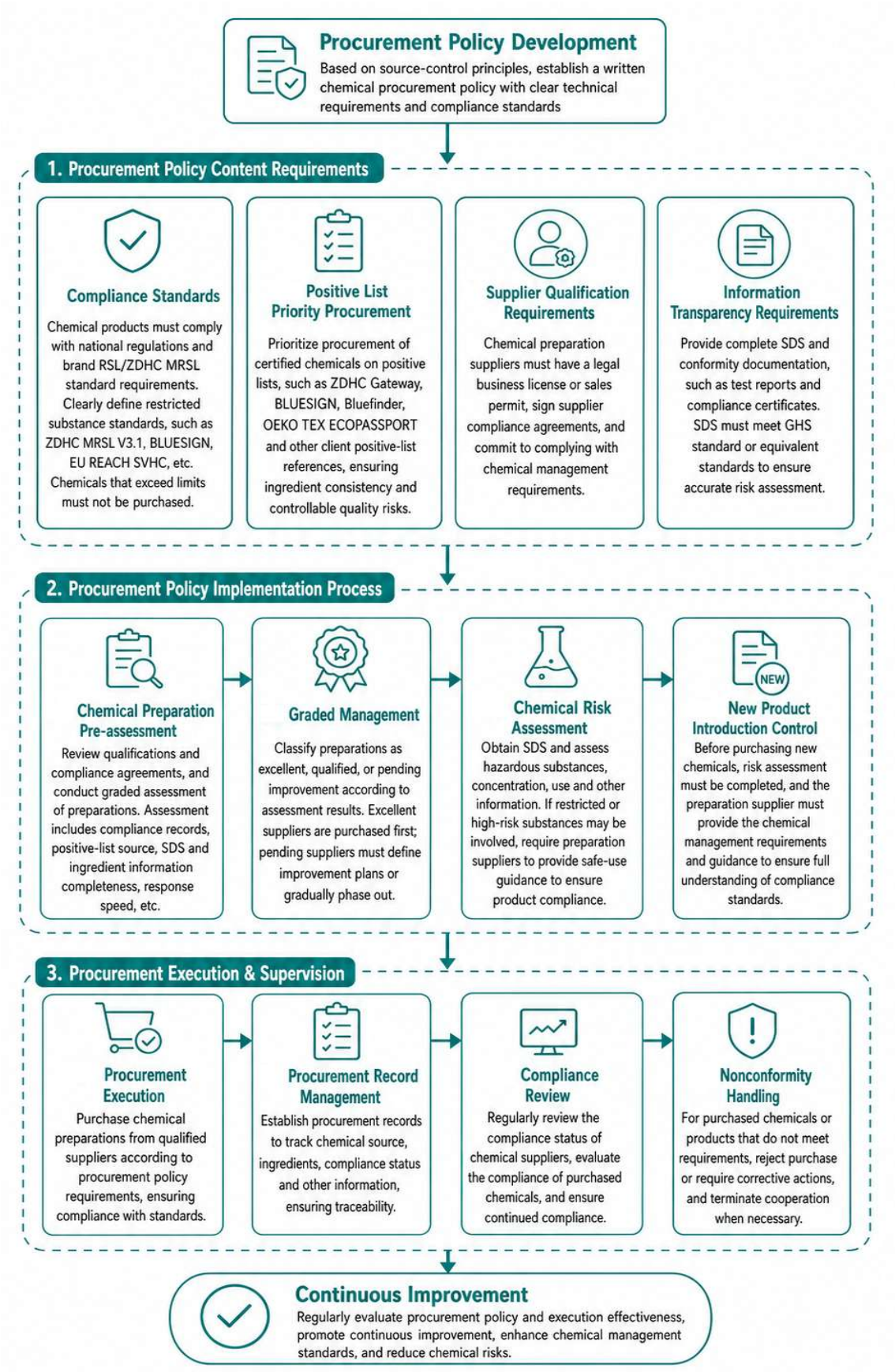
Before any new Chemicals is formally procured, the aforementioned risk assessment procedure must be completed. Chemicals formulators should be provided with detailed requirements and guidelines for supplier Chemicals management to ensure that they fully understand the compliance standards.

3.1.3 Procurement Execution & Supervision

Maintain procurement records to trace the origin, composition, and compliance status of each batch of Chemicals, conduct regular compliance reviews of Chemicals formulators to ensure ongoing adherence to requirements, and reject purchases from or demand rectification of Chemicals formulators or products that fail to comply with procurement policies.

The Suppliers should develop and implement their Chemicals procurement policies by referring to the following process, as outlined in Figure 3.1.

Figure 3.1 Supplier Chemicals Procurement Policy and Implementation Flowchart



3.2 Chemicals Usage Disclosure

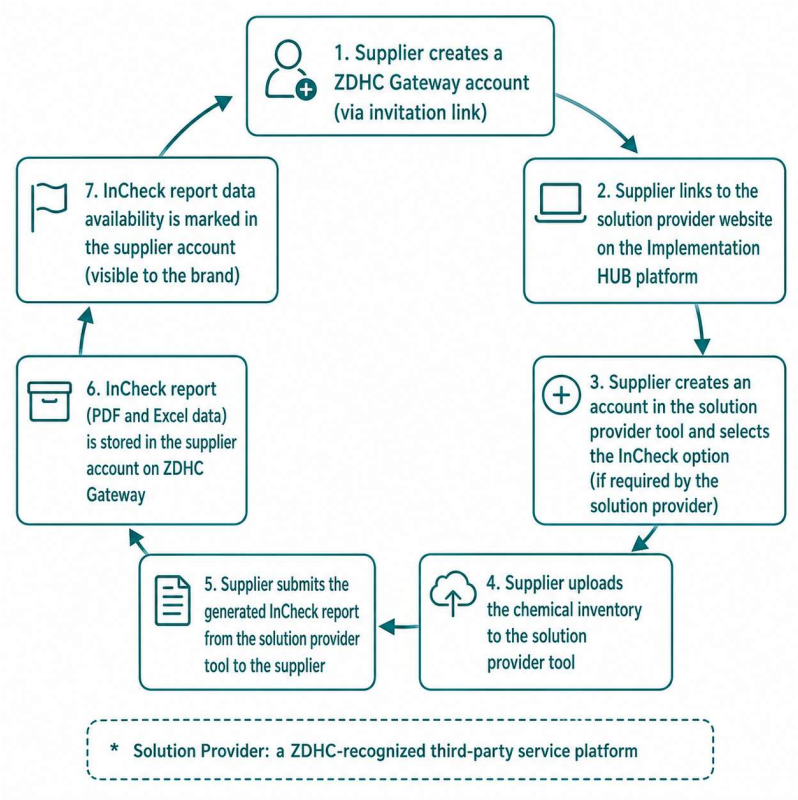
3.2.1 Generate Incheck Report

To ensure transparency and traceability in the use of Chemicals by suppliers, Xtep Group encourages suppliers to use ZDHC-approved input data management platforms for reporting Chemicals usage. Suppliers should select information management systems such as the ZDHC Gateway Chemicals module to systematically input and manage information on all Chemicals used in their production processes.

By using the ZDHC accreditation platform, suppliers need to establish complete Chemicals inventory and usage records, upload information on all Chemicals used in the production process on a monthly basis, including raw materials, auxiliaries, and additives, generate ZDHC Incheck monthly Chemicals usage reports, and share the Incheck reports with Xtep Group's ESG department through the data platform to ensure the accuracy and traceability of Chemicals usage data.

Suppliers should ensure that the information entered into the platform matches the actual production and usage, including key data such as Chemicals name, supplier, department using the product, and usage volume. During the supplier Chemicals management system assessment process, the compliance ratio between the supplier's Incheck report generation and MRSL is evaluated as a key issue in CMS implementation within the Xtep Group Supplier Chemicals Management Evaluation Checklist (Appendix 1).

Figure 3.2 Flowchart of Supplier's Incheck Report Generation



3.2.2 Incheck Verification

The verification actions that can be taken include: Xtep group's supplier management team visiting the supplier's factory to verify whether the submitted Chemicals reports match the actual usage (2nd-party verification); the group's supplier management team requiring suppliers to conduct 3rd-party verification of their Chemicals lists for a specific period, such as ZDHC Incheck verification (for 3rd-party verification, see https://experts.roadmaptozero.com/ for a list of ZDHC-approved service providers). Suppliers should retain relevant documents such as Chemicals purchase orders, material requisition forms, and usage records to ensure that the data in the Incheck reports is verifiable and actively cooperate with the group or 3rd-party verification activities.

During the supplier Chemicals management system assessment process, the supplier's Incheck report on on-site verification and verification results will be evaluated as a key issue in CMS implementation in the Xtep Group Supplier Chemicals Management Evaluation Checklist (Appendix 1).

If on-site verification reveals that a supplier's report is inaccurate or that there is undisclosed use

of Chemicals, Xtep Group will require the supplier to immediately rectify the situation and supplement the disclosure. If necessary, the relevant products will be tested for conformity. Orders from the supplier will be suspended if necessary, and in serious cases, the cooperation relationship will be terminated.

3.2.3 Data Confidentiality and Use

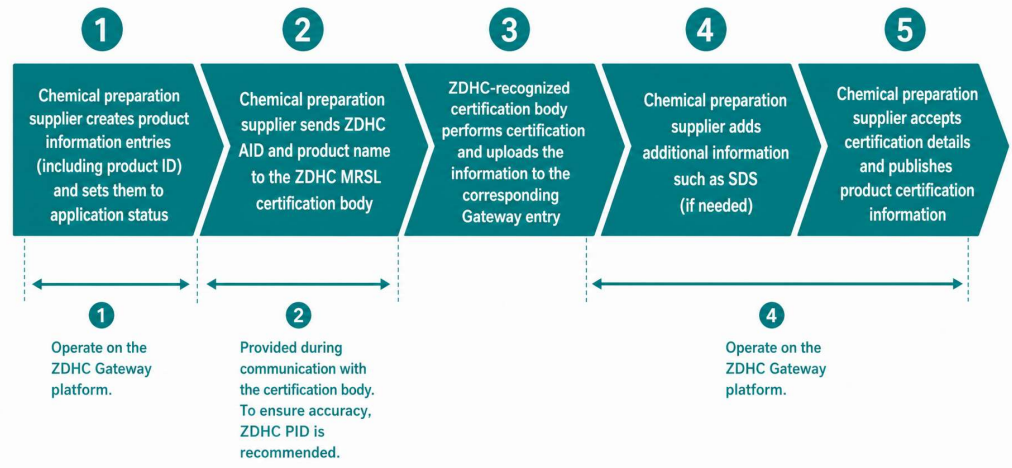
Xtep Group is committed to maintaining strict confidentiality regarding the Chemicals usage data submitted by suppliers, using it solely for Chemicals risk management and compliance verification. Suppliers may request clarification from the Group regarding the scope of their data usage and disclosure, as needed.

Suppliers should establish an internal Chemicals management team, designate a specific person to be responsible for the maintenance of platform data, ensure the timely submission of Chemicals usage information, and guarantee the continuity and accuracy of the information.

3.3 MRSL Compliance Rate

The Suppliers should proactively engage with their Chemicals formulators to convey the MRSL compliance requirements set forth by Xtep Group and ZDHC, clarify the focal points of implementing Chemicals procurement policies, standardize the procurement access procedures, and actively seek alternatives for Chemicals that are non-compliant with MRSL or have not been evaluated. Chemicals formulators may follow the operational guidelines below to collaborate with ZDHC-recognized MRSL certification service providers (a list of which can be found at https://experts.roadmaptozero.com/) for Chemicals compliance certification)

Figure 3.3 Compliance Certification Flowchart for Chemicals Formulation Manufacturers



3.4 Substitutable Chemicals Assessment

Xtep Group actively encourages suppliers to proactively identify and assess substitutable Chemicals with low toxicity and low environmental risk, gradually phase out Chemicals with greater hazards, reduce product quality risks and environmental pollution risks, improve the sustainability of the supply chain, and promote best practices throughout the entire supply chain.

3.4.1 Assessment Scope

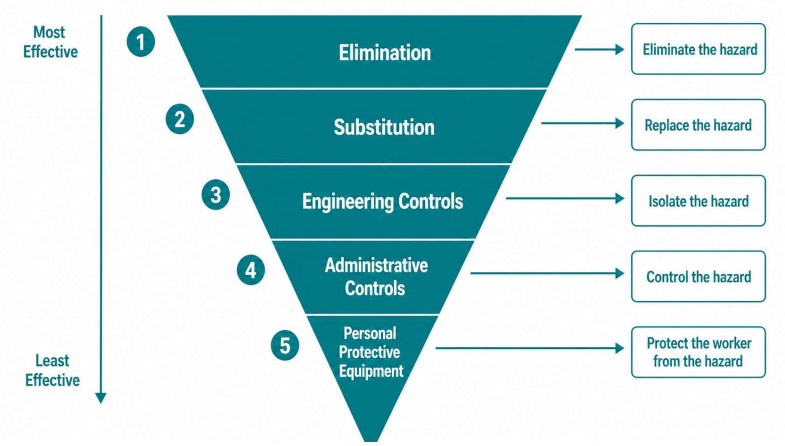
The Suppliers are required to conduct substitution assessments for all Chemicals used in the production process, including but not limited to: textile Chemicals such as dyes, pigments, and auxiliaries; footwear production Chemicals such as adhesives, solvents, and coatings; auxiliary Chemicals such as machine cleaning agents and lubricants; and environmental protection Chemicals such as wastewater treatment and sludge treatment.

The focus is on prohibited substances in Xtep Group's Restricted Substances List (RSL), restricted substances in ZDHC's Restricted Substances List (MRSL), and priority elimination substances listed in Xtep Group's Restricted Substances Phase-out Plan.

3.4.2 Evaluation Strategies and Priorities

- ☒ Elimination: During the design and planning phase of the production process, prioritize activities or processes that do not require the use of Chemicals, thus avoiding the use of hazardous substances at the source.
- Replacement: When elimination is not possible, use substitutable Chemicals with lower hazard or risk.
- ❄ Reduction: Reduce the amount of Chemicals used through process optimization and technological innovation.
- ☞ Control: Establish comprehensive management measures to control the risks of Chemicals.

Figure 3.4 Chemicals Assessment and Control Strategies and Priorities



3.4.3 Evaluation Requirements of Substitutable Chemicals

Suppliers should identify alternatives at the following three levels:

- ✓ **Substance substitution:** Replacing existing toxic/hazardous substances with Chemicals that pose lower hazards or risks but have no other significant adverse effects. For example, replacing APEO-containing detergents with APEO-free cleaning agents, or replacing chlorinated solvents with water-soluble cleaning agents for cleaning.
- ✓ **Form substitution:** The same Chemicals is presented in different forms (such as powder, liquid, water-soluble capsules, etc.) to make it easier to handle or control;
- ✓ **Process substitution:** Employing different processes with the same effect and efficiency but requiring fewer or no harmful Chemicals. Examples include water-based coatings instead of solvent-based coatings, salt-free dyeing techniques, and solvent-free treatments.

3.4.4 Risk Assessment and Comparison

Conduct a comprehensive assessment of existing and substitutable Chemicals: evaluate their toxicity, ecotoxicity, bioaccumulation, persistence, and other hazardous characteristics; assess the technical feasibility and economic cost of substitutable Chemicals; query Chemicals safety information through ZDHC Gateway or other databases; and prioritize alternatives that have been certified by ZDHC or have obtained ecolabels.

3.4.5 Life Cycle Impact Assessment

Suppliers are encouraged to consider the environmental impact of substitutable Chemicals throughout the entire product lifecycle: assess environmental indicators such as water use, energy consumption, waste and wastewater generation; compare the environmental footprint of existing Chemicals and substitutable Chemicals throughout the entire process of production, use and disposal; and prioritize alternatives that can reduce water consumption, energy consumption and pollution .

3.4.6 Implementation and Monitoring

Once the alternative solution is validated, an implementation plan is developed, and the substitution is gradually promoted; a usage record and tracking mechanism for substitutable Chemicals and new processes is established; and the quality of products, worker health, and environmental indicators after substitution are regularly monitored.

3.4.7 File Records

Establish substitutable Chemicals assessment reports, and record the assessment process, results, and decisions; update the Supplier Chemicals List (CIL) and indicate the substitution relationship between new and old Chemicals; retain the Safety Data Sheets (SDS) and test reports of substitutable Chemicals.

3.4.8 Brand Support and Incentives

The ESG department provides suppliers with a database and recommendation list of substitutable Chemicals and process innovations; organizes expert training to help suppliers conduct substitutable Chemicals assessments and process optimizations; and invites Chemicals suppliers and process experts to conduct technical exchanges and product presentations.

The implementation of substitutable Chemicals and process innovations will be included in supplier performance evaluations as a bonus; suppliers who successfully implement alternative solutions will be recognized and rewarded; and their success stories and best practices will be promoted to other suppliers.

3.4.9 Supervision and Reporting

Suppliers of Chemicals used in the production process should submit a progress report on the evaluation of substitutable Chemicals at least once a year. The report should include a list of Chemicals that have been replaced, the replacement rate, the new processes adopted, and the environmental benefits. For hazardous Chemicals that have not been replaced, the reasons for improvement plans should be explained.

The ESG department regularly reviews the progress of suppliers' substitutable Chemicals, verifies the actual use of substitutable Chemicals and new processes during audits and inspections, and urges suppliers who are slow to progress or uncooperative.

4. Supplier Process Management

4.1 Traceability of Chemicals used in production

Suppliers should establish a complete Chemicals traceability management system to ensure full-chain traceability from the final product to the Chemicals used in the production process. This system should cover key aspects such as product information, production processes, Chemicals formulations, and batch numbers, providing effective support for root cause analysis of problematic products.

Suppliers should clearly designate a specific department or personnel to be responsible for Chemicals traceability management, develop detailed traceability procedure documents, and stipulate standard procedures for information collection, recording, storage, and retrieval.

4.1.1 Relationship Between Product Information and Production Process

Suppliers should establish a correspondence between product codes and production processes to ensure that each product (through unique identifiers such as item number and style number) can be traced back to all Chemicals information used in its production process.

Key elements that can be used for traceability include:

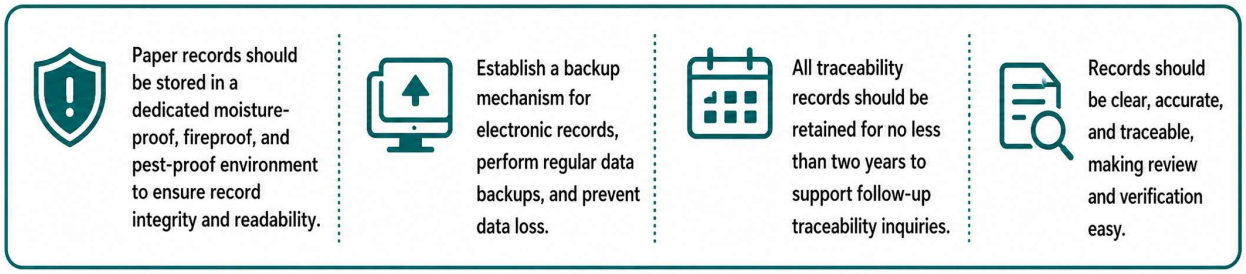
- ☑ Product hierarchical information: This can include unique identifiers such as product item number, style number, color, and size; product category (e.g., footwear, apparel, accessories); customer order number; and production batch number.
- ☑ Production process information: Production process flow (such as dyeing, coating, bonding, etc.), production dates and shifts for each process, process parameters and operation records.
- ☑ Chemicals formulation information: Name, specifications, and batch number of Chemicals used in each process; Chemicals supplier and purchase date; quantity and method of use.
- ☑ Batch traceability information: the correspondence between raw material batch numbers and products, the association between Chemicals batch numbers and production processes, and the complete traceability chain of production batches.

4.1.2 Requirements for the retention of traceability records

The Suppliers shall institute a standardized record management protocol to guarantee the

appropriate safeguarding of all documents and data pertinent to traceability.

Figure 4.1 Schematic Diagram of Chemicals Traceability Record Retention Requirements



4.1.3 Presentation of Full-Chain Traceability

Suppliers should establish a traceability query system that can quickly and accurately achieve two-way traceability from products to Chemicals.

Figure 4.2 Schematic Diagram of Full-Chain Traceability Of Chemicals

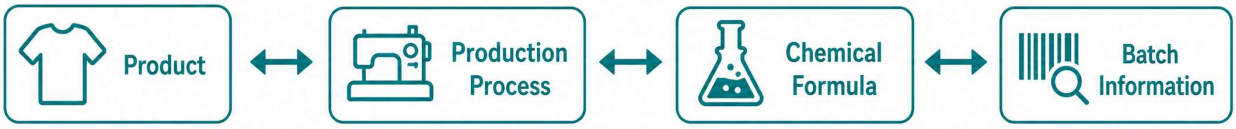


Table 4.1 Chemicals Traceability Directions and Contents

Tracing the direction	Tracing Content
Positive (Product → Chemicals)	Enter product information (item number, style number, batch number, etc.), and the system should be able to display all Chemicals used in the production process of the product and their detailed information.
Reverse (Chemicals → Products)	By inputting Chemicals information (name, batch number, application process, etc.), the system should be able to retrieve all products and batches that use the Chemicals.

4.2 Chemicals Usage Guidelines at Production Site

4.2.1 Contact Control Requirements

Suppliers should establish a comprehensive Chemicals exposure control system, ensuring employee safety at all stages of production, storage, and transportation through the integrated application of engineering controls, management measures, and personal protective equipment. Exposure control should follow the priority order of "elimination—substitution—engineering

controls—management measures—personal protective equipment."

1. Contact Control During The Production Process:

- **Ventilation Control:** Suppliers should install appropriate ventilation systems in processes involving volatile Chemicals, dust, or hazardous gases. For airborne hazardous substances (such as dust, fumes, and organic solvent vapors), ventilation is the most effective control measure besides substitution and enclosure. Install local exhaust ventilation systems or general ventilation systems in high-risk work areas (such as dyeing, coating, and bonding processes) ; ensure that the ventilation system can effectively remove hazardous Chemicals or dilute them with fresh air to reduce the concentration of hazardous substances in the air to a safe level; regularly inspect and maintain the ventilation system to ensure its normal operating efficiency; regularly measure the airflow and velocity of the ventilation system to maintain compliance with design standards .

- **Isolation and Control:** For operations involving hazardous Chemicals, suppliers should implement isolation measures to keep hazardous operations away from workers and control the use of Chemicals in designated areas. Chemicals handling rooms or isolated areas should be set up on the production site and equipped with clear warning signs; for the handling of highly toxic or flammable and explosive Chemicals, closed or semi-closed operating systems should be used; access to Chemicals handling areas should be restricted, allowing only trained and authorized personnel to enter; physical barriers or distance isolation should be established between handling areas and other work areas .

- **Operating Procedure Control:** Suppliers should develop detailed Chemicals operating procedures to regulate employee operating behavior. Before using Chemicals , operators should read and understand the product label and Safety Data Sheet (SDS); ensure that operators have received effective training on the use of the Chemicals and understand the precautions to be followed; control the area where the Chemicals is used before use and eliminate potential hazards (e.g., when using flammable liquids, eliminate open flames or heat sources); establish work instructions for the use of Chemicals, clearly specifying the dosage, method of use, and operating time requirements.

Figure 4.3 Example of Supplier's Chemicals Usage Guidelines at Production Site

		
1. Flammable Chemicals should be stored separately.	2. Equip workshops using Chemicals with effective ventilation systems.	3. Equip with exhaust gas treatment equipment (on the rooftop or outside the workshop) if necessary.
		
4. Equipped with an automated feeding system to reduce the risk of Chemicals transfer and contact.	5. When manually transferring Chemicals, use the necessary tools and protective measures (trailer, PPE, and spill containment equipment, etc.).	6. Strictly follow operating procedures when pouring and mixing Chemicals.

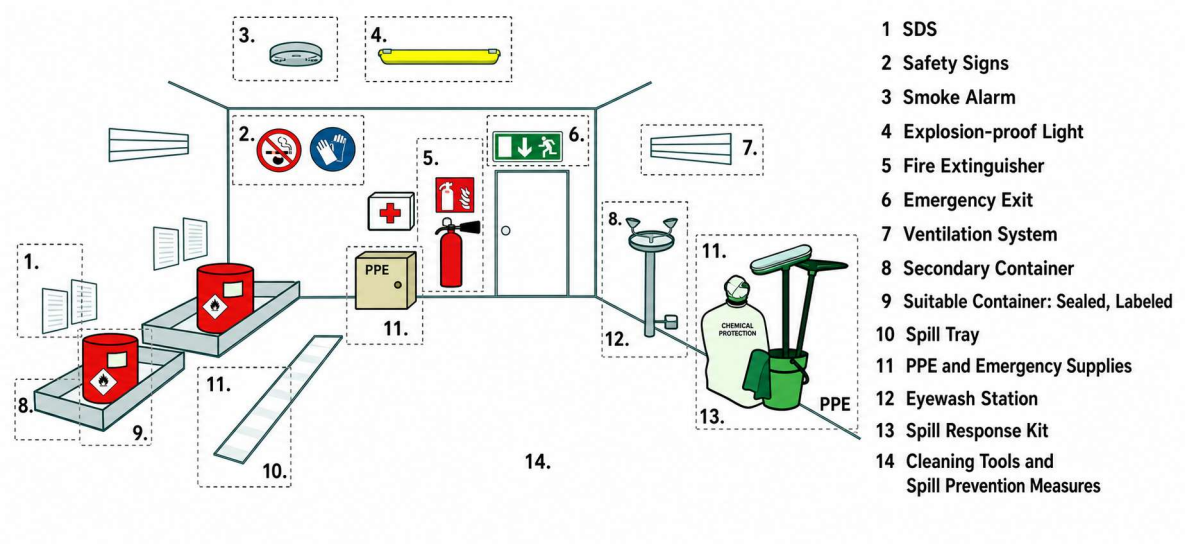
❷ Contact Control During Storage:

☞ **Storage Area Management:** Suppliers should establish dedicated Chemicals storage areas to ensure a safe storage environment. Chemicals storage areas should be located away from production sites in cool, well-ventilated locations, away from heat sources and direct sunlight. Storage areas should be equipped with explosion-proof, leak-proof, fire-fighting, and anti-static safety devices. Storage areas should meet the storage conditions recommended by SDS, such as temperature, humidity, and pressure

requirements. Chemicals containing volatile organic compounds (VOCs) should be stored in refrigerated areas to minimize volatilization.

A typical storage area should have the following safety precautions, as shown in the diagram below:

Figure 4.4 Typical Storage Area Management Diagram



☞ **Chemicals Categorization and Storage:** Suppliers should categorize and store Chemicals according to their properties to prevent incompatible substances from being mixed. Flammable liquids should be stored in approved safety cans or explosion-proof cabinets, away from oxidizing acids and other oxidizing agents; toxic Chemicals should be stored in dedicated fume hoods, maintaining only the minimum necessary quantity; water-reactive Chemicals should be stored in a cool, dry place, away from water sources, using watertight containers; acids and alkalis should be stored separately, away from active metals and flammable and explosive materials; incompatible substances should not be stored together to prevent leaks and the generation of harmful gases.

☞ **Container Management:** Suppliers should standardize the stacking and maintenance of Chemicals containers. Chemicals should be stored in their original containers and labeled with the manufacturer/importer/distributor's name. Containers must be stacked correctly, with pallets between layers, and side-mounted rollers should be wedge-locked; effective secondary containers with a volume greater than 1.1 times that of a single primary container should be provided for liquid Chemicals; avoid excessive shelving and

storage of Chemicals, and avoid storing liquid Chemicals above eye height; avoid placing heavy containers above shoulder height, and avoid storing Chemicals in aisles; keep all Chemicals container lids and caps tightly closed to prevent evaporation of contents; regularly clean storage areas and remove leaking, rusted, or damaged containers .

❸ Contact Control During Transportation:

☞ **Transportation methods and routes:** Suppliers should standardize the transportation methods for Chemicals and select safe transportation routes. If forklifts, handcarts, or wheelbarrows are used to transport Chemicals, they should be carried out in clearly marked aisles of appropriate width; the transfer of flammable liquids should only be carried out in well-ventilated areas, and containers should be grounded and secured to prevent static electricity ignition; if Chemicals are transported via pipelines, care should be taken to ensure that valves are intact and leak-free; transportation routes should avoid passing through densely populated areas to prevent hazards to personnel from leaks .

☞ **Transfer Procedures:** Suppliers should standardize Chemicals transfer procedures to prevent leaks and spills. Compatible containers should be used when transferring Chemicals, and new containers must be compatible with the Chemicals they contain. After transfer, containers should be affixed with appropriate warning labels indicating the contents, hazards, and precautions for use. For small containers that cannot be directly labeled, abbreviation/symbol labels or diagrams should be used. Emergency response plans for transfer procedures should be established, and emergency supplies and handling equipment should be available.

4.2.2 Requirements for the Configuration and Use of Protective Equipment

Suppliers should conduct a thorough assessment before using protective equipment to ensure that the selected protective equipment matches the actual risks.

The assessment should include at least: the type and extent of potential risks and hazards; the availability and feasibility of other operational controls; the availability and feasibility of protective equipment (PE), and the degree of risk and hazard reduction after implementing PE measures. Suppliers should periodically review the selection of PE and make necessary adjustments based

on changes in production processes and the introduction of new Chemicals.

Suppliers should provide appropriate protective equipment according to different production processes. Some examples are as follows:

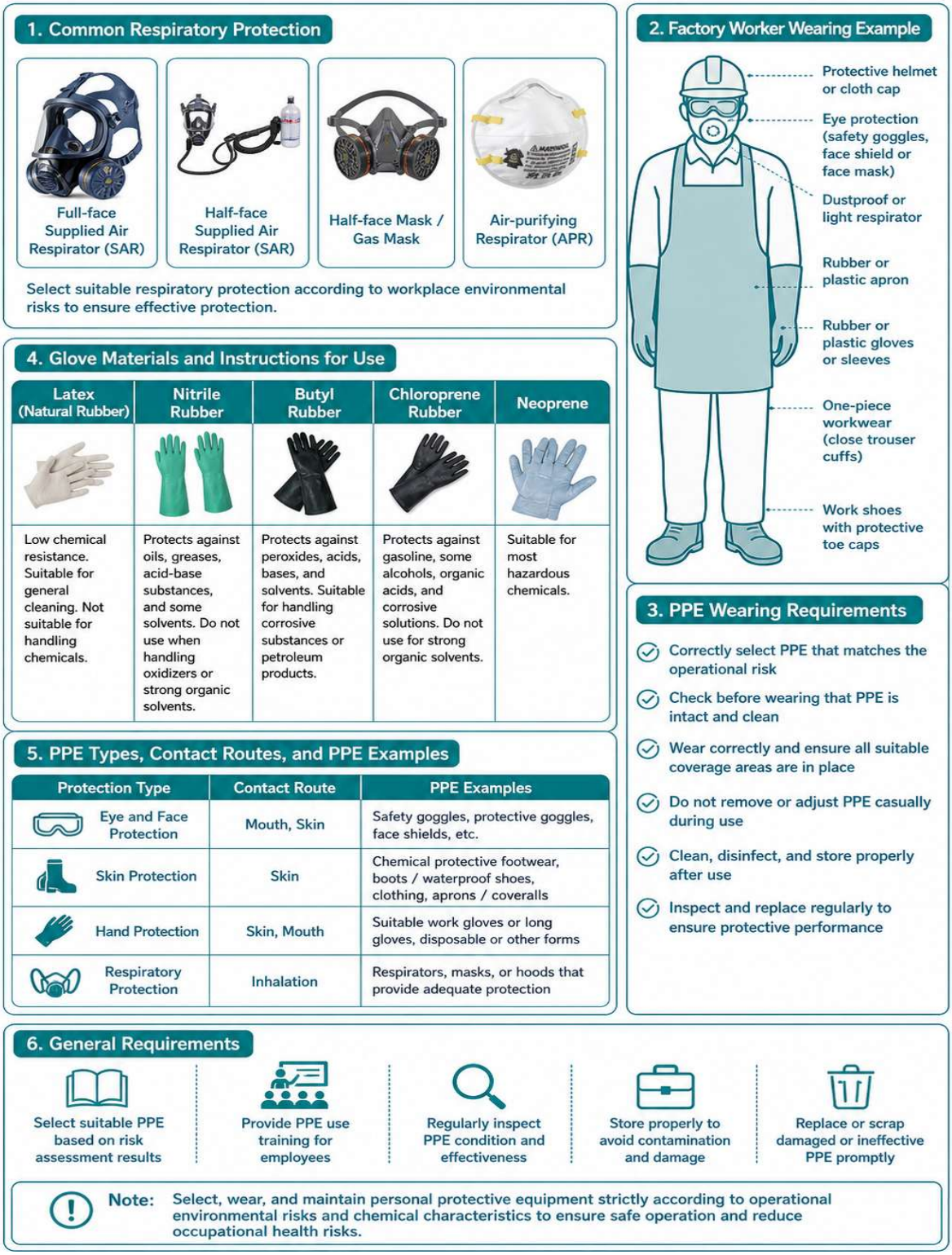
- ☑ **Glue/Adhesive Handling:** Activated carbon mask (for protection against organic solvent vapors), protective gloves, safety goggles, and respirators if necessary.
- ☑ **The Process of Preparing Dyeing And Printing Chemicals Includes** protective masks or respirators, protective gloves and clothing, protective goggles, and protective boots.
- ☑ **On-site Cleaning (Using Cleaning Agents or Other Chemicals):** Activated carbon mask or gas mask, protective gloves (corrosion-resistant or solvent-resistant), protective apron or protective clothing, protective boots.

The Suppliers should exercise particular caution in the utilization and administration of protective equipment, encompassing user training, maintenance administration, and utilization oversight.

- ☞ **Usage Training:** All employees who may be exposed to hazardous Chemicals should receive training on the use of protective equipment (PE). Training should include the correct wearing, use, maintenance, and limitations of PE. Managers and supervisors should understand the reasons for providing PE and its correct usage. They should provide theoretical and practical training to personnel involved in the selection, maintenance, repair, and testing of PE. Training frequency should be determined based on the nature of the equipment, its frequency of use, and employee needs.
- ☞ **Maintenance and Storage:** The supplier's factory shall provide appropriate storage facilities for protective equipment to ensure that the protective equipment is not contaminated or damaged. The protective equipment shall be stored and maintained in accordance with the supplier's instructions. The factory shall regularly check the integrity of the protective equipment and replace it immediately if any damage or failure is found. The factory shall keep maintenance records of the protective equipment, recording the inspection and replacement time and usage.
- ☞ **Usage Supervision:** Establish a record of protective equipment requisition and track the allocation of protective equipment for each employee; conduct regular inspections of the

production site to ensure that employees wear and use protective equipment correctly, and correct and punish any behavior that does not use protective equipment in accordance with regulations.

Figure 4.5 Configuration and Requirements of Personal Protective Equipment (PPE)



4.2.3 Emergency Management Requirements for Chemicals

The Suppliers should establish complete emergency plans for Chemicals leaks, spills, fires, etc., and clearly define emergency procedures and responsible persons.

The Chemicals emergency preparedness plan shall encompass, at a minimum, the following elements:

- ☑ Emergency Response Procedures for Different Types of Chemicals Accidents
- ☑ Emergency organizational structure and division of responsibilities
- ☑ Configuration and storage/location of emergency equipment and supplies
- ☑ Employee evacuation routes and assembly points
- ☑ Contact information for external emergency services

Emergency Equipment Configuration: The supplier shall configure necessary emergency equipment in areas where Chemicals are used and stored. Eyewash stations and emergency showers shall be located near Chemicals handling areas for easy and rapid access **;** appropriate fire extinguishers shall be provided according to the type of Chemicals (e.g., dry powder fire extinguishers for water-reactive Chemicals) **;** spill response supplies, such as absorbents, collection containers, and cleaning tools, shall be provided **;** emergency medical supplies, such as bandages, gauze, and antidotes, shall be provided **.** Ensure that emergency equipment is readily available and in good working order.

Emergency Training and Drills: All employees should receive Chemicals emergency response training to understand basic emergency knowledge and skills. Suppliers must organize two company-wide emergency drills annually to test the effectiveness of the emergency plan, establish an emergency incident reporting and recording system, analyze the causes of accidents, and take corrective measures.

Regular Inspections and Improvements: Suppliers should conduct regular on-site inspections of Chemicals handling and storage methods at the production site to identify risks and potential hazards and take timely corrective measures to ensure continuous improvement in Chemicals management.

Figure 4.6 Example of factory emergency equipment configuration

		
1. Eyewash station and emergency shower system (with accompanying inspection card)	2. Fire extinguishers (foam spray, carbon dioxide, dry powder, etc., configured according to the type of Chemicals).	3. Fire alarm system alarm
		
4. First aid kit (containing gauze, tape, scissors, disposable gloves, burn gel, and necessary medications, etc.)	5. A Chemicals spill emergency response kit (containing gloves, a shovel, sawdust, sand, or any other absorbent container to absorb the spilled liquid).	6. Safety evacuation exits signs and emergency assembly point signs

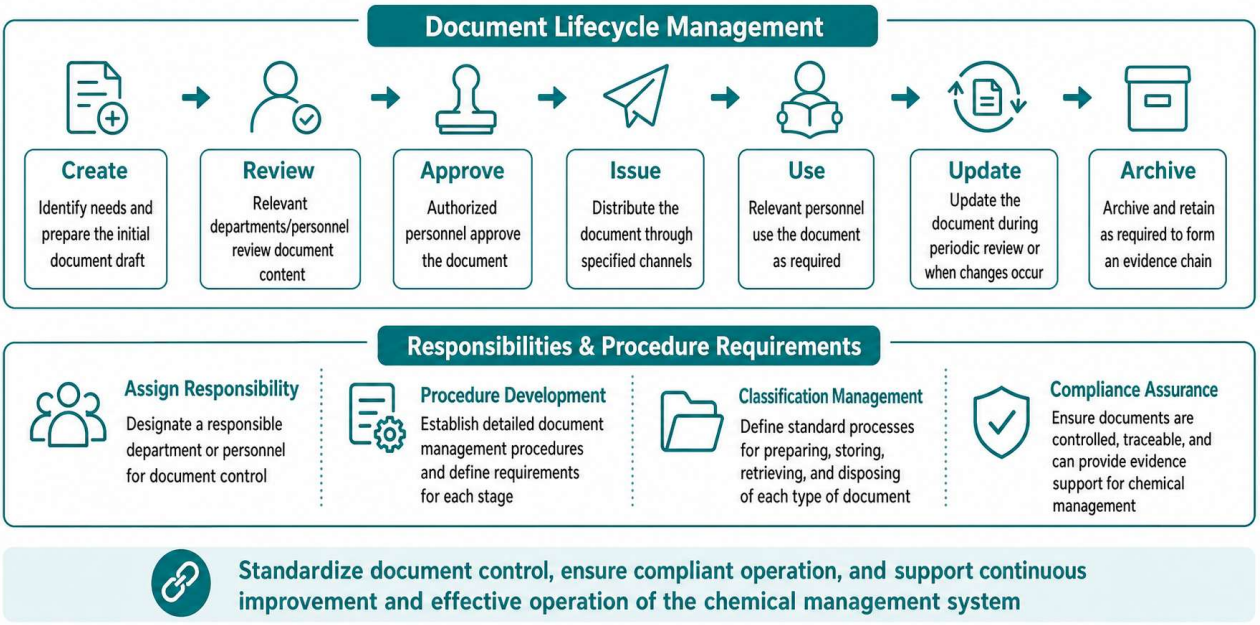
4.3 Supplier Process Documentation Control

Suppliers should establish a standardized processing document control system to ensure that all documents related to Chemicals management are effectively managed. The document control system should include full lifecycle management of documents, including creation, review, approval, distribution, use, updating, and archiving, providing a complete chain of evidence for the effective operation of the supplier's Chemicals management system.

Suppliers should designate a specific department or personnel to be responsible for document control, develop detailed document management procedures, and clarify the standard processes

for the preparation, storage, retrieval, and destruction of various types of documents.

Figure 4.7 Schematic Diagram of Supplier Process Document Control System Requirements



4.3.1 Chemicals Inventory List

Chemicals inventory List is an essential component of a supplier's Chemicals management system. A Chemicals Inventory (CIL) assists the plant in making purchasing decisions, promoting responsible Chemicals use, preventing contamination, improving traceability, simplifying Chemicals handling decisions, and controlling disposal costs. Supplier plants should have robust processes for creating and updating CILs and have dedicated personnel responsible for their maintenance.

The Chemicals inventory should include the following elements:

- ☑ Chemicals and vendor name, Chemicals specifications, batch number, and purchase date.
- ☑ ZDHC MRSL compliance level,
- ☑ Hazardous Substance Identification Number (CAS Number)
- ☑ Does it have a certificate or eco-certification that complies with specific global regulations?
- ☑ Hazard information in Safety Data Sheets (SDS)
- ☑ Based on the identified hazards, develop a plan of preventative measures for the safe

storage, handling, and disposal of Chemicals.

- ☑ Initial inventory, inbound time, outbound time, outbound quantity
- ☑ Department and process name
- ☑ Monthly usage
- ☑ To ensure data consistency, the relationship between usage and inventory must be established.

The Suppliers can refer to the Chemicals inventory template at https://knowledge-base.roadmaptozero.com/hc/en-gb/articles/360009821237-Chemicals-Inventory-List-CIL to gather the necessary information to compile and maintain the plant's Chemicals Inventory (CIL).

4.3.2 Safety Data Sheet (SDS)

The Suppliers are mandated to input Chemicals data into the Chemicals inventory and institute appropriate Safety Data Sheet (SDS) management protocols. The SDS constitutes the principal source of hazard information and is employed to manage the health and safety implications associated with the storage, utilization, and disposal of Chemicals. SDS for every Chemicals utilized within the supplier's factory must be procured from each respective Chemicals manufacturer and archived in a centralized location and storage facility (either in paper or electronic form) to facilitate ready access by personnel. The SDS amassed by suppliers ought to conform to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) or equivalent standards, thereby ensuring the completeness of all requisite information within the SDS. The SDS should be drafted in the local or official language of the supplier's operational jurisdiction. Suppliers are advised to meticulously track the issuance date and version number of the SDS. Under the following circumstances, Chemicals formulators should be compelled to update the SDS:

- ☑ Any change in any component used in the formulation can affect the formulation's hazard classification.
- ☑ The new toxicological/legislative information applies to any ingredient used in the formulation that may affect the overall hazard classification of the formulation.
- ☑ Any type of restriction or authorization imposed on a substance or mixture under the EU REACH Regulation or other legislation

4.3.3 Formulation and Production Records

- **Formula Records:** Suppliers should establish and maintain Chemicals formulas for all products, clearly specifying the Chemicals used in each product and their quantities.
- **Formula Records Should Include:** unique identifiers such as product name, model number, and color ; production steps and process flow ; names, batch numbers, dosages, and usage ratios of Chemicals used in each step ; the date the formula was created, the reviewer, and the approver ; and a record of formula updates, including the reason for each modification, the date, and approval information.
- **Production Records** to track the production process and Chemicals used for each batch of products.
- **Production Records Should Include:** production batch number, production date, shift ; product item number, style number, color, and quantity ; execution status of each process, operators, and operation time ; actual Chemicals names, batch numbers, and dosages used ; records of any abnormal situations and their handling during the production process ; quality inspection results and relevant testing data.

4.3.4 Test Report

Suppliers should retain 3rd-party testing reports for all purchased Chemicals, proving that they comply with RSL/MRSL standards.

Suppliers should retain test reports for raw materials, semi-finished products, and final products to prove that the products meet Xtep Group's RSL requirements.

4.3.5 Document Classification and Archiving

Suppliers should establish a standardized document archiving system to ensure the integrity and traceability of documents.

- Establish a document numbering system to assign a unique number to each document.
- Create a file index to record information such as file name, number, storage location, and creation date.

- Documents should be managed hierarchically, distinguishing between originals and copies, and indicating the importance of each document.
- Establish a version control mechanism for files and record their modification history.

4.3.6 Supplier Chemicals Management System Review

☑ **Supplier Self-evaluation System:** Suppliers should establish a self-evaluation mechanism for their Chemicals management system, conduct a comprehensive assessment of their own Chemicals management level on a regular basis, identify deficiencies in management, and develop a continuous improvement plan.

- Suppliers should designate a specific department and personnel to be responsible for reviewing their Chemicals management systems, using the Xtep Group Supplier Chemicals Management System Assessment Checklist. Self-assessment should cover the entire lifecycle management of Chemicals, including procurement, storage, use, and disposal, evaluating whether suppliers comply with the company's RSL/MRSL standards and relevant laws and regulations.
- Self-evaluation should be conducted at least annually, with specific evaluations required for major process changes or the introduction of new Chemicals. Evaluation results should be documented in a written report, clearly outlining identified problems, improvement measures, and deadlines for completion.

☑ **External Audit/Verification Standards:** Xtep Group recommends that suppliers use the Higg Index FEM (Factory Environment Module) or other similar internationally recognized audit/verification standards to conduct 3rd-party evaluations of their Chemicals management levels.

- Suppliers may also choose other internationally recognized Chemicals management audit standards, such as: ZDHC StZ project, ISO 14001 environmental management system certification, BLUESIGN® system certification and other industry or regionally recognized Chemicals management standards.

- Suppliers should develop detailed improvement plans based on the results of external audits/verifications. They should analyze the root causes of nonconformities identified during the audit, develop specific corrective actions, clearly define the responsible departments, personnel, and completion deadlines, track the implementation of these measures, report progress to the company regularly, complete rectification within the stipulated timeframe, and accept the company's verification audit.
- Suppliers should conduct a self-assessment at least once a year. It is recommended that suppliers conduct an external 3rd-party audit/verification every 2-3 years. For new suppliers, an external audit should be conducted at the beginning of the cooperation to understand their Chemicals management level. For suppliers who have experienced Chemicals incidents or received customer complaints, a special audit should be conducted. Suppliers should keep audit reports and relevant supporting documents for the company to review.

☑ **External Audit / Verification Results:** External audit/verification results can serve as an important reference for the group to evaluate the performance of suppliers' Chemicals management.

The supplier management team at Xtep Group integrates external audit results into the supplier scoring system, using them as a key metric for comprehensive supplier evaluation. Suppliers are classified and managed based on their audit scores, with priority given to procuring products from those with high scores. For suppliers with lower scores, improvement plans are developed, mandating them to complete corrective actions within a stipulated timeframe. The audit results also serve as a critical reference for contract renewal or termination decisions.

5. Supplier Output Management

5.1 Basic Requirements for Wastewater, Waste Gas and Solid Waste

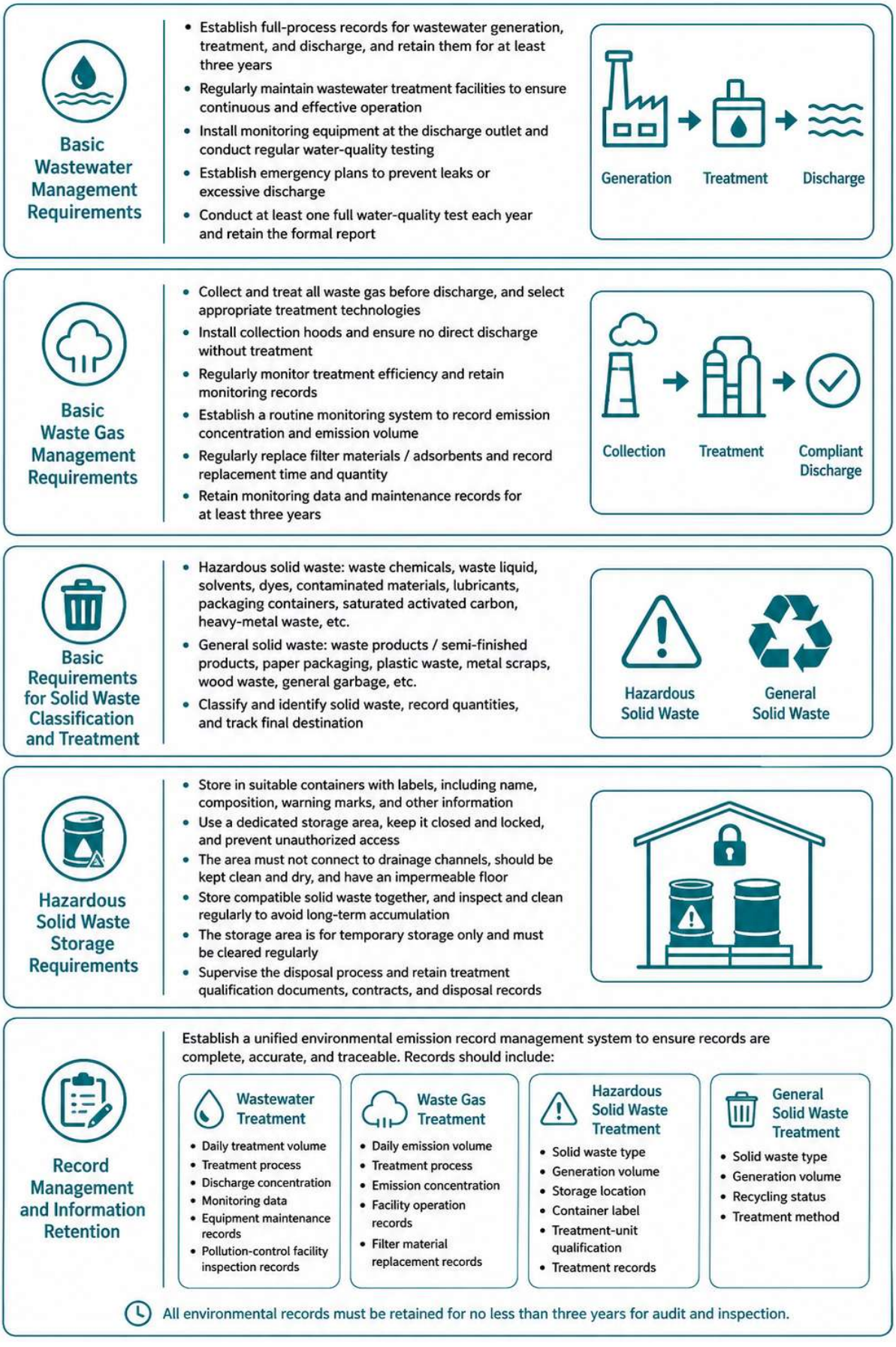
The Suppliers must strictly comply with all applicable laws and regulations concerning wastewater, waste gas, and solid waste treatment in their region. This includes, but is not limited to, national environmental regulations, local government regulations, and applicable standards issued by industry associations.

We require our suppliers to establish a sound environmental management system to ensure that all emissions generated during the production process comply with the emission standards and concentration limits stipulated by the local environmental protection authorities. Suppliers should regularly obtain and update the latest list of regulations applicable to their production facilities to ensure that management measures are always in compliance.

5.1.1 Basic Requirements for Wastewater Management

If a supplier's production processes generate industrial wastewater (including but not limited to dyeing and finishing wastewater, washing wastewater, etc.), a complete wastewater management procedure must be established. Specific requirements include: establishing a complete record system for wastewater generation, treatment (if applicable), and discharge, including information such as date, generation volume, treatment method (if applicable), and discharge volume; retaining monitoring data and treatment records for at least three years for inspection by Xtep Group or 3rd-party auditing agencies; regularly maintaining and inspecting wastewater treatment facilities (if applicable) to ensure their continuous and effective operation; installing necessary monitoring equipment at wastewater discharge points and conducting regular water quality testing; and establishing emergency plans to prevent wastewater leaks or excessive discharge incidents. Suppliers should collaborate with qualified 3rd-party testing organizations to conduct comprehensive wastewater quality testing at least once a year and obtain and retain official test reports. During the supplier's Chemicals management system assessment process, the supplier's wastewater test report will be evaluated as a key issue in CMS implementation within the Xtep Group Supplier Chemicals Management Evaluation Checklist (Appendix 1).

Figure 5.1 Basic Requirements for Wastewater, Waste Gas and Solid Waste



5.1.2 Basic Requirements for Waste Gas Management

Waste gases generated during production (such as volatile organic compounds (VOCs), dust, and odors) must be treated by appropriate facilities before being discharged. Suppliers should select suitable waste gas treatment technologies, such as activated carbon adsorption, catalytic combustion, and biological filters, based on the characteristics of the production process.

Specific requirements include: installing collection devices at all waste gas generation points to ensure that waste gas is not directly emitted into the environment; regularly testing the treatment efficiency of waste gas treatment facilities and retaining test records; establishing a daily monitoring system for waste gas emissions, recording data such as emission concentration and emission volume; regularly replacing consumables such as filter media and adsorbents in treatment facilities, and recording the replacement time and quantity; retaining at least three years of waste gas monitoring data and treatment facility maintenance records; and ensuring that waste gas emission outlets are clearly marked to facilitate on-site inspections by us or regulatory authorities. For processes that generate odors, additional measures (such as enhanced ventilation and the use of deodorizers) should be taken to reduce the impact on the surrounding environment.

5.1.3 Basic Requirements for Solid Waste Classification and Treatment

Suppliers should identify, count, and track the destination of solid waste generated during their production and operation processes. Generally speaking, hazardous solid waste generated by footwear and apparel supplier factories includes: discarded, excess, or unwanted Chemicals; waste liquids generated from laboratory testing; organic or inorganic solvents and dyes; any items contaminated by Chemicals; lubricants and used Chemicals packaging /containers that require disposal; saturated activated carbon, adsorbents, and other pollution control equipment; and waste containing harmful heavy metals, such as fluorescent tubes. General solid waste generated by footwear and apparel supplier factories includes discarded products or semi-finished products (waste yarn, waste cloth, etc.), paper packaging, plastic waste, metal scraps, wood waste, other production waste that does not contain hazardous substances, and general garbage.

Figure 5.2 Examples of Common Hazardous Solid Waste Categories

		
1. Empty Chemicals drums or containers	2. Materials contaminated with Chemicals (oil-soaked rags, machine cleaning cloths, spent activated carbon, etc.)	3. Waste fluorescent tubes
		
4. Expired Chemicals	5. Used batteries	6. Waste oil (such as floating oil generated during waste gas treatment).

5.1.4 Storage Requirements for Hazardous Solid Waste

Hazardous solid waste must be properly handled or disposed of, otherwise its hazardous nature may have a negative impact on the environment or a serious impact on human health.

When collecting and disposing of hazardous solid waste, it must be stored in appropriate containers and properly labeled. The label must include the following information: a "Hazardous Waste" label, the name, address, and contact number of the hazardous solid waste generator/disposer, and the Chemicals or common names of the Chemicals contained in the hazardous solid waste. For wastes containing mixtures of many different Chemicals, it is

necessary to list all major components of the waste, appropriate hazard warning signs (e.g., flammable, corrosive, toxic), necessary storage conditions, and safety measures.

hazardous solid waste storage area at the supplier's factory must meet the following requirements: The area should be used solely for storing hazardous solid waste; the area should be lockable and secure to prevent unauthorized access; the storage area should not be connected to any surface water drainage or sewage system; sufficient space should be provided within the storage area for container handling; the storage area should be kept clean and dry; the storage area should have impermeable floors or surfaces made of suitable materials for storing containers of liquid hazardous solid waste. The impermeable floors/surfaces should be inspected regularly to ensure satisfactory maintenance; the storage of hazardous solid waste should be based on its compatibility, with incompatible wastes stored separately to prevent Chemicals reactions; the hazardous solid waste storage area within the factory should be used only for temporary storage and should be regularly cleaned to prevent the accumulation of hazardous solid waste.

The disposal of hazardous solid waste within the supplier's factory should always be monitored. The supplier should retain contracts with hazardous waste disposal providers, the providers' qualification documents (business license, hazardous waste disposal operation permit, and hazardous goods road transport permit), and disposal records (hazardous waste inbound and outbound ledgers, hazardous waste transfer manifests).

5.1.5 Record Management and Information Storage

The Suppliers should establish a unified environmental emissions record management system to ensure the completeness, accuracy, and traceability of all records.

The record should include:

- **Wastewater Treatment**: daily treatment capacity, treatment process, discharge concentration, test data, facility maintenance records, and leak prevention facility inspection records.
- **Waste Gas Treatment**: daily emissions, treatment process, emission concentration, facility operation records, filter media replacement records

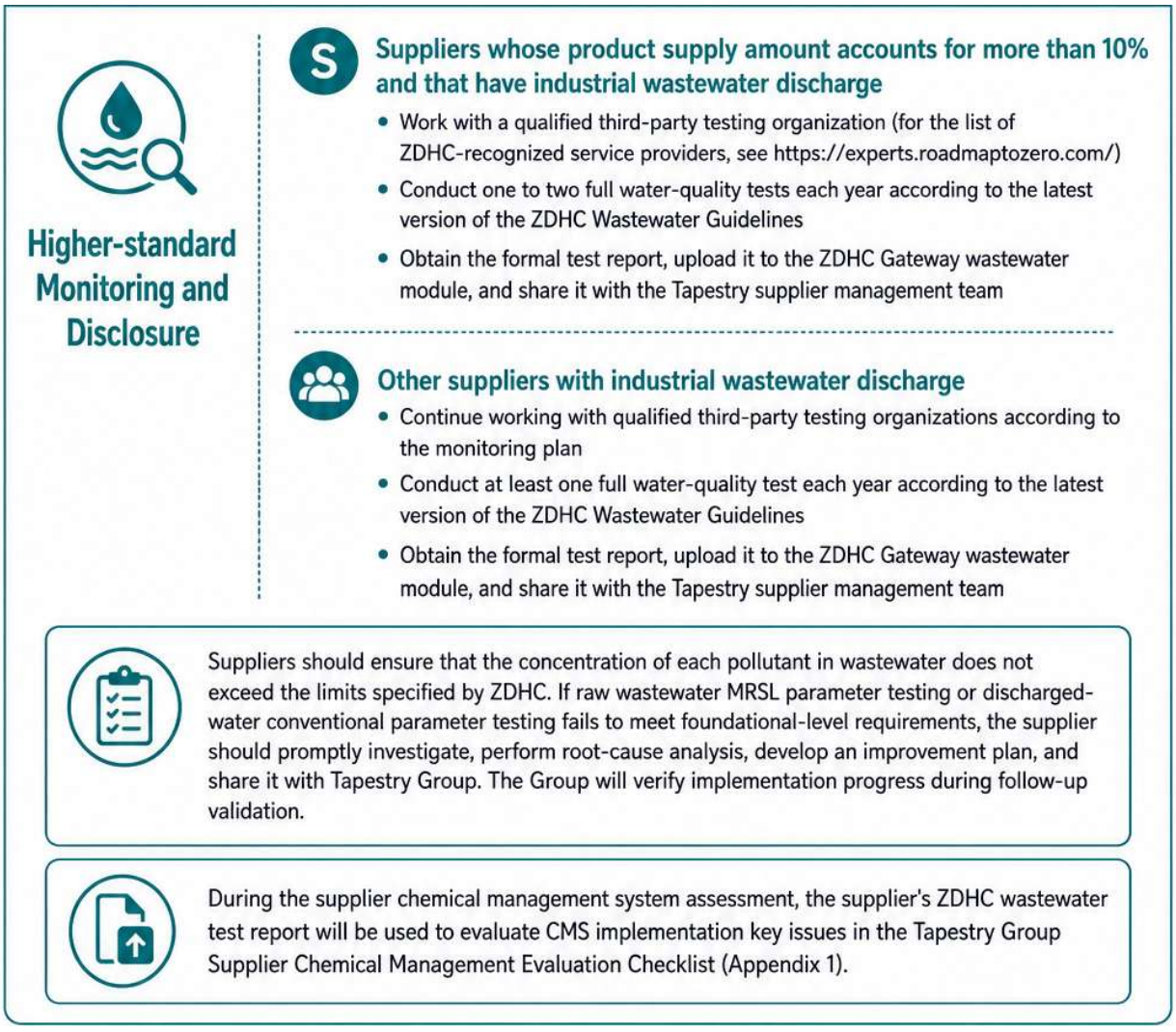
- **Hazardous Solid Waste Treatment**: solid waste type, generation volume, storage location, container label, treatment contractor qualifications, disposal records
- **General Solid Waste Treatment**: solid waste type, generation volume, recycling status, and treatment methods.

5.2 Advanced Requirements for Wastewater, Waste Gas, and Solid Waste

5.2.1 Higher Standards of Monitoring and Disclosure

Xtep Group is devoted to advancing environmental excellence throughout its supply chain, consequently urging and mandating its principal suppliers to embrace monitoring standards that surpass local regulatory requirements.

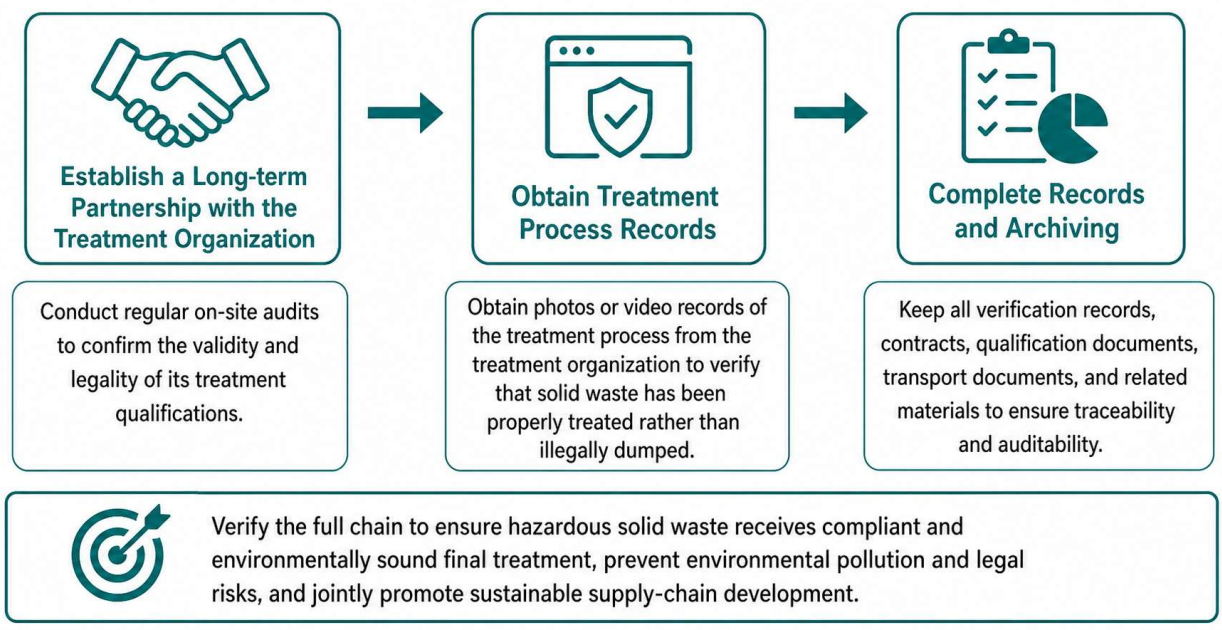
Figure 5.3 Advanced Requirements for Wastewater, Waste Gas and Solid Waste



5.2.2 Comprehensive Verification of Hazardous Solid Waste Disposal

Under advanced requirements, the suppliers are obligated not only to document the generation and initial treatment of hazardous solid waste but also to thoroughly verify its ultimate disposal. Verification of the disposal destination for hazardous solid waste encompasses the following: establishing long-standing cooperative relationships with disposal facilities, conducting regular on-site audits to confirm the validity and legality of their disposal credentials, and obtaining photographic or video evidence of the disposal process from these facilities to ensure that the waste is properly handled rather than illegally dumped.

Figure 5.4 Comprehensive Verification of Hazardous Solid Waste Destination



6. Testing Requirements for Restricted Substances

6.1 Restricted Substances in Raw Materials and Products

The Suppliers must ensure raw materials used and finished products meet Xtep Group's Chemicals Safety Specs. Restricted substance requirements are in the matrix table as below:

Table 6.1 Restricted Substances Matrix- Raw Materials and Products

Test Parameter	GB	US	EU	Indian	Middle East	Korea	Japan	Leather, Fur	Coated Leather	Artificial Leather, Synthetic Leather	Uncoated Textiles	Coated Textiles	Rubber	Plastics and Other Synthetic Mterials	Metal	Ink	Glue
Heavy Metals, Chromium VI	x	x	x	x	x	x		X	X								
Azo-amines & Arylamine salts	x		x	x	x	x	x	X	X	X	X	X					
Formaldehyde	x		x	x	x	x	x	X	X	X	X	X					
Heavy Metals, Total	x	x	x	x		x			X	X		X	X	X	X		
Heavy Metals, Extractable			x	x	x	x		X	X	X	X	X					
Dimethylfumarate (DMFu)	x		x	x	x	x		X	X	X	X						
Chlorophenols	x		x	x	x	x		X	X	X	X	X					
N-Nitrosamines	x		x	x		x							X				
Phthalates	x	x	x	x	x	x			X	X		X	X	X			
Chlorinated Paraffins (SCCP)	x		x	x				X	X	X	X	X	X	X			
Alkylphenol (AP) & Alkylphenol Ethoxylates (APEOs	x		x	x		x		X	X	X	X	X	X	X			
Organotin Compounds			x	x	x	x	x			X			X	X		X	X
Chlorinated Benzenes & Toluenes			x	x	x					X	X	X					
Solvents / Residuals, DMFa			x						X	X							

Table 6.1 Restricted Substances Matrix- Raw Materials and Products

Test Parameter	GB	US	EU	Indian	Middle East	Korea	Japan	Leather, Fur	Coated Leather	Artificial Leather, Synthetic Leather	Uncoated Textiles	Coated Textiles	Rubber	Plastics and Other Synthetic Mterials	Metal	Ink	Glue
Per- & Polyfluoroalkyl Substances (PFAS)	x	x	x	x			x	X	X	X	X	X		X			X
Total Fluorine		x	x						X	X	X	X					
Bisphenols		x								X	X	X					
Volatile Organic Compounds (VOCs)	x															X	X
Heavy Metals, Nickel Release	x		x	x		x									X		
Acidic & Alkaline Substances (pH)	x			x	x	x		X	X	X	X	X					
Flame Retardants		x	x	x	x	x	x	Flame-retardant Treated Products									
Polycyclic Aromatic Hydrocarbons (PAHs)			x						X			X	X	X			
Dyes, Forbidden & Disperse			x	x	x	x				X	X	X					
Pesticides, Agricultural			x		x		x	Anti-pest Treated Products									
Quinoline			x							X	X	X					

6.2 Restricted Substances in Packaging Materials

The Packaging materials from suppliers must meet Xtep Group's Product Chemicals Safety Specs. Restricted substance requirements are in the matrix table as below:

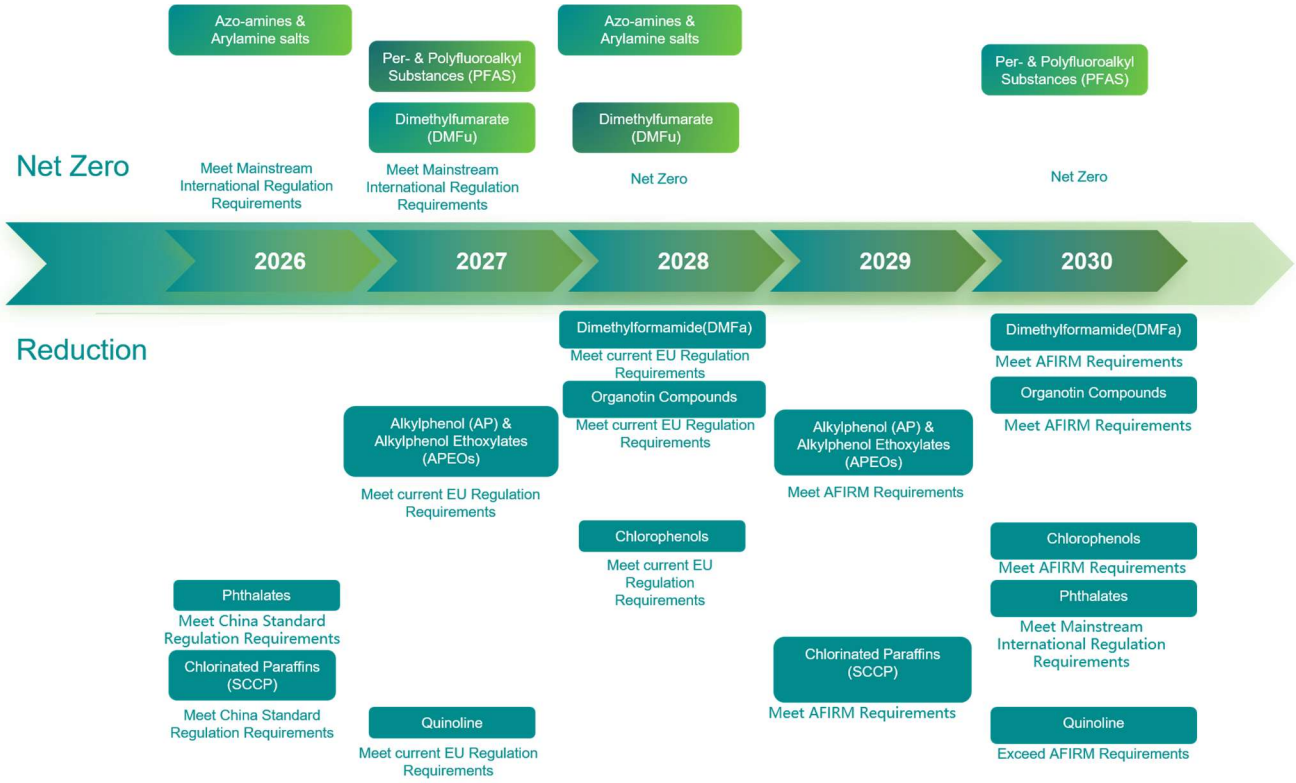
Table 6.2 Restricted Substances Matrix - Packaging Materials

Test Parameter	Fiber	Coating	Natural materials (including paper and paperboard)	Polymer	Metal	Glue	Natural Leather
Dimethyl fumarate				X (For use only in mildew-proof/drying bags)			X
Cadmium		X	X	X	X	X	X
Hexavalent chromium		X	X	X	X	X	X
lead		X	X	X	X	X	X
Mercury		X	X	X	X	X	X
PFAS	X (DWR processed packaging)						
Phthalate				X (Applicable only to PVC and flexible plastics)			

6.3 Hazardous Chemicals Phase-out Plan

Through the implementation of the "screening, evaluation, and control" mechanism, Xtep Group precisely identifies and phases out Chemicals substances at the production source that pose enduring and irreversible threats to both the environment and human health, while establishing a strategic roadmap for the elimination of hazardous substances to facilitate the green transformation of the supply chain industry.

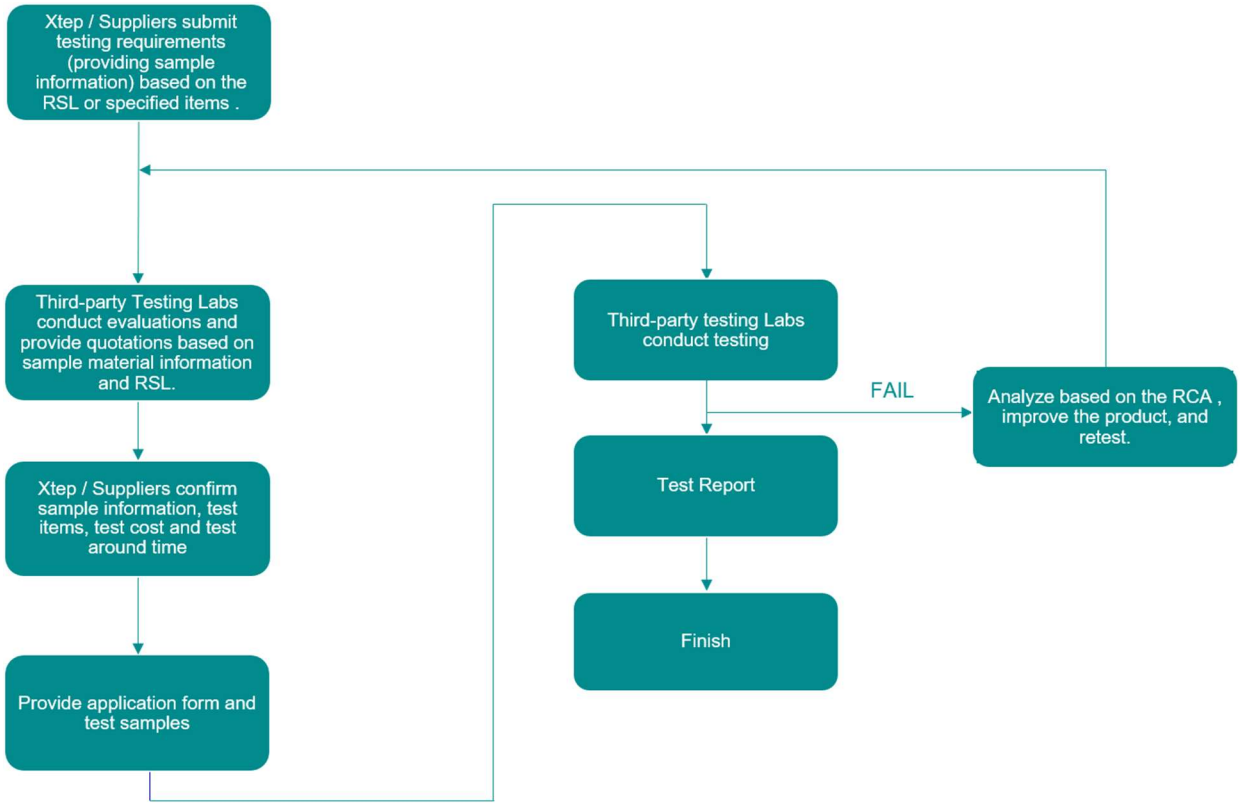
Figure 6.1 Roadmap for Hazardous Substances Phase-Out Plan



7. Testing Procedure for Restricted Substances

The Suppliers shall conduct RSL tests on materials and finished products in accordance with the following flowchart and submit test reports along with an RCA (if applicable).

Figure 7.1 Flowchart of Restrict ed Substances Testing



8. RSL Test Management Process

8.1 Objectives

This plan aims to establish a comprehensive Chemicals safety management system covering the entire lifecycle from raw material development to mass sales. Through a phased and tiered testing strategy, it ensures that Xtep products comply with Xtep Group's RSL standards and the laws and regulations of target markets (such as EU REACH regulations and US CPSIA), effectively mitigating trade risks and protecting consumer health.

8.2 Testing Phases and Implementation

See Appendix 2, "Xtep RSL Test Control Process".

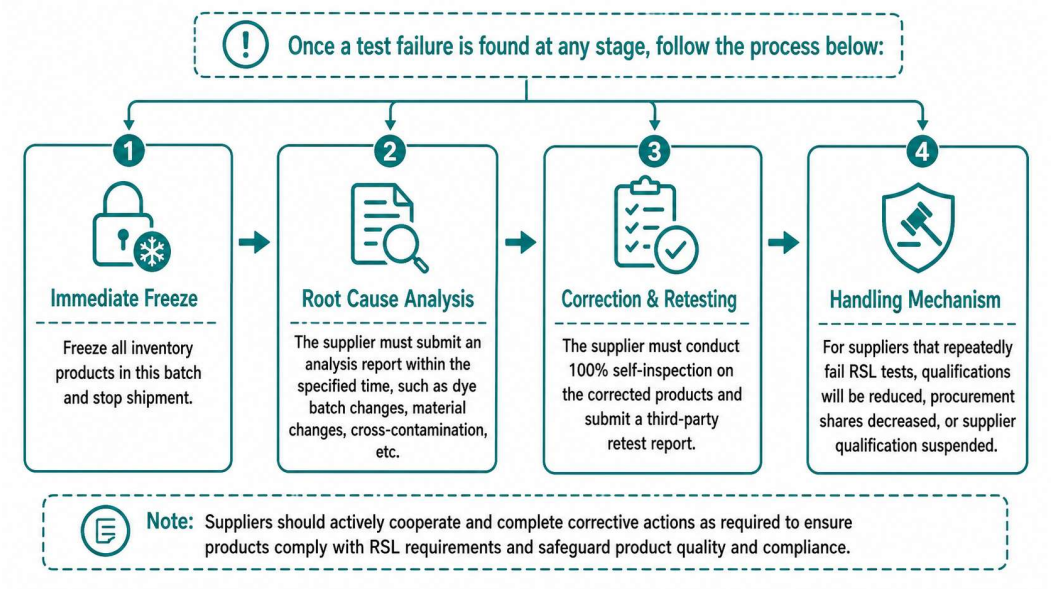
8.3 Risk Classification and Testing Priority

To improve testing efficiency and control costs, testing projects should be risk-classified based on the Xtep Group's RSL list and historical violation data.

8.4 Exception Handling and Rectification

If any test failure at any stage, the exception handling and rectification mechanism will be initiated, as depicted in Figure 8.1.

Figure 8.1 Flowchart of RSL test exception handling and rectification



8.5 RSL Update Process

Xtep Group will annually update RSL and simultaneously revise the testing standards outlined in this plan, ensuring consistent compliance with the latest international environmental regulations.

9. RSL Test Failure Analysis and Solutions

9.1 Root Cause Analysis Process

This standard operating procedure aims to establish a systematic root cause analysis process for RSL test failures. Through tiered investigation and scientific analysis, it accurately identifies the root cause of the problem, formulates targeted corrective measures and long-term prevention mechanisms, ensures that products continuously meet the regulatory requirements of the target market, and protects consumer safety and brand reputation.

This standard operating procedure can be used to guide footwear, apparel and accessories suppliers in analyzing the root causes of RSL test failures. The department names mentioned in the text represent the functional departments of the supplier's factory.

9.2 RSL Test Failure RCA Process

9.2.1 First Phase: Problem Identification and Information Collection

Step 1: Verify The Test Report

Upon receiving a notification of RSL test failure, the Quality Management Department should immediately conduct the following verification procedures: confirm the qualifications of the testing organization and the validity of the testing methods; clarify the specific name and content of the non-compliant substance; confirm the applicable target market regulations and corresponding limit standards; record key information such as the batch number, production date, and testing date of the tested sample; and confirm whether a retest is necessary to eliminate testing errors.

Step 2: Collect Product Manufacturing Information

Complete information on this batch of products will be retrieved simultaneously from the production and purchasing departments, including but not limited to: production work order: product name, batch number, production date, production line, shift, and operator; formula card: name, batch, and dosage of all raw materials and Chemicals used; raw material batch information: supplier, purchase date, and incoming material inspection results; production process records: process parameters (temperature, time, pressure, etc.), process steps, and process deviation records; and warehousing and transportation records: storage conditions, storage time, transportation method, and transportation time .

Step 3: Preliminary Scope Delineation

Based on the information collected through the above steps, the following preliminary findings have been made: a list of raw materials (including materials and Chemicals) involved (which raw materials may be the source of pollution); the production process involved (at which stage of production were restricted substances introduced); the responsible departments involved (which departments, such as procurement, production, and quality, should bear responsibility); and the scope of the problem's impact (whether it only affects this batch, or affects other batches or products) .

9.2.2 Second Phase: Layered Investigation and Root Cause Locator

Step 4: Input Investigation (Material Source Investigation)

A systematic investigation should be conducted from the source of raw materials and Chemicals: verifying whether Chemicals suppliers have the corresponding qualifications and certifications; retrieving the Safety Data Sheets (SDS) and test reports provided by Chemicals suppliers; and checking whether suppliers have made false statements or provided incomplete information. Regarding the procurement process, review whether the Restricted Substances List (RSL) requirements are clearly defined in the procurement process; check whether the procurement contract includes clauses related to restricted substances; assess whether the coverage and frequency of incoming material inspection are sufficient; and analyze whether there are any instances of lax procurement access or missed incoming material inspections.

Based on the above information, high-risk raw materials and Chemicals are identified, grouped, and sent for testing, with results tracked. Suspicious materials are sent for separate testing to determine the specific source of contamination; other batches of materials from the same supplier are sampled for testing to determine if there are systemic problems.

Step 5: Process-Side Investigation (Production Process Investigation)

A thorough investigation was conducted into the actual operation of the production processes and equipment.

Production line cross-contamination investigation: Investigate whether multiple products are produced continuously on the same production line; check whether there are other products containing the restricted substance on the production line; assess whether the production line cleaning procedures are adequate.

Process deviation investigation: Compare the actual production process with the standard process specification; check for deviations in process parameters (such as temperature, time, pressure, etc.); analyze whether process deviations may lead to the introduction or accumulation of restricted substances; check for any unauthorized process changes.

Production equipment cleaning and inspection: Review the completeness and scientific

validity of the equipment cleaning procedures; check whether the cleaning frequency meets the requirements; analyze whether equipment residues may be a source of pollution.

Step 6: Root Cause Identification

Based on the combined results of the investigation at both the input and process ends, the root cause was determined.

9.2.3 Third Stage: Corrective Measures and Prevention Mechanisms

Step 7: Develop Immediate Corrective Actions

Based on the identified root cause, take the following actions immediately:

- ☒ **Isolate defective products:** Immediately isolate all defective products from this batch to prevent them from entering the market; establish an isolation area with clear labeling to prevent misuse; record the quantity, specifications, and storage location of the isolated products.
- ☒ **Rework or Scrap Handling:** Assess whether non-conforming products can be reworked; if reworkable, develop a detailed rework plan, including rework processes and testing requirements; if reworkable, scrap the products according to the prescribed procedures, and record the reason for scrapping and the quantity.
- ☒ **Suspend supply from the supplier in question:** If the root cause is a supplier issue, immediately suspend supply from that supplier; notify the formulation manufacturer or raw material supplier of the issue and require them to make improvements; conduct on-site audits of the formulation manufacturer or raw material supplier if necessary, and assess their improvement progress; supply may only be resumed after the formulation manufacturer or raw material supplier has completed the improvements and passed verification.

Step 8: Resubmit For Verification

After completing the above rectification measures, a verification test will be conducted: the reworked products will be subjected to RSL testing to confirm whether they meet the standards. If the test still fails, the cause needs to be re-analyzed, and new measures need to be developed.

Step 9: Establish A Long-Term Prevention Mechanism

To address the specific root causes, establish preventative mechanisms to avoid recurrence of similar problems.

Prevention mechanisms at the raw material level: Strengthen supplier evaluation and establish a supplier RSL compliance scoring system; improve procurement contracts, clarify RSL requirements and liabilities for breach of contract; expand the scope of incoming material

inspection and conduct full-batch testing on high-risk materials.

Prevention mechanisms at the production process level include updating process specifications and clarifying control requirements for restricted substances; establishing a process change management system to prevent unauthorized process changes; strengthening production process training to improve operators' awareness of Restricted Substances (RSLs); and establishing a process parameter monitoring system to monitor process deviations in real time.

Preventative mechanisms at the equipment cleaning level include optimizing equipment cleaning procedures to improve cleaning thoroughness; establishing a cleaning verification system to ensure cleaning effectiveness; and increasing cleaning frequency, especially during production line changeovers.

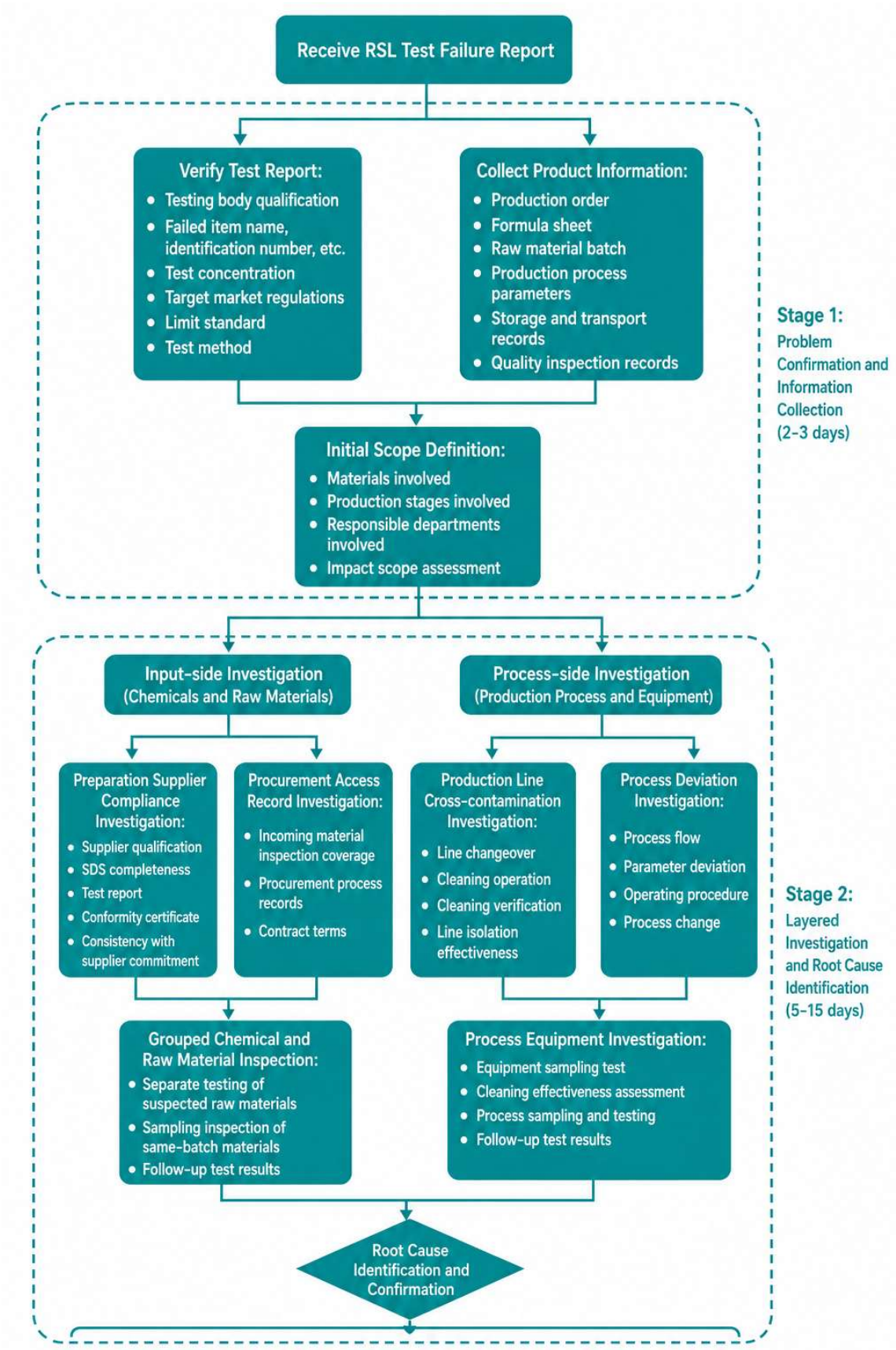
Quality control-level prevention mechanisms: Strengthen the implementation of finished product RSL testing plans, establish a system for tracking and analyzing testing data, and establish a rapid early warning mechanism for products that fail testing.

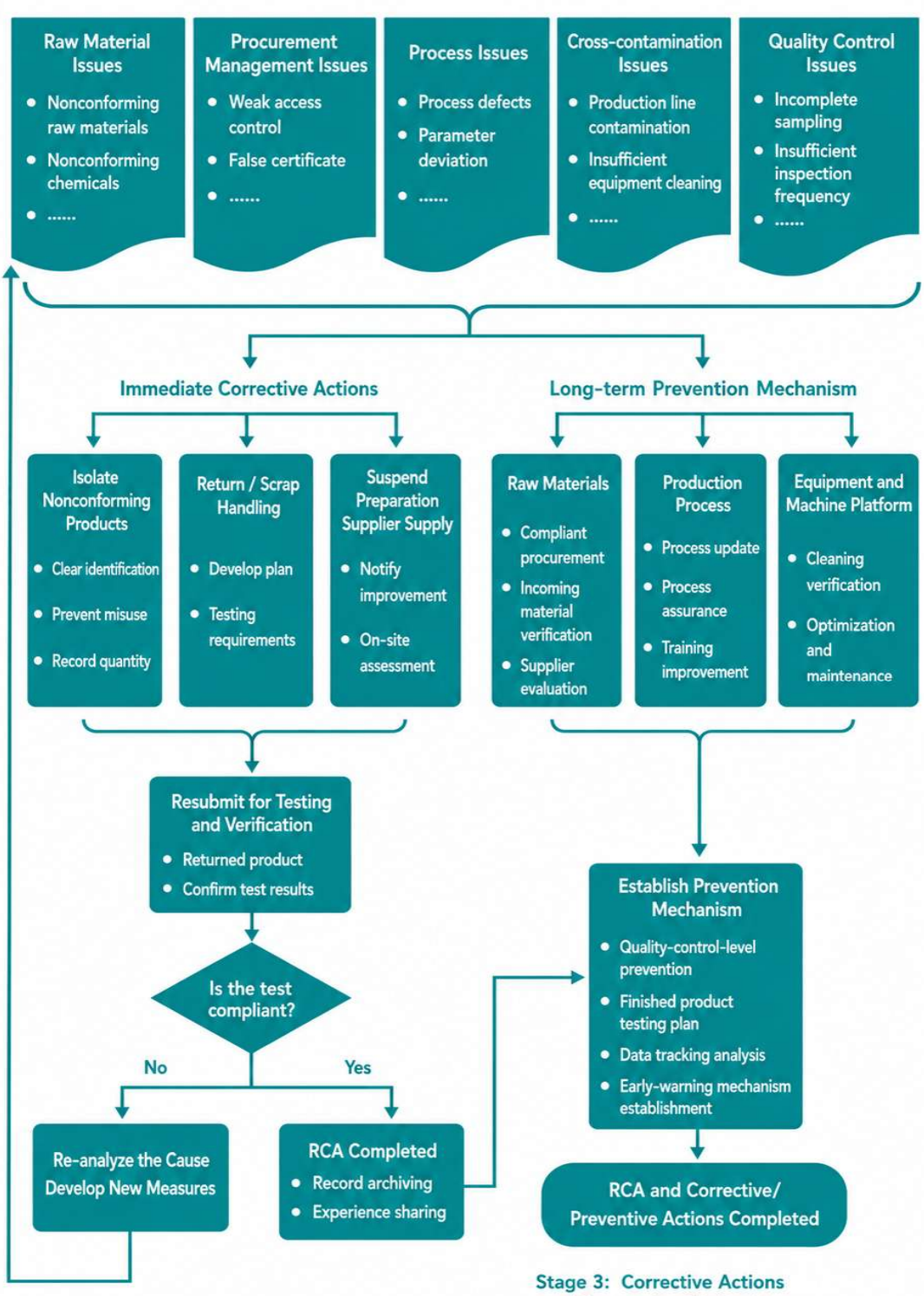
9.2.4 RCA Report Content

RCA report for failing the RSL test should include the following:

- ☑ Basic information about non-compliant products (product name, batch number, test results, etc.)
- ☑ Verify the test report results (regulations, standards, testing methods, judgment criteria, etc.).
- ☑ Product information collection and summarization (raw materials, production processes, warehousing and transportation, etc.)
- ☑ Input-side investigation results (Chemicals suppliers, procurement management, material testing, etc.)
- ☑ Results of process-side investigations (cross-contamination, process deviations, equipment cleaning, etc.)
- ☑ Root cause analysis (root cause identification, supporting evidence, scope of impact, etc.)
- ☑ Status of corrective action implementation (isolation, rework/scrap, supplier handling, etc.)
- ☑ Retest results and verification status
- ☑ Long-term prevention mechanisms (measures at the levels of raw materials, processes, equipment, and quality control).
- ☑ Signatures and confirmations from relevant departments and completion date

Figure 9.1 Flowchart for Analyzing The Root Causes of RSL Test Failures





Stage 3: Corrective Actions and Prevention Mechanism (2-3 days to develop)

9.3 Technical Documents for Test Failure RCA

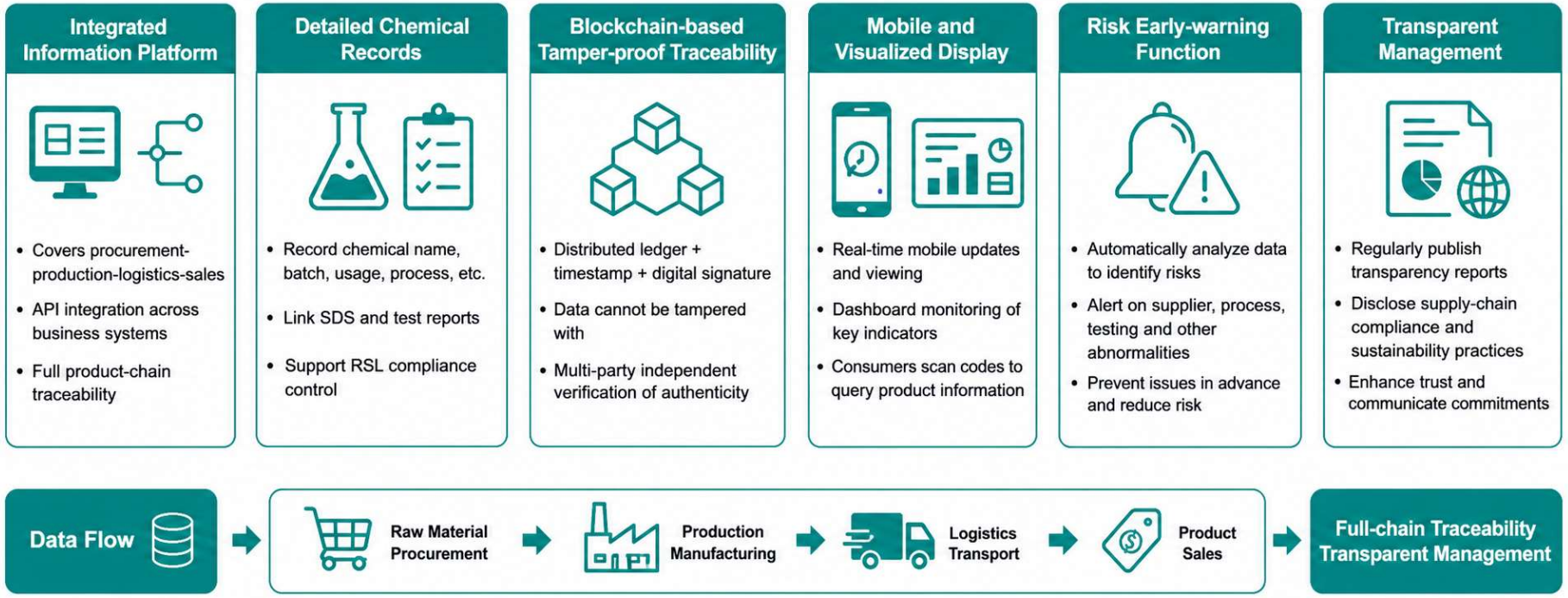
See Appendix 3, “Chemicals Information Sheets”.

10. Best Practices for Supply Chain Improvement Continuously

10.1 Digital Traceability and Transparent Management Practices

With global Chemicals management growing stricter, digital traceability has become key for footwear and apparel brands to ensure supply chain compliance and transparency. Leading brands shifted from "black box production" to "transparent manufacturing" via a full-chain digital traceability system.

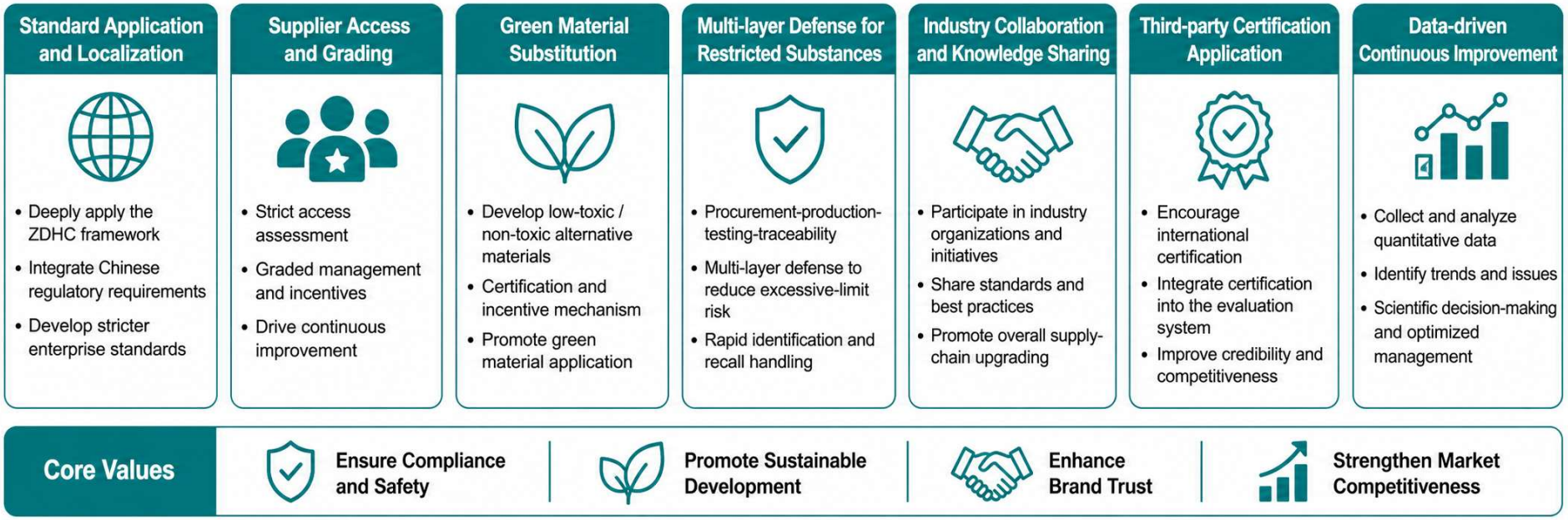
Figure 10.1 Digital Traceability and Transparent Management Practices



10.2 Best Sharing from International Footwear and Apparel Brands

In an era characterized by progressively stringent global environmental regulations and a heightened awareness of environmental protection among consumers, international footwear and apparel brands have transitioned sustainable Chemicals management from a passive compliance obligation to a proactive strategic initiative. Through extensive exploration and practice over the years, these premier brands have established a sophisticated and systematic Chemicals management framework, thereby setting an industry benchmark.

Figure 10.2 Sustainable Chemicals Management Experience of International Footwear and Apparel Brands



Reference

1. ZDHC Chemicals Management Industry Technical Guide
2. Zero Discharge of Hazardous Chemicals (ZDHC) - Restricted Substances in Production List (MRSL)
3. ZDHC Wastewater Guidelines
4. ZDHC Performance InCheck Guide
5. ZDHC Air Emission Guidelines
6. Higg Facility Environmental Module (Higg FEM) How to Higg Guide
7. Globally Harmonized Classification and Labelling System for Chemicals
8. AFIRM Chemicals Kit
9. AFIRM Chemicals Information Form
10. AFIRM PFAS Phase-out Guide
11. AFIRM Restricted Substance List
12. Bluesign Production Site Guidelines
13. Bluesign Chemicals Evaluation Criteria
14. Bluesign Production Site Practice Guide
15. GB 15603-2022 General Rules for Storage of Hazardous Chemicals in Warehouses
16. GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Factors in the Workplace - Part 1: Chemicals Hazardous Factors
17. GB/T 16483-2008 Contents and Order of Items in Safety Data Sheets for Chemicals
18. GB/T 17519-2008 Guidelines for the Preparation of Safety Data Sheets for Chemicals

Term Definition

In this manual, unless the context otherwise requires, the following terms shall have the following meanings:

【Limited Value】	refer to	The limiting condition requires that the concentration of the substance be below a specified limit.
【leather】	refer to	Natural leather made from tanned animal hides
【Coated Leather】	refer to	The surface coating shall not exceed one-third of the total thickness of the product but shall not exceed 0.15 mm of leather.
【Artificial Leather /Synthetic Leather】	refer to	Artificial leather material consists of a fabric lining and a typical PU (polyurethane) or PVC (polyvinyl chloride) coating.
【Uncoated Textiles】	refer to	Textiles or natural/synthetic fibers (such as cotton, polyester, etc.)
【Coating】	refer to	Liquid, semi-liquid, or other materials, when applied in a thin layer to surfaces such as textiles, will transform into a solid film.
【Rubber】	refer to	It refers to "natural rubber" (an elastic material made from vulcanizable latex tree sap or latex trees) and "synthetic rubber" (a material made from petroleum-based monomers).
【Glue】	refer to	Substances that can bond materials together through surface bonding
【Plastics and Other Synthetic Materials】	refer to	Materials typically composed of various polymers (usually derived from petroleum) and additives (including colorants, plasticizers, stabilizers, and fillers).
【RSL】	refer to	The Restricted Substances List is a list of restricted Chemicals substances and their limits in final products, raw materials, and packaging materials.
【MRSL】	refer to	Manufacturing Restricted Substances List: A list of Chemicals substances that are prohibited or restricted from use in the production process.

【ZDHC】	refer to	Zero Discharge of Hazardous Chemicals is a Chemicals management initiative driven by international brands and industry partners.
【ZDHC Gateway】	refer to	data related to Chemicals certification, InCheck, ClearStream, and more.
【 StZ 】	refer to	Supplier to Zero, Yes ZDHC Supplier Chemicals Management Maturity Assessment Project is used to evaluate the CMS level of a plant.
【Higg Index FEM】	refer to	The Higg Facility Environmental Module, with its Higg Index, is an international auditing tool used to assess the environmental management performance of a plant.
【GHS】	refer to	The Globally Harmonized System of Classification and Labelling of Chemicals (UN-established system for classifying and labelling Chemicals hazards).
【PPE】	refer to	Personal protective equipment (PPE) includes masks, protective gloves, protective goggles, and protective clothing.
【SDS】	refer to	Safety Data Sheet: A technical document that describes Chemicals hazard information, safe use, and emergency response measures.
【CMS】	refer to	Chemicals Management System. A systematic management mechanism used by an enterprise to manage the procurement, storage, use, disposal, compliance, and continuous improvement of Chemicals.
【KPI】	refer to	Key Performance Indicator (KPI): A quantitative indicator used to measure the effectiveness of a Chemicals management system and the achievement of its objectives.
【ESG】	refer to	Environmental, Social and Governance (SH) is a corporate sustainable development management framework.

【CIL】	refer to	A Chemicals inventory list is a summary document containing information on the inventory, usage, and management of all Chemicals in a factory.
【CAS Number】	refer to	The Chemicals Abstracts Service Number (CAS number) is an internationally recognized identifier used to uniquely identify Chemicals substances.
【RCA】	refer to	Root Cause Analysis is a method used to analyze the root causes of test failures, incidents, or non-compliance.
【InCheck】	refer to	ZDHC's input-side Chemicals compliance assessment tool evaluates the MRSL compliance rate of factories by using uploaded Chemicals inventory or usage data.
【ClearStream】	refer to	The ZDHC wastewater data management platform is used for uploading, sharing, and analyzing wastewater test results.
【Bluesign®】	refer to	International Textile Industry Chemicals and Environmental Management Certification System
【BLUESIGN® FINDER】	refer to	Bluesign® Approved Chemicals Database.
【OEKO-TEX® ECO PASSPORT】	refer to	Eco-safety certification for textile and leather Chemicals
【REACH】	refer to	EU Chemicals Registration, Evaluation, Authorization and Restriction Regulation (EC) No 1907/2006)
【SVHC】	refer to	The list of Substances of Very High Concern in the REACH regulation
【Positive List】	refer to	A list of Chemicals that have been certified and confirmed to meet MRSL requirements and can be prioritized for procurement and use. This is often represented in the form of a database, such as the ZDHC Gateway.
【Chemicals Formulator】	refer to	A company responsible for research, development, formulation, and sales of Chemicals.
【Traceability】	refer to	The ability to trace products back to the Chemicals used in the production stage, and from Chemicals back to related products.

【Contact Control】	refer to	Engineering, management and personal protective measures taken to reduce employee exposure to Chemicals
【Engineering Control】	refer to	Methods to reduce the risk of Chemicals exposure through engineering techniques such as ventilation, airtightness, and isolation.
【Risk control levels】	refer to	Risk control priorities: elimination, substitution, engineering controls, management measures, and personal protective equipment.
【Chemicals Substitutes】	refer to	The process of replacing existing Chemicals with Chemicals that are less risky or less harmful.
【VOCs】	refer to	Volatile organic compounds are organic Chemicals that can easily evaporate into the air and potentially affect the environment and human health.

Appendix 1 Supplier Chemicals Management Assessment Checklist

Table 1. Supplier Basic Information

Item	Content	Remark
Supplier Name		
Supplier Address		
Contact Person		
Contact Number		
E-mail Address		
Main Process Types	☐ Dyeing/Wet Processing ☐ Printing ☐ Washing ☐ Functional Finishing ☐ Adhesive Bonding ☐ Fiber Extrusion/Spinning ☐ Weaving Sizing ☐ Leather Tanning ☐ Fabric Bonding ☐ Plastic Parts ☐ Metal Processing ☐ Die Casting ☐ Organic Solvent Degreasing ☐ Laser Cutting ☐ Metal Plating ☐ Spray Painting ☐ Powder Coating ☐ Soldering ☐ Printed Circuit Boards ☐ Other	Multiple selections allowed
Use Large Chemical Products	☐ Yes ☐ No	
Chemical usage type	☐ Manufacturing chemicals ☐ Operational chemicals (boilers, wastewater treatment plants, etc.) ☐ Maintenance/tools/equipment chemicals ☐ Spot cleaning products	Multiple selections allowed
MRSL Implementation	☐ Yes (Type: ☐ Customer MRSL ☐ ZDHC MRSL ☐ bluesign BSSL ☐ Other) ☐ No	
Review Date		
Auditor		

Table 2. Document Record Review

No.	Document/Record Category	File Name	Is It Provided?	Does It Meet The Requirements?	Remark
1	Chemical Management System Policy	Chemical Management System (CMS) Policy Documents	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It must include: regulatory compliance, safe use, training commitment, traceability, sustainability, and continuous improvement.
2	CMS Team and Responsibilities	CMS team member list and job descriptions	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It must include: SDS reading ability, RSL/MRSL ability, and GHS classification knowledge.
3		CMS program documents (including division of responsibilities)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
4		CMS team member certifications/training records/resumes	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
5	Chemical Procurement Policy	Chemical Procurement Policy Document	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It must include: regulatory requirements, health and safety requirements, and RSL/MRSL requirements.
6		Chemical Procurement Procedures/Records	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Proof is required that chemicals were procured in accordance with policy.
7		Procurement training and communication records	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
8	Chemicals list	Chemical Inventory (CIL)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It must include all production, operation, and maintenance chemicals.
9		Action plan for updating the chemical inventory	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Only when the list is incomplete
10	Chemical inventory data	Chemicals list (including all data fields)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It must include: name, supplier, manufacturer, SDS, function, hazard classification, location of use, storage conditions, quantity, CAS number, batch number, MRSL compliance, purchase date, and expiration date.
11		Supporting documents (SDS, usage records, purchase records, etc.)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
12	Security Data Sheet (SDS)	The latest SDS (GHS compliant or equivalent) for all chemicals.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Must be provided for all chemicals, and must be in Chinese.
13		SDS Training Records	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
14	Chemical training	Chemical Training Plan/Schedule	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	All employees handling chemicals need to be covered.
15		Training Attendance Record	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
16		Training materials used	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It must include: chemical hazards, SDS, labeling, compatibility, storage, PPE, emergency procedures, etc.
17		Post-training evaluation procedures/records	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
18	Emergency and Leak Response	Chemical spill and emergency response plan	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
19		Emergency Drill Record	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Chemical production facilities need to be inspected at least twice a year.
20		Employee and Environmental Incident Log	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
21	PPE and safety equipment	Health and safety risk assessment	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	The required PPE/safety equipment needs to be displayed.
22		PPE Inventory List and Replenishment/Replacement Plan	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
23		Safety equipment inspection and maintenance plan	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Such as eye rinse stations, emergency showers, etc.
24	Chemical labeling	Examples of chemical labels	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Hazard labeling requirements must be included.
25		Chemical Labelling and Safety Equipment Inspection Plan/Procedure	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
26	MRSL compliance	Applicable MRSLs (Customer/ZDHC/bluesign, etc.)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
27		Chemical procurement policies and procedures (including MRSL)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It must include supplier communication and compliance verification procedures.
28		Use of positive list	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
29		MRSL Conformity Certificate/Test Report/Declaration	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Annual confirmation required
30		List of chemicals (including MRSL compliance status)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
31		Ingredient review records for non-production chemicals	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Such as lubricants, cleaning chemicals

No.	Document/Record Category	File Name	Is It Provided?	Does It Meet The Requirements?	Remark
32	RSL compliance	Applicable RSL (Customer/Industry)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
33		Chemical procurement policies and procedures (including RSL)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It must include supplier communication and compliance verification procedures.
34		Use of positive list	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
35		RSL Compliance Certificate/Test Report	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
36		Chemicals list (including RSL compliance status)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
37	EHS Management Procedures	EHS Management Team Organizational Structure/Job Description	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
38		Chemical risk assessment	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	The environmental and health safety risks of chemicals need to be covered.
39		EHS procedures (storage, processing, use, disposal)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
40		Chemical storage, use and disposal permit	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	If applicable
41	Chemical storage	Plant floor plan showing the location of chemical storage areas	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
42		Chemical storage area floor plan (classification and location)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
43		Standard Operating Procedures for Chemical Storage and Labelling	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
44		Examples of photos of chemical storage areas	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
45		Store in/out logs	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Includes arrival date, batch number, and shipping date.
46		Daily inspection checklist or report for chemical storage areas	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
47	Chemical temporary storage area	A factory floor plan showing the location of the chemical storage area.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	If applicable
48		Chemical temporary storage area floor plan	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	If applicable
49		Example of photos in temporary storage area	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	If applicable
50		Temporary storage area entry and exit logs	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	If applicable
51		Temporary storage area checklist or report	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	If applicable
52	RSL Training	RSL Training Records	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
53		Training materials used	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
54		Post-training evaluation record	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
55		RSL Manager Job Description and Qualifications	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
56	MRSL Training	MRSL Training Records	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
57		Training materials used	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
58		Post-training evaluation record	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
59		MRSL Manager Job Description and Qualifications	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
60	RSL test failure investigation	RSL test failed investigation and resolution process	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It must include root cause analysis, corrective action plan, and documentation procedures.
61		RSL test failure investigation history	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	If failure occurs

Table 3. On-site Inspection Checklist

No	Item	Check Point	Is it Applicable?	Does It Meet The Requirements?	Remark
1	Storage area identification	The storage area is clearly marked and unauthorized personnel are prohibited from entering.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
2	Ventilation and Environment	The storage area should be well-ventilated, dry, protected from wind and rain, and fireproof.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
3	Access Control	The storage area is locked and only authorized employees can enter.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
4	Emergency access	Emergency exits were clearly marked, unobstructed, and unlocked.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
5	Container status	All containers are in good condition, fit their contents, are sealed, and have clear labels.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
6	Ground conditions	The ground is firm, impermeable, free of standing water, and shows no signs of leakage.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
7	Drainage system	Wastewater discharged into places where chemicals may leak.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
8	Level 2 protection	Liquid chemicals (cans, drums, temporary containers) have level 2 protection and a capacity of ≥110%.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	It needs to be based on risk assessment
9	Material separation	Incompatible substances (strong acids/strong bases) should be stored separately.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
10	Flammable substances	Keep flammable materials away from heat/ignition sources, ground, and use explosion-proof lighting.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
11	temporary container	Temporary container sealed, label includes contents, hazard category, batch number.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
12	FEFO Implementation	The first-to-expires, first-out principle was followed.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
13	Health and safety measures	PPE and protective equipment are available and used in the storage area.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
14	Gas cylinders	Gas cylinders should be placed upright and secured; LPG should be kept away from sunlight and separated from other substances.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	If applicable
15	Outdoor storage	Outdoor chemicals include protective covers, sunscreens, isolation materials, and ground-sealed waterproofing.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	If applicable
16	Authorized access	The list and photos of authorized personnel are displayed at the entrance to the storage area.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
17	Leakage control	Leak control toolkit available	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
18	Warning signs	Warning signs are placed in key locations to inform employees of the risks.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
19	Firefighting equipment	Equipped with compatible fire extinguishers, smoke detectors, or sprinkler systems.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
20	Cleaning and maintenance	Storage areas are regularly cleaned and free of expired/leaked chemicals.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
21	Hazard Labels	All areas where chemicals are used are marked with hazard labels, consistent with the SDS.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
22	Safe transfer equipment	Safe transfer equipment (trolleys, pumps) is available at the relevant locations.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
23	PPE availability	All necessary PPE (gloves, respirators, protective clothing, etc.) is available and readily accessible.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
24	PPE status	PPE is in good condition and is replenished/replaced regularly.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
25	Safety equipment	Eye rinse station, emergency shower, fire extinguisher and other equipment are available.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
26	Equipment maintenance	Regular inspection and maintenance of safety equipment	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
27	SDS available	SDS (paper or electronic version) is readily available in the work area.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
28	SDS Language	SDS includes language versions understood by workers.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	
29	Employee training	Employees can explain chemical hazards and safety procedures.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	Interview confirmation
30	Leakage Emergency	Leak control tools and emergency equipment are available in the area of use.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Partial	

Appendix 2: Xtep RSL Test Control Process

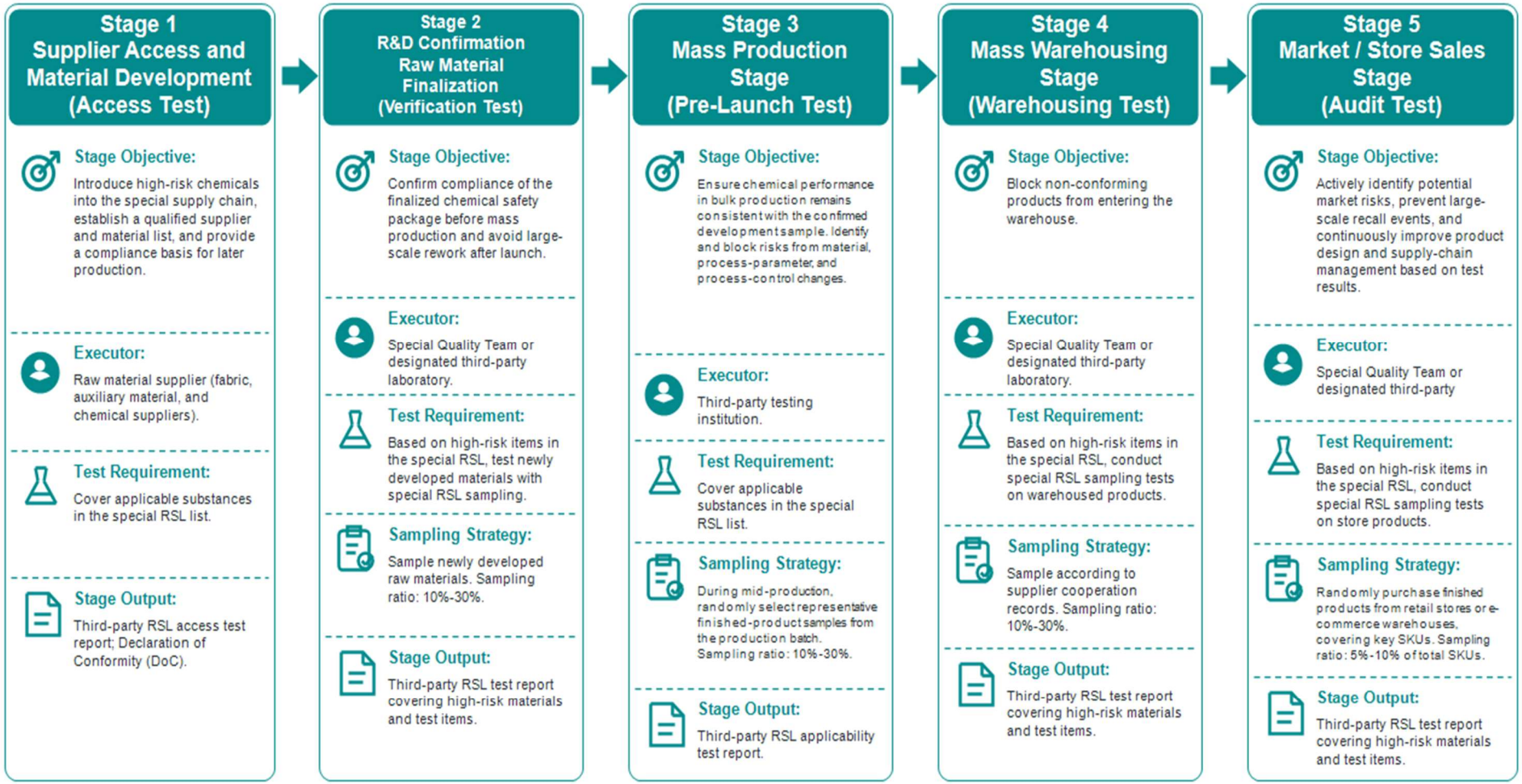
I. Objectives

This proposal is designed to institute a comprehensive Chemicals safety management system encompassing the entire lifecycle, from raw material development to mass-market sales. By adopting a phased and stratified testing strategy, it ensures that Xtep's products adhere to Xtep's RSL standards as well as the statutory and regulatory requirements of the target markets (such as the EU REACH Regulation and the US CPSIA), thereby effectively circumventing trade risks and safeguarding consumer health.

II. Testing Phases and Implementation

This proposal categorizes the management and control process into five critical stages, allocating distinct sampling ratios and testing protocols for materials and products at each stage, as depicted in Figure 2.1 below.

Appendix 2, Figure 2.1: Xtep RSL Test Control Phase Flowchart


Stage 1
Supplier Access and Material Development (Access Test)
Stage Objective:
Introduce high-risk chemicals into the special supply chain, establish a qualified supplier and material list, and provide a compliance basis for later production.
Executor:
Raw material supplier (fabric, auxiliary material, and chemical suppliers).
Test Requirement:
Cover applicable substances in the special RSL list.
Stage Output:
Third-party RSL access test report; Declaration of Conformity (DoC).
Stage 2
R&D Confirmation Raw Material Finalization (Verification Test)
Stage Objective:
Confirm compliance of the finalized chemical safety package before mass production and avoid large-scale rework after launch.
Executor:
Special Quality Team or designated third-party laboratory.
Test Requirement:
Based on high-risk items in the special RSL, test newly developed materials with special RSL sampling.
Sampling Strategy:
Sample newly developed raw materials. Sampling ratio: 10%-30%.
Stage Output:
Third-party RSL test report covering high-risk materials and test items.
Stage 3
Mass Production Stage (Pre-Launch Test)
Stage Objective:
Ensure chemical performance in bulk production remains consistent with the confirmed development sample. Identify and block risks from material, process-parameter, and process-control changes.
Executor:
Third-party testing institution.
Test Requirement:
Cover applicable substances in the special RSL list.
Sampling Strategy:
During mid-production, randomly select representative finished-product samples from the production batch. Sampling ratio: 10%-30%.
Stage Output:
Third-party RSL applicability test report.
Stage 4
Mass Warehousing Stage (Warehousing Test)
Stage Objective:
Block non-conforming products from entering the warehouse.
Executor:
Special Quality Team or designated third-party laboratory.
Test Requirement:
Based on high-risk items in the special RSL, conduct special RSL sampling tests on warehoused products.
Sampling Strategy:
Sample according to supplier cooperation records. Sampling ratio: 10%-30%.
Stage Output:
Third-party RSL test report covering high-risk materials and test items.
Stage 5
Market / Store Sales Stage (Audit Test)
Stage Objective:
Actively identify potential market risks, prevent large-scale recall events, and continuously improve product design and supply-chain management based on test results.
Executor:
Special Quality Team or designated third-party
Test Requirement:
Based on high-risk items in the special RSL, conduct special RSL sampling tests on store products.
Sampling Strategy:
Randomly purchase finished products from retail stores or e-commerce warehouses, covering key SKUs. Sampling ratio: 5%-10% of total SKUs.
Stage Output:
Third-party RSL test report covering high-risk materials and test items.
Each stage's test results support supplier performance evaluation, risk control, and continuous improvement.

III. Risk Classification and Testing Priority

To improve testing efficiency and manage costs effectively, testing projects should be categorized by risk level based on Xtep's RSL checklist and historical non-compliance data.

IV. Exception Handling and Rectification

If any testing failure at any stage, the following process will be initiated.

1. Immediate Freeze: Freeze all inventory products in the same batch and stop shipping.
2. Root cause analysis: Suppliers must submit a root cause analysis report within the specified time (e.g., dye batch change, material change, cross-contamination, etc.).
3. Rectification and retesting: Suppliers are required to conduct 100% self-inspection of the rectified products and submit a 3rd-party retesting report.
4. Penalty mechanism: Suppliers who repeatedly fail the RSL test will have their procurement share reduced or their supplier qualification revoked.

V. Conclusion

This proposal implements a five-fold protective mechanism, comprising "supplier self-inspection, Xtep verification, process monitoring, warehousing quality control, and market supervision," in conjunction with Xtep's risk classification strategy, to significantly mitigate the risks associated with restricted Chemicals substances. Xtep Group will annually update the RSL list and concurrently amend the testing standards specified in this plan to ensure unwavering compliance with the latest international environmental regulations.

Appendix 3: Chemicals Information Sheets

Chromium (VI)

Other Names: Hexavalent chromium, Cr (VI)

CAS Number: 18540-29-9

Definition: Cr (VI) is chromium in its 6+ oxidation state. Hexavalent chromium can be formed naturally in the environment through erosion from natural chromium deposits or produced during industrial production.

Use in the Supply Chain	May Be Found In
• Trivalent chromium (Cr (III)) is typically used for leather tanning. • Under certain conditions, trivalent chromium can be converted into hexavalent chromium. • Lead chromate pigments used in leather finishing • In textile dyes, hexavalent chromium can be used as a mordant for dyeing wool.	• Chrome-tanned leather and fur • Inorganic pigments • Textile dyes

Why are Restricted

☒ Major global markets have enacted legislation to restrict the use of hexavalent chromium in textiles and leather products.

☒ Exposure to hexavalent chromium is linked to many health problems in humans.

☒ The International Agency for Research on Cancer (IARC) classifies Cr (VI) as a carcinogen.

Azo Dyes

Other Names: Azo amines and aromatic amine salts azo structures

Definition: Azo amines and aromatic amine salts are molecular structures found in many dyes. Some azo dyes may release carcinogenic aromatic amines during reductive cleavage.

Use in the Supply Chain	May Be Found In
Dyes containing azo structures are a widely used class of synthetic dyes and pigments. These dyes can be used to dye various materials such as textiles, leather, plastics, and paper.	• Textile • Leather • Synthetic leather • Plastic • Paper

Why Azo Dyes are Restricted

☒ Prolonged exposure to aromatic amines produced by the reductive cleavage of certain azo dyes may lead to carcinogenesis.

☒ The main routes of exposure for consumers and workers to restricted azo dyes are oral, dermal absorption, and inhalation.

☒ Legislation has been enacted worldwide to restrict the use of azo dyes that may release aromatic amines.

Formaldehyde

Other Names: Formalin, formaldehyde solution, liquid formaldehyde, methanal, formalin, formaldehyde water, methanal solution, industrial formaldehyde solution

CAS Number: 50-00-0

Definition: Formaldehyde is a widely used Chemicals, present in very low amounts in natural foods, and used in various synthetic preparations. At room temperature, formaldehyde is a colorless, flammable gas with a strong, pungent odor.

Use in the Supply Chain	May Be Found In
Formaldehyde can be used in the production of fertilizers, paper, plywood, and urea-formaldehyde resin. It is also used as a preservative in some foods and many household hygiene products.	• Anti-wrinkle (wrinkle-free, easy to care for, no ironing required), hardening [3D wrinkle-reducing], stain-resistant • Resin or coating applications using phenolic resins, urea-formaldehyde resins, melamine-formaldehyde resins, and polyurethane resins. • Coloring and over-dyeing in spraying and immersion • Printing (such as flocking and discharge printing) • Heat transfer • Adhesive and glue applications (including repairs) • Odor control

Why Formaldehyde are Restricted

☒ Major global markets have enacted legislation to restrict the use of formaldehyde in finished products.

☒ Formaldehyde is classified as a possible human carcinogen.

☒ It is an irritant that can affect the eyes, nose, and throat.

☒ High concentrations of formaldehyde can cause severe pain, gastrointestinal reactions, vomiting, coma, or death.

Heavy Metals - Total

Substances: Arsenic (As), Cadmium (Cd), Lead (Pb), Mercury (Hg)

CAS Number:

- 7440-38-2: Arsenic (As)
- 7440-43-9: Cadmium (Cd)
- 7439-92-1: Lead (Pb)
- 7439-97-6: Mercury (Hg)

Definition: Heavy metals are a group of elements that do not currently have a strict Definition and possess metallic properties, including thermal and electrical conductivity.

Use in the Supply Chain	May Be Found In
Heavy metals, including arsenic, cadmium, lead, and mercury, may be found in pigments and dyes, metal alloys and coatings, as well as in PVC stabilization processes.	• Metal alloys and coatings • Pigments and dyes • PVC

Why Heavy Metals are Restricted

☒ Major global markets have enacted legislation to restrict the use of heavy metals in finished products.

☒ Heavy metals are associated with the following environmental and human toxicity characteristics:

- Aquatic toxicity: arsenic, cadmium, lead, mercury
- Carcinogenic: Arsenic, Cadmium
- Kidney, brain and/or reproductive toxicity: lead, mercury
- Highly acutely toxic: arsenic, cadmium, mercury

Heavy Metals - Extractable

Substances: Antimony (Sb), Arsenic (As), Barium (Ba), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Lead (Pb), Mercury (Hg), Nickel (Ni), Selenium (Se)

Definition: Extractable heavy metals are heavy metals that are released from materials under specific conditions.

Use in the Supply Chain	May Be Found In
Heavy metals can be used in various parts of clothing, equipment, and footwear supply chain.	• Dyed or printed textiles • Antimony as a catalyst in polyester • Leather • Pigments, dyes, inks and paints • Metal alloys and coatings • Plastics including PVC

Why Heavy Metals are Restricted

☒ Major global markets have enacted legislation to restrict the use of heavy metals in finished products.

☒ Heavy metals are associated with the following environmental and human toxicity characteristics:

- Aquatic toxicity: arsenic, barium, cadmium, copper, cobalt, lead, mercury, nickel, and selenium
- Carcinogenic: Arsenic, cadmium, cobalt, nickel
- Kidney, brain and/or reproductive toxicity: Barium, lead, mercury
- Highly acutely toxic: arsenic, cadmium, mercury

Dimethyl Fumarate (DMFu)

Other Names: DMF, dimethyl 2-butenedioic acid, dimethyl 2-butenedioic acid

CAS Number: 624-49-7

Definition: Dimethyl fumarate (DMFu) is a biocide used to prevent the growth of mold on leather goods, such as footwear, during storage and transport in humid climatic conditions.

Use in the Supply Chain	May Be Found In
DMFu is typically placed in the padding or desiccant bag within the product or its packaging. It evaporates over time and impregnates the leather, protecting it from mold that can cause spoilage.	• Leather products • Desiccant bags or pads

Why DMFu are Restricted

☒ Major global markets have enacted legislation to restrict the use of DMFu in finished products.

☒ DMFu can cause painful dermatitis at low concentrations, which is difficult to cure.

☒ Symptoms may include itching, inflammation, redness, and burning.

☒ In some cases, DMFU can cause acute respiratory distress.

Chlorophenol

Other names: Chlorinated phenol

CAS Number: 15950-66-0, 933-78-8, 933-75-5, etc.

Definition: Chlorophenols are a group of man-made Chemicals that have historically been used as pesticides or converted into pesticides. They are also used as preservatives.

Use in the Supply Chain	May Be Found In
Chlorophenols are commonly used as pesticides, or converted into pesticides, and have historically been used as preservatives for textiles and leather materials during storage and transportation.	• Preservatives for textiles and leather materials • Insecticide • Dye • Printing pigments

Why Chlorophenol are Restricted

☒ Major global markets have enacted legislation to restrict the use of chlorophenols in finished products.

☒ Many clothing and footwear brands have banned the use of chlorophenol in their product manufacturing.

☒ Some chlorophenols may be toxic to aquatic life if exposure levels exceed a certain threshold.

☒ Some chlorophenols are classified as endocrine disruptors.

Nitrosamines

Other Names: N-nitrosamines

CAS Number: 62-75-9, 55-18-5, 621-64-7, etc.

Definition: Nitrosamines are a class of Chemicals substances that are unintentionally produced under certain conditions, and their production can be prevented through proper Chemicals management and reaction conditions.

Use in the Supply Chain	May Be Found In
Nitrosamines are produced when nitrites react with nitrosylating substances (secondary or tertiary amines) under certain conditions.	• Agricultural Chemicals (pesticides) • Rubber • Plastic • Solvent • Tanned leather (if amines are used to speed up the liming process) • Textile • Detergent

Why Nitrosamines are Restricted

☒ Major global markets have enacted legislation to restrict the use of nitrosamines in finished products.

☒ Nitrosamines are suspected carcinogens, typically classified as Group 1 or 2 carcinogens in the GHS system.

☒ Other hazards, including acute toxicity and specific target organ effects, may also be included in GHS.

Phthalate

Other Names: Phthalate esters

CAS Number: 28553-12-0, 117-84-0, 117-81-7, etc.

Definition: Phthalate esters are a collective term for esters formed from phthalic acid. Incorporating phthalate esters into plastics can improve their durability, elasticity, and transparency.

Use in the Supply Chain	May Be Found In
Phthalate esters, as a class of Chemicals substances, can be incorporated into plastics as additives to control the properties of the material.	• Plastic • Polyvinyl chloride (PVC) • Cellulose acetate • Coatings (such as polyurethane) • Screen printing and heat transfer inks • Adhesive • Solvent • Cosmetics and personal care products • Insecticide

Why Phthalate are Restricted

☒ Major global markets have enacted legislation to restrict the use of phthalates in finished products.

☒ Phthalate esters have been found to be harmful to health, causing endocrine disorders and reproductive and developmental problems.

☒ Phthalate esters can be released into the environment through use or directly from manufacturing and processing facilities.

☒ Potential bioaccumulation in small aquatic animals such as fish and oysters

Chlorinated Paraffins (SCCP)

Other Names: Short-chain chlorinated paraffins

CAS Number: 85535-84-8

Definition: Short-chain chlorinated paraffins (SCCPs) are mixtures of chlorinated hydrocarbons with a chain length of 10-13 carbon atoms and a chlorine content of 40-70%.

Use in the Supply Chain	May Be Found In
In the apparel and footwear industry, SCCP can be used as flame retardants or plasticizers in plastics, rubber, inks, paints, adhesives and surface coatings.	• Plastic • Rubber • Ink • Paint and varnish • Coating • Plasticizers • Fat liquefaction agent • Leather

Why SCCP are Restricted

- ☒ Major global markets have enacted legislation to restrict the use of SCCPs in finished products.
- ☒ Leading apparel and footwear brands have banned the use of SCCP in their product manufacturing.
- ☒ SCCPs are highly persistent and bioaccumulative substances and are classified as persistent organic pollutants.
- ☒ SCCP is toxic to aquatic life at low concentrations.

Alkylphenol (AP)

Other Names: Octylphenol (OP), Nonylphenol (NP)

CAS Numbers: 140-66-9, 1806-26-4, 27193-28-8, 104-40-5, 11066-49-2, 25154-52-3, 84852-15-3

Definition: Alkylphenols are a group of organic compounds obtained by the alkylphenols.

Use in the Supply Chain	May Be Found In
AP is an intermediate in the manufacture of many substances, including widely used surfactants such as alkylphenol polyoxyethylene ethers (APEO).	• Footwear outsole materials • Plastic and rubber components in clothing, footwear, and accessories • Jelly-like plastic sandals

Why AP are Restricted

☒ Countries around the world have enacted legislation to restrict the use of APEO and AP.

☒ Leading apparel and footwear brands have banned or strictly restricted the use of AP in their products.

☒ Some aquatic organisms (APs) are highly toxic to aquatic life and have persistent effects.

☒ Some APs have been questioned for potentially harming human fertility and unborn babies.

Alkylphenol Polyoxyethylene Ether (APEO)

Other Names: Nonylphenol polyoxyethylene ether (NPEO; NPE) and octylphenol polyoxyethylene ether (OPEO; OPE)

CAS Number: 9002-93-1, 9036-19-5, 68987-90-6, etc.

Definition: APEO is primarily used as a detergent in the wet processing of textiles, but it is also used as a degreasing product in the leather industry.

Use in the Supply Chain	May Be Found In
APEO is a common ingredient in many Chemicals formulations used in the production of clothing and footwear materials.	• Industrial detergents • Refining agents (such as wool and leather) • Wetting agent • Softener • Spinning oils (yarn and fabric) • Emulsifiers/dispersants for dyes and printing • Impressing agent • Degreasing agent for leather • Leather finishing agent • Degumming agents for silk production • Dye and pigment preparations • Polyester padding • Down filling • Liner adhesive • Facility cleaning products

Why APEO are Restricted

☒ Legislation has been enacted worldwide to restrict the use of APEO in finished products.

☒ Leading apparel and footwear brands have restricted or banned the use of APEO in their product manufacturing.

☒ APEO can degrade into alkylphenols (AP) in the environment.

☒ Some aquatic organisms (APs) are highly toxic to aquatic life and have persistent effects.

Organotin Compounds

Other Names: Tin organic compounds, Organostannic compounds

CAS Numbers: Various types of dibutyltin (DBT), various types of dioctyltin (DOT), various types of monobutyltin (MBT)

Definition: Organotin compounds (organotin) are substances composed of tin directly bonded to different organic groups.

Use in the Supply Chain	May Be Found In
Organotin compounds are commonly used as heat stabilizers for polyvinyl chloride (PVC) and catalysts in the production of polymer materials such as polyurethane (PU) coated fabrics.	• PVC • Polyurethane coatings • Polyester • Plastic ornaments • Textile • Leather • Screen printing • Biocides and insecticides

Why Organotin Compounds are Restricted

☒ Major global markets have enacted legislation to restrict the use of organotin compounds in finished products.

☒ Some organotin compounds are classified as persistent, bioaccumulative, and toxic substances.

☒ Some organotin compounds may be toxic to aquatic life.

☒ Some organotin compounds can act as immunotoxins.

☒ Some organotin compounds are endocrine disruptors.

Chlorobenzene and Toluene

Other Names: Chlorobenzene, chlorobenzene, chlorotoluene, chlorotoluene, chlorinated organic carrier

CAS Number: 95-49-8, 108-41-8, 106-43-4, etc.

Definition: Chlorobenzene and toluene are a group of chlorinated aromatic hydrocarbons. They are commonly used as intermediates in the synthesis of other Chemicals, as well as dye carriers and leveling agents.

Use in the Supply Chain	May Be Found In
Chlorobenzene and toluene can be used in textile production within the apparel and footwear supply chain.	• Dye carrier and leveling agent • Dyes and auxiliaries • Textiles (especially polyester and polyester blends) • Fumigants, biocides, insecticides, herbicides • Fluorescent whitening agent

Why Chlorobenzene and Toluene are Restricted

☒ Major global markets have enacted legislation to restrict the use of such substances in finished products.

☒ Leading apparel and footwear brands have banned the use of chlorobenzene and toluene in their product manufacturing.

☒ Some chlorobenzene and chlorotoluene can be highly toxic to aquatic organisms when they reach certain concentrations.

☒ Prolonged exposure to certain chlorobenzenes and chlorotoluenes may lead to various cancers.

Solvents / Residuals

Substance: N, N-Dimethylformamide (DMFa), formamide, dimethylacetamide (DMAC), N-methyl-2-pyrrolidone (NMP)

CAS Number: 68-12-2, 75-12-7, 127-19-5, 872-50-4

Definition: These Chemicals are used in the manufacturing process to dissolve solids before use. They should not be present in the final product, but their residues can usually be detected.

Use in the Supply Chain	May Be Found In
DMFa is a colorless liquid with a fishy odor, and it is a commonly used solvent in the production of polyurethane coating materials (such as synthetic leather).	• Solvent residues in synthetic leather • Especially leather and textiles related to polyurethane coating materials • Plastics, rubber, adhesives and printing inks • Degreasing products for industrial mixtures (such as paints, varnishes, metals, and adhesives)

Why DMFa, DMAC and NMP are Restricted

☒ DMFa is classified as a reproductive toxicant.

☒ The liver is a target organ for the toxic effects of DMFa on the human body.

☒ Under the REACH regulation, DMFa, DMAC, NMP, and formamide are all classified as Substances of Very High Concern (SVHC).

Bisphenols

Substances: Bisphenol-A (BPA), Bisphenol-S (BPS), Bisphenol-F (BPF), Bisphenol-AF (BPAF)

CAS Numbers: 80-05-7, 80-09-1, 620-92-8, 1478-61-1

Definition: Bisphenols are precursor Chemicals that can be used with other Chemicals to manufacture certain plastics and resins. It is commonly used in the curing of plastics.

Use in the Supply Chain	May Be Found In
Pure bisphenol A (BPA) is a white flake and is commonly used in the production of polycarbonate plastics and epoxy resins.	• Polycarbonate bottle • Food and beverage cans • Thermal paper • Storage containers • Plastic sunglasses • Impact-resistant safety equipment • Adhesives, coatings, decorations • Polyamide textile color fixing agent

Why Bisphenols are Restricted

☒ The European Union, many countries in the Americas and Asia have implemented restrictions banning the use of BPA in infant and toddler products.

☒ Humans are generally exposed to BPA

☒ BPA is an endocrine disruptor.

☒ During the manufacturing process, BPA can enter the human body through inhalation or skin contact.

Volatile Organic Compounds (VOCs)

Substances: Benzene, carbon disulfide, carbon tetrachloride, etc.

CAS Number: 71-43-2, 75-15-0, 56-23-5

Definition: Volatile organic compounds are Chemicals substances that readily change from solid or liquid forms into gaseous or vapor forms and enter the air.

Use in the Supply Chain	May Be Found In
VOCs are widely used in the preparation of Chemicals in the apparel and footwear supply chain.	• Adhesives and glues • Fabric printing inks • Coating formulation • Leather finishing agents • Plastic products (such as buttons) • Rubber • Synthetic leather

Why VOCs are Restricted

☒ Major global markets have enacted legislation to restrict the use of VOCs in finished products.

☒ VOCs can easily turn into gases or vapors and enter the human body through inhalation.

☒ VOCs (especially restricted VOCs) are known to have adverse effects on human health and/or the environment.

☒ VOCs can irritate the skin, eyes, and respiratory tract.

Heavy Metal - Nickel Release

Substance: Nickel

CAS Number: 7440-02-0

Definition: Nickel is a metal widely used globally and found in silverware, coins, jewelry, metal plating, metal alloys, and dyes.

Use in the Supply Chain	May Be Found In
Nickels can be found in pigments, dyes, metal alloys, and metal coatings.	• Pigments and dyes • Metal alloys and coatings

Why Nickel are Restricted

☒ Nickels may bioaccumulate in some plants.

☒ Some nickel compounds may be carcinogenic to humans if ingested directly or inhaled in extremely high doses.

☒ The most common effects of nickel exposure are allergic reactions and sensitization caused by direct and prolonged contact with the skin.

Flame Retardants

Substances: Decabromodiphenyl ethane (DBDPE), pentabromodiphenyl ether (PentaBDE), octabromodiphenyl ether (OctaBDE), etc.

CAS Number: 84852-53-9, 32534-81-9, 32536-52-0, etc.

Definition: Flame retardants are Chemicals added to products to meet established flammability standards by reducing the material's ability to burn.

Use in the Supply Chain	May Be Found In
In the apparel and footwear supply chain, flame retardant Chemicals can be incorporated into textiles or applied to them via spray.	• Adhesive • Coating • Foam • Ink • Plastic • Sealant • Textile

Why Flame Retardants are Restricted

☒ Flame retardants are restricted in various regions around the world

☒ Many regions restrict the use of flame-retardant Chemicals in textiles, leather, and clothing.

☒ Flame retardant Chemicals have been linked to adverse health effects, including neurodevelopmental toxicity, decreased fertility, hepatotoxicity, thyroid disorders, and cancer.

☒ Some flame-retardant Chemicals are classified as persistent, bioaccumulative, and toxic (PBT) substances.

Polycyclic Aromatic Hydrocarbons (PAHs)

Alternative names: Polyaromatic hydrocarbons PAH

CAS Number: 83-32-9, 208-96-8, 120-12-7, etc.

Definition: Polycyclic aromatic hydrocarbons (PAHs) are naturally occurring substances composed of multiple carbon and hydrogen aromatic rings. They are found in fossil fuels and are typically formed during the incomplete combustion of organic materials.

Use in the Supply Chain	May Be Found In
Crude oil residues containing PAHs are added to rubber and plastics as softeners or fillers.	• Rubber and plastic components • Outsole • Paints and coatings • Recyclable materials • Carbon black pigments/dyes • Filler oil/softener • Lubricant • Printing pigments • Dye dispersant (naphthalene) • Textiles (Naphthalene)

Why PAHS are Restricted

☒ Major global markets have enacted legislation to restrict the use of PAHs in finished products.

☒ Some PAHs may be toxic to aquatic life if exposure levels exceed a certain threshold.

☒ Prolonged exposure to certain PAHs may lead to certain types of cancer.

☒ Some PAHs, if exposed to certain levels, may impair human fertility or harm unborn infants.

Disperse Dyes

Substances: CI Disperse Blue 1, CI Disperse Blue 3, CI Disperse Blue 7, etc.

CAS Number: 2475-45-8, 2475-46-9, 3179-90-6, etc.

Definition: Disperse dyes are a class of dyes that are insoluble in water. They can penetrate into synthetic fibers and fix the dyes through physical forces without forming Chemicals bonds.

Use in the Supply Chain	May Be Found In
In the apparel and footwear supply chain, disperse dyes are commonly used in the dyeing process of synthetic textiles, including polyester, acetate and polyamide.	• Dyed textiles

Why Disperse Dyes are Restricted

☒ Major global markets have enacted legislation to restrict the use of certain dyes of dyes in finished products.

☒ The main route of exposure for consumers and workers to restricted dispersive dyes is through skin absorption.

☒ Restricted dispersible dyes are suspected of causing allergic reactions.

☒ Some disperse dyes may break down to form carcinogenic amines.

Pesticides – Agricultural

Other Names: Many specific product names

Definition: Pesticides are substances or mixtures of substances designed to prevent, destroy, resist, or mitigate the harm caused by any harmful organisms.

Use in the Supply Chain	May Be Found In
Pesticides can be used in upstream agricultural production to combat various pests. They can also be added to animal hides (such as leather) or natural fibers (such as wool).	• Plant fibers (mainly cotton), but may also be found in hemp, sisal, and flax. • Animal fiber • Animal fur

Why Pesticides – Agricultural are Restricted

☒ Major global markets have enacted legislation to restrict the use of pesticides in finished products.

☒ Several international organizations have restricted or phased out certain pesticides.

Quinoline

Other Names: Benzpyridine, Azinaphthalene

CAS Number: 91-22-5

Definition: Quinoline is a colorless liquid with a pungent odor. It is a contaminant in some dye dispersants.

Use in the Supply Chain	May Be Found In
Quinoline may be present in dispersants as a contaminant. Dispersants are often used in the formulation of disperse and vat dyes to aid the dyeing process.	• In the dispersant of disperse dyes (as an impurity) • In polyester (as an impurity) • Some cyan dyes (e.g., Disperse Yellow 54)

Why Quinoline are Restricted

☒ Quinoline is classified as a carcinogen.

☒ Quinoline is highly soluble in water and toxic to aquatic organisms.

Per- & Polyfluoroalkyl Substances (PFAS)

Definition: Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are synthetic Chemicals defined as "fluorinated substances containing at least one fully fluorinated methyl or methylene carbon atom (without any hydrogen/chlorine/bromine/iodine atoms attached thereto)".

Use in the Supply Chain	May Be Found In
PFAS is widely used for antifouling, oil-proofing, and waterproofing.	• Materials with antifouling and oil-resistant coatings • Waterproof and moisture-repellent materials • Products that are quick-drying or have a breathable membrane • Enamel, coating and paint • Decorative components (e.g., zippers and labels)

Why PFAS are Restricted

☒ Many PFAS can have long-term effects on human health.

☒ PFAS are often referred to as "permanent Chemicals" due to their extremely high resistance to degradation and environmental durability.

☒ Due to their persistent environmental impact and widespread hazardous properties, agencies around the world have increasingly strengthened their regulation of all PFAS substances.