CHEMISTRY PLAYBOOK

& RESTRICTED SUBSTANCES LIST

Updated May 2019

NIKE GLOBAL SUSTAINABILITY

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ABOUT THE CHEMISTRY PLAYBOOK

FROM THE EARLY EFFORTS OF BILL BOWERMAN, NIKE, Inc.'s original innovator, to our ongoing obsession with creating exceptional product, the effective use of chemistry has elevated Nike product performance and shaped manufacturing on a global scale.

This legacy deeply influences our perspective on the positive role chemistry plays in pursuit of innovation.

While the essential role of chemistry within our business is clear, we also recognize that chemistry must be well managed to maximize its value while minimizing associated risks. To accomplish this, we've developed a unified operational strategy that integrates our approach to regulatory compliance with proactive efforts to scale better chemistry globally and reduce the impact of our business.

We created the Nike Chemistry Playbook to communicate our sustainable chemistry strategy and to clearly define our expectations for suppliers.

Given the scale and complexity of our supply chain, and with the understanding that chemistry touches every choice we make, it's important that all suppliers understand and comply with Nike's specific requirements.

The Playbook also reinforces the connection between chemistry and the Nike Code of Conduct (COC). The COC, updated in 2017, outlines our core philosophy and our expectation that chemicals are managed properly within our supply chain.

From the Nike COC:

SUPPLIER DEMONSTRATES A CONSISTENT AND COMPETENT APPROACH TO RESTRICTED SUBSTANCE MANAGEMENT, SUPPORTED BY AN EFFECTIVE AND LEGALLY COMPLIANT CHEMICALS MANAGEMENT PROGRAM. THE PROGRAM CLEARLY IDENTIFIES AND MITIGATES CHEMICAL RISKS TO WORKERS, THE ENVIRONMENT AND CONSUMERS BY FACILITATING SAFE HANDLING, STORAGE, USE, PROCUREMENT AND DISPOSAL OF CHEMICALS.

By integrating Nike COC requirements for supplier facilities, requirements from the Nike Restricted Substances List (Nike RSL) for material and product compliance, and initiatives to scale best-in-class sustainable chemistry across the industry, the Playbook is a critical tool for helping suppliers understand how Nike defines chemistry and what they must do to demonstrate they're meeting our expectations.

RUBBER TO THE ROAD

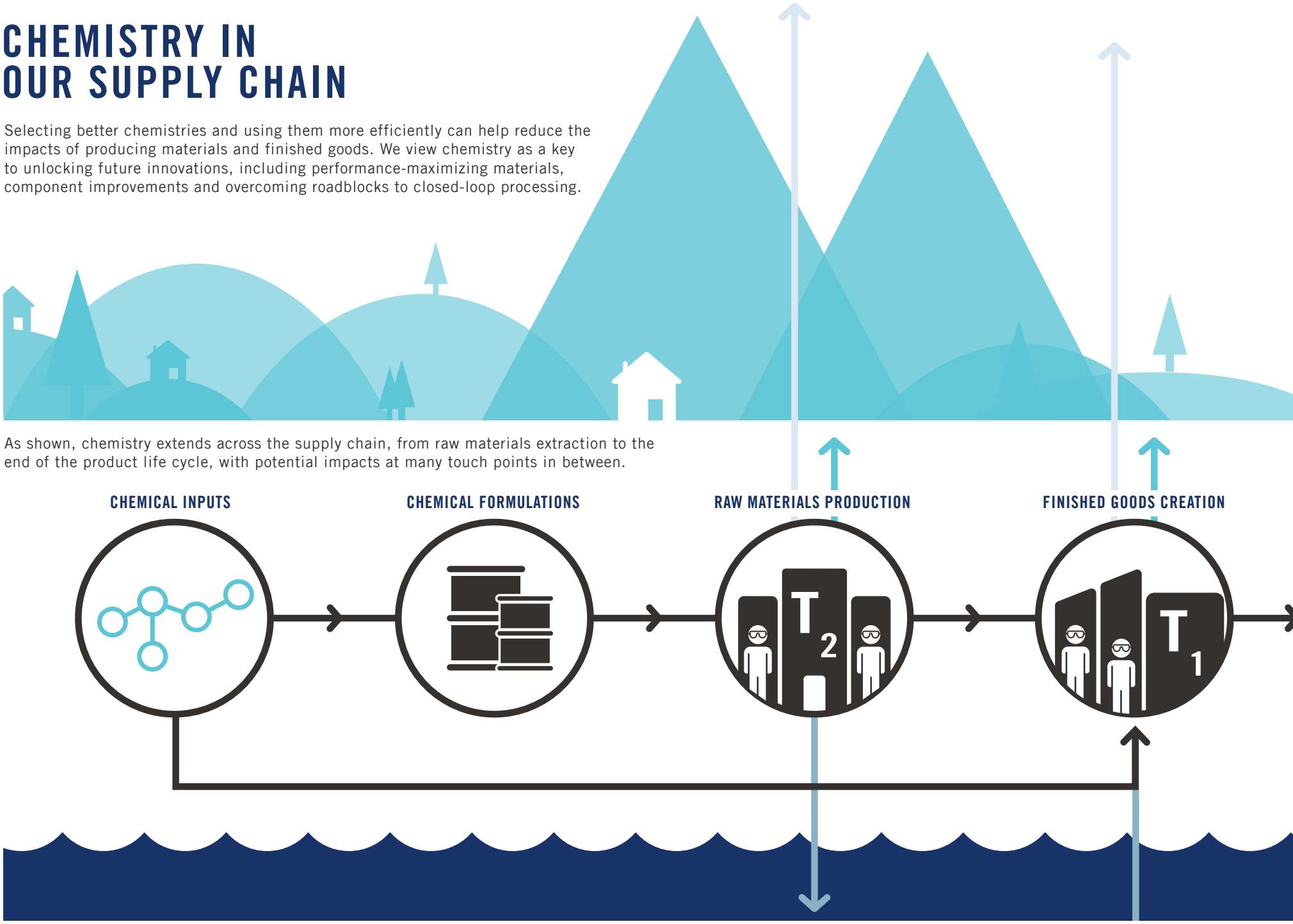
The Chemistry Playbook highlights Nike's key areas of focus:

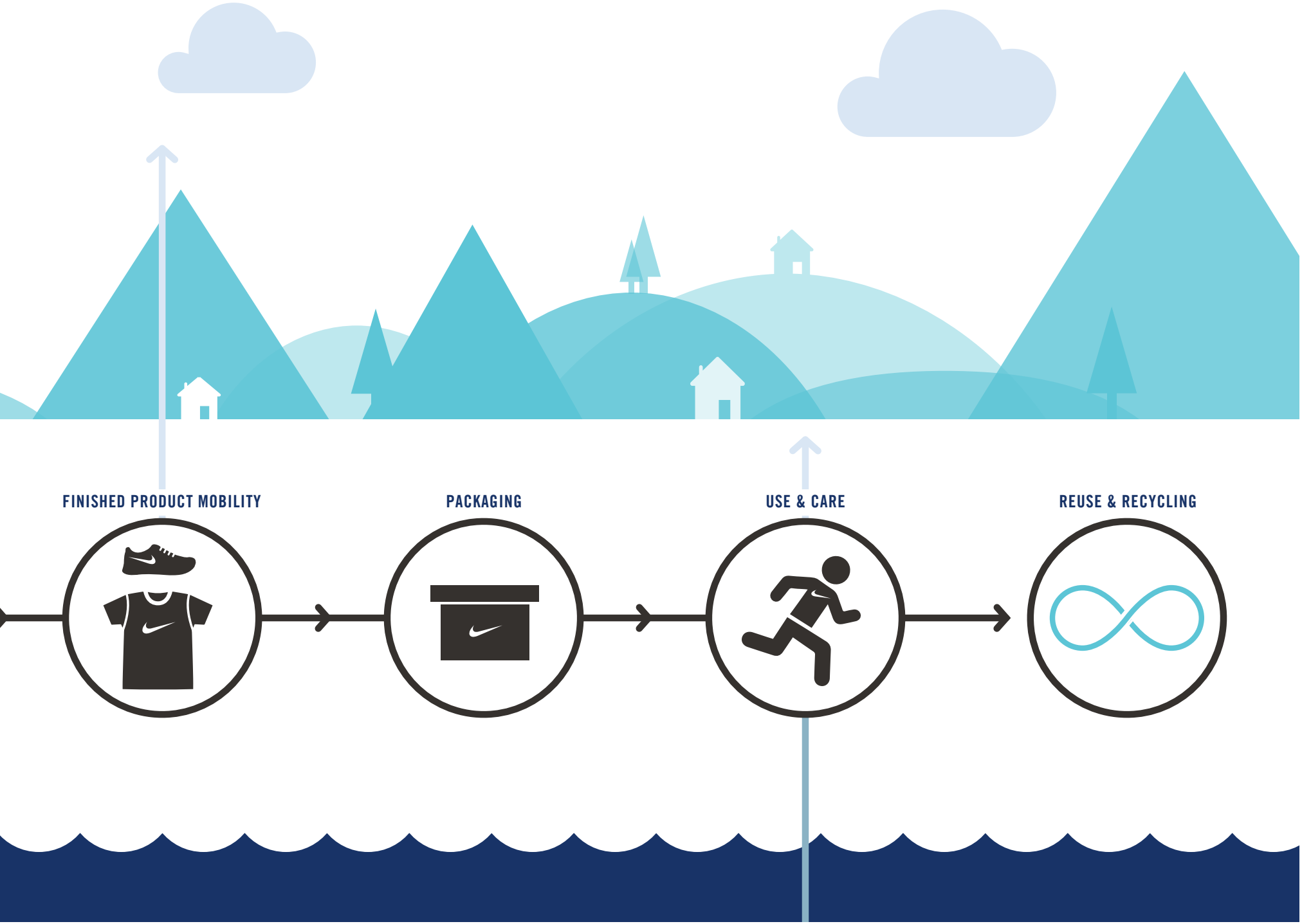
- Our ambition – doubling our business while halving our impact.
- Our approach to screening new chemistries to reduce risk to workers, consumers and the environment.
- The importance of controlling chemical inputs in manufacturing facilities.
- Effective chemicals management within facilities.
- Output management including wastewater and other emissions.
- Material and product compliance with the Nike RSL.

CHEMISTRY IN OUR SUPPLY CHAIN

Selecting better chemistries and using them more efficiently can help reduce the impacts of producing materials and finished goods. We view chemistry as a key to unlocking future innovations, including performance-maximizing materials, component improvements and overcoming roadblocks to closed-loop processing.

As shown, chemistry extends across the supply chain, from raw materials extraction to the end of the product life cycle, with potential impacts at many touch points in between.




FINISHED PRODUCT MOBILITY
PACKAGING
USE & CARE
REUSE & RECYCLING

OUR AMBITION

DOUBLE THE BUSINESS WITH HALF THE IMPACT

WE BELIEVE IN A FAIR, SUSTAINABLE FUTURE – ONE WHERE EVERYONE THRIVES ON A HEALTHY PLANET AND LEVEL PLAYING FIELD.

OUR AMBITION

In 2016, NIKE, Inc. publicly announced our ambition to double our business while halving our environmental impacts. We defined these impacts as carbon emissions, freshwater withdrawals and the use of controversial chemicals.

This aspiration is incredibly bold but achievable. It requires unprecedented levels of innovation and collaboration – especially in the field of chemistry.

We estimate more than 3,000 chemicals are used in the footwear and apparel industry, from raw materials to finished goods.

Nike is identifying which of these chemicals are controversial. We define controversial chemicals as those rated Hazard Category 1 (or Green Screen® Benchmark 1), those with high skin-sensitization potential and those Nike has determined are priority.

In many cases, however, the data required to inform ranking are not available. We are working to overcome these data gaps and to identify and prioritize which chemicals to reduce or phase out – and then replacing them with innovative solutions that don't compromise product performance. When we fully scale solutions already in our project pipeline, we will achieve a significant reduction in our use of controversial chemicals.

Achieving our ambition requires further reductions in areas yet to be defined. We will realize these additional reductions through robust, data-driven innovations and strong industry collaboration.

OUR CHEMISTRY FOUNDATION

Over the past several years, Nike has implemented a unified operational strategy across our business to drive the use of better chemistries to create superior products.

The foundation of this strategy is 100% compliance with the Nike RSL and, by 2020, 100% compliance with the Zero Discharge of Hazardous Chemicals Manufacturing Restricted Substances List (ZDHC MRSL). These compliance requirements are firmly embedded in manufacturing processes within our contracted supply chain. This foundation paves the way for Nike's continued sustainability journey, and underpins our vision for a better chemistry future.

ACHIEVING NIKE'S AMBITION

1. Improve data quality and scope to enable better decision making.
2. Prevent the inflow of controversial chemicals in materials through a well-defined chemical-assessment process.
3. Phase out or reduce controversial chemistries in existing materials.
4. Increase the use of better chemicals across the industry.

THE CHEMICAL UNIVERSE

100,000 CHEMICALS IN COMMERCIAL USE

With more than 100 million known chemical substances, it's estimated that approximately 100,000 are in commercial use.

When Nike innovates new materials and methods of make, this larger chemical universe may provide substances that are more sustainable and higher performing than those currently in use.

Conversely, there are substances to avoid in this chemical universe. In our effort to advance better, more sustainable chemistry, Nike uses a chemical assessment approach to review incoming chemistries against nearly 20 criteria.

Many substances lack complete data to fully inform end users about their characteristics. To achieve Nike's vision of a better chemistry future, we need a wider scope of scientific data and better tools to view and share information.

3,000+ CHEMICALS IN THE NIKE SUPPLY CHAIN

In Nike's supply chain, there are more than 3,000 chemicals potentially in use in a wide number of formulations.

350 CHEMICALS ON THE RSL

The Nike RSL restricts approximately 350 substances that have been regulated or voluntarily phased out of our manufacturing processes. These substances are tightly controlled to minimize their use in the supply chain.

CHEMICAL HAZARDS

The RSL tightly controls hazardous substances. Continuous improvement of processes and materials drives the use of ever better chemistries.

NIKE CHEMICAL PRIORITIZATION PROCESS

In 2014, Nike began investigating the chemicals potentially used in our supply chain to gain an in-depth understanding of them.

We evaluated each chemical ingredient used in product formulations based on a number of chemical attributes, the potential for governmental regulation, where in the supply chain the chemical is most commonly found, its presence on key chemical lists and the quantity used.

This evaluation process enabled us to prioritize those chemicals that will be phased out of manufacturing processes in a sequence that is relevant and scientifically appropriate. All chemicals identified for phase-out contribute to achieving Nike's ambition.

The first chemicals scheduled for phased elimination are Perfluorinated and Polyfluorinated Chemicals (PFCs), used in water- and oil-repellent finishes. This phase-out will be complete by 2021.

The second chemistry identified for phase-out is Dimethylformamide (DMFa), typically used as a solvent in synthetic leather production.

In 2018, Nike and its vendors successfully eliminated the use of DMFa in certain categories of materials and replaced it with a water-based alternative. In 2019, Nike continues to seek environmentally preferable alternatives for additional materials.

As with the PFC phase-out, our success in reducing the use of DMFa in favor of environmentally preferable alternatives relies on collaboration with our material suppliers. This requires research, testing and capital investment to develop alternatives that meet our rigorous performance standards.

As we continue to evaluate the chemicals in our supply chain using our prioritization process, we will identify further opportunities to scale sustainable chemistry in support of our ambition and reduce our chemistry impact.

INNOVATION IN ACTION

To achieve our ambition, we must realize improvements through a variety of means: better chemistry, innovative processing and new methods of make.

- Improving material efficiency reduces the volume of chemicals required to create materials, illustrated by our Flyknit innovations.
- Changes in material processing, such as waterless dyeing, reduce required chemistry as well as wastewater effluent volumes, positively impacting waste streams.
- Our Odor 3.0 approach has turned the issue of odor in synthetic materials upside down by avoiding the use of potentially hazardous antimicrobial technologies.

Find examples of Nike's innovation mindset on the following pages.

1

ELIMINATING PERFLUORINATED & POLYFLUORINATED CHEMICALS

Building on our 2015 commitment to phase out the use of C8-based PFCs, Nike is expanding our commitment to eliminate all PFC-based finishes from our products by 2021.

Developing PFC-free alternatives requires close collaboration with our textile and chemical suppliers worldwide, working in tandem to redevelop millions of yards of materials to PFC-free versions — while still enabling the aesthetics and functionality customers expect.

This work has produced a multitude of material and chemistry combinations that have undergone hundreds of tests to ensure they meet our performance expectations.

Addressing this phase-out program within Nike's own product lines is just the first step: We're also working closely with other industry players to implement a shared methodology for evaluating alternative chemistries. This work optimizes Nike's investment, scaling better chemistries across the entire shared supply chain.

OUR ULTIMATE AIM IS NOT SIMPLY TO REMOVE PFCS FROM OUR OWN SUPPLY CHAIN, BUT TO CREATE A PROCESS THAT ENABLES INDUSTRY PARTNERS TO INTEGRATE IMPACTFUL SUSTAINABILITY DECISIONS INTO ALL OUR PRODUCTS.

2

ODOR MANAGEMENT

At Nike, serving athletes and creating the future of sport drives us to innovate – to find effective solutions for demanding challenges by applying creativity and technical knowledge in ways that advance the performance of materials and products. Importantly, sustainability is embedded in our approach to innovation.

Innovation teams at Nike looked at odor management from a new perspective, focusing on odor molecules rather than the microbes that produce them. This shift in thinking enabled the teams to deliver a finish to reduce odors, eliminating the risks of using controversial antimicrobial technologies.

This approach keeps potentially harmful chemistries out of the supply chain and wastewater, and reduces impacts across the product life cycle.

3

WATERLESS DYEING

Conventional dyeing and finishing techniques require the use of hot water and auxiliary chemicals to attach dyes to the fabric and to remove excess dyes before production.

These conventional techniques require an average of 150 liters of freshwater per kilogram of fabric.

Industry analysts estimate that 39 million tons of polyester were dyed and finished in 2015.

With waterless dyeing, we avoid the energy input required to heat large volumes of water and eliminate the auxiliary chemistry as well.

This type of innovation supports our ambitions for reducing water, energy and chemistry inputs.

4

FLYKNIT

Our biggest impacts to the environment occur in the growing, processing and finishing of materials. As we get smarter about the materials we choose – and the ways in which we use them – we reduce our environmental impacts, set a new bar for strong product performance and drive growth for our business.

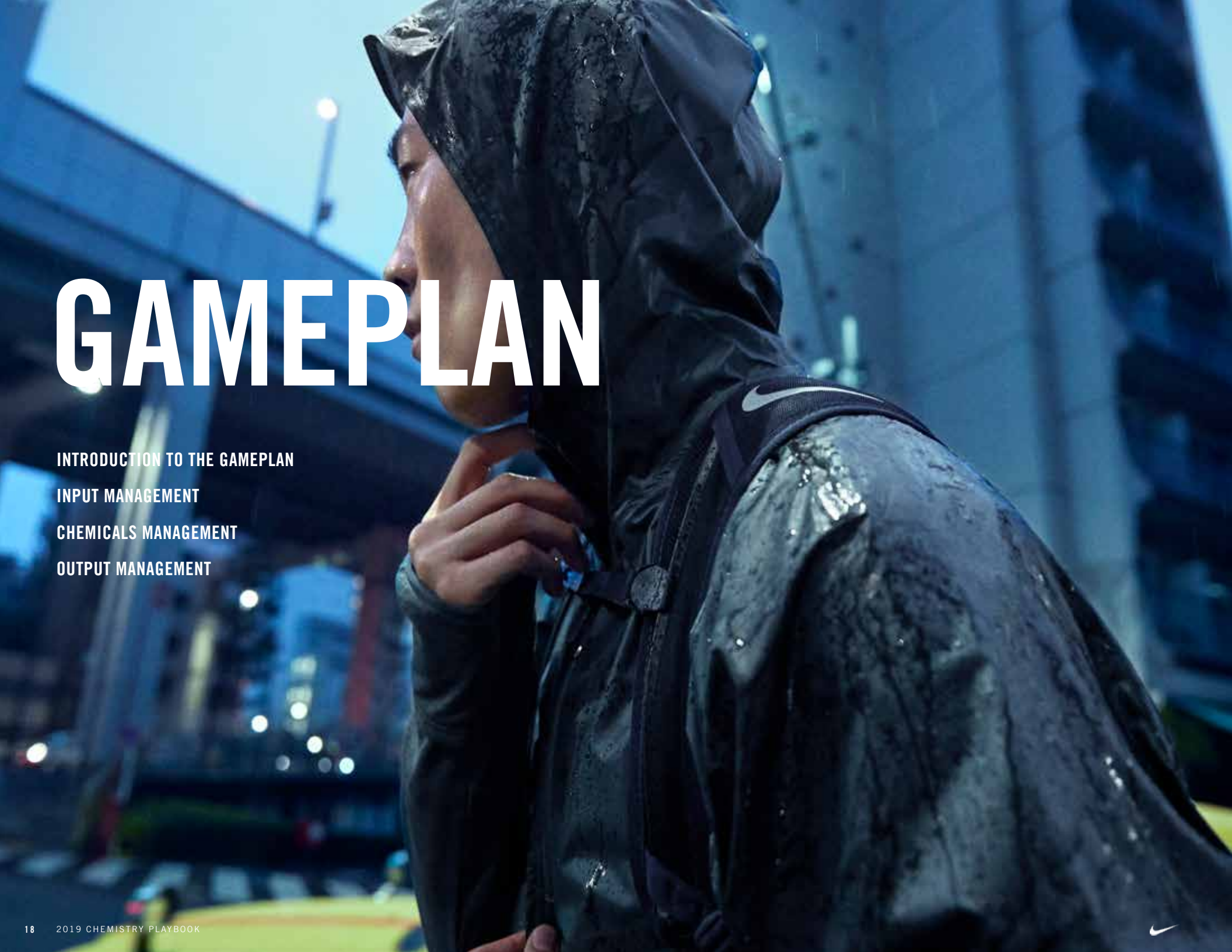
Nike Flyknit disrupted the traditional method of making shoes and enabled our designers to microengineer every stitch of a footwear upper, reducing waste by about 60% on average compared to traditional cut-and-sew footwear.

Our Nike Free RN Flyknit shoe generates 83% less waste than a traditional running shoe.

By making product in a way that uses less material, we reduce chemical use in addition to use of other resources such as water, energy and labor.

By designing out the waste, we avoid increasing our chemical and environmental footprints. Every material-efficiency improvement helps enable our ambition.


ELITE



GAMEPLAN

INTRODUCTION TO THE GAMEPLAN

INPUT MANAGEMENT

CHEMICALS MANAGEMENT

OUTPUT MANAGEMENT

INTRODUCTION TO THE GAMEPLAN

OVERVIEW

We expect our supply chain to use industry best practices to proactively manage chemicals, manufacturing high-performance products in a safe manner while minimizing impacts on the environment.

We expect our suppliers to comply with Nike standards, as defined by the COC and CLS. We will not achieve our ambition without systemic changes to chemicals management within our supply chain.

OUR COMMITMENT

To reinforce Nike's COC and support adoption of more sustainable chemistry, we made several public commitments to 2020 targets:

- Source 100% from factories that meet our definition of sustainable (rated Bronze or better)
- Meet Zero Discharge of Hazardous Chemicals targets
- 100% compliance with the Nike RSL
- 100% compliance with the ZDHC MRSL
- Achieve better chemical input management by scaling more sustainable chemistries

EXPECTATIONS

1 COMPLIANCE WITH THE NIKE CODE OF CONDUCT AND CODE LEADERSHIP STANDARDS

Our updated COC requires any supplier working with Nike to manage chemicals properly.

Nike's Code Leadership Standards (CLSs) communicate how suppliers should implement the COC and how we measure factories' compliance efforts.

Using criteria from the CLSs, the Nike Compliance Assessment Tool (NCAT) allows us to evaluate whether finished-goods factories are managing chemicals properly and proactively. Performance against CLSs influences overall factory compliance ratings.

We also expect material vendors to proactively meet the requirements of Nike's COC. We use the Sustainable Apparel Coalition's Higg Facilities Environment Module (FEM) to validate compliance.

2 COMPLIANCE WITH THE NIKE RSL & ZDHC MRSL

Through supply agreements, suppliers are contractually obligated to provide Nike with goods that meet Nike RSL requirements. All materials used to make our products must be tested in accordance with the Nike RSL. Materials that fail RSL testing are prohibited from use in finished goods. Finished-good suppliers that underperform against the Nike RSL will see an impact to their Manufacturing Index (MI) rating.

Managing restricted substances includes controlling the chemical formulations that enter facilities. To this end, Nike adopted the ZDHC MRSL and is committed to using ZDHC MRSL-compliant chemistry throughout our supply chain. Suppliers must demonstrate that chemical formulations in their inventories comply with the ZDHC MRSL.

For more information about these standards, refer to the ZDHC MRSL (found at www.roadmaptozero.com/fileadmin/pdf/MRSL_v1_1.pdf) and to the Nike RSL in this Playbook.

WE SEE CHALLENGES AS OPPORTUNITIES TO INNOVATE, CREATE & MOVE TOWARDS A BETTER FUTURE.

3 CHEMICAL ASSESSMENTS

We understand that every chemistry-related decision can affect risks to workers, impacts to the environment, the efficiency of manufacturing processes and product performance. We also know that every chemistry decision comes with an opportunity to innovate. To accelerate innovation and reduce potential risks, Nike continues to enhance our chemical assessment process.

The introduction of any new materials, new manufacturing processes or new chemistries requires a Nike chemical assessment. In the assessment, chemicals are ranked and compared to benchmark values. If a chemical is flagged during the assessment process, the Nike Chemistry Center of Excellence (COE) works with Nike innovation teams and chemical manufacturers to find safer alternatives.

This assessment can also be applied to materials when the processing chemistry changes. For example, if a new material uses compliant yarns and existing knitting machines, but has a different construction, no chemical assessment is needed. However, if a supplier uses a new catalyst for polyester, the material must go through the chemical assessment process.

Performing chemical assessments early in the innovation cycle helps us work with our supply chain and internal teams to find the best chemistries.

Suppliers, Nike teams or Nike affiliates can request a chemical assessment, which is performed in one of two ways:

DISCLOSURE TO NIKE (PREFERRED)
Under the protection of a non-disclosure agreement (NDA), the supplier provides all CAS numbers and concentrations to the Nike Chemistry COE so they may perform the chemical assessment.

Once the Nike Chemistry COE receives the required information, the team meets with the supplier to review results and discuss any red flags as well as next steps.

DISCLOSURE TO AN INDEPENDENT EXPERT
The supplier may choose to work directly with a Nike-approved third-party expert. With this approach, Nike receives a redacted report indicating any flags and works directly with the supplier to address any identified issues.

CONTACT

For more information on the chemical assessment process or to request a chemical assessment, please reach out to the Nike Chemistry COE using the contact information at the end of the Playbook.

INPUT MANAGEMENT

CONTROLLING CHEMICAL INPUTS

OVERVIEW

The Nike RSL plays a critical role in our chemical compliance program; however, responsible chemical management goes beyond complying with test limits for finished materials. Best practices for chemical management begin with controlling the quality of chemicals sourced and used within a manufacturing facility. By using industry tools that guide procurement of compliant input chemistry, suppliers can confidently select the best chemical formulations.

Input management isn't a new concept within manufacturing; our long-standing approach of restricting chemicals within finished goods has required our suppliers to control input chemistry by sourcing process chemicals that comply with Nike RSL policy. We've also managed our own Manufacturing Restricted Substance List (MRSL) for many years, which provides guidance for controlling specific chemicals during manufacturing.

Together, both approaches require suppliers to make critical decisions about which chemicals to purchase and from whom.

OUR COMMITMENT

Effective input management strengthens Nike's commitment and supports our suppliers in their obligation to provide Nike with RSL-compliant materials and finished goods. It's also critical for helping us achieve our aspirational goal of zero discharge of hazardous chemicals. Given the broad value of input management and the importance of using common requirements within our industry, Nike has committed to 100% compliance with the ZDHC MRSL by 2020.

APPROACH

To date, many brands have developed their own chemical compliance requirements – a practice that can create confusion for the shared global supply base. Implementing a common set of chemical requirements across the industry – adopted by many brands – enables suppliers to maintain compliance consistently.

ZDHC MRSL

Nike collaborated with industry peers to create the ZDHC MRSL, a compliance standard for chemical formulations used by the footwear and apparel supply chain. First released in 2014, the ZDHC MRSL was a milestone for the industry and a showcase for effective brand collaboration, with more than 20 brands agreeing on a common set of chemical compliance requirements. Nike adopted the ZDHC MRSL when it was updated in 2015. The ZDHC Foundation continues to maintain the MRSL and the most up-to-date version is found at www.roadmaptozero.com.

EXPECTATIONS

Nike expects suppliers to make decisions that support our commitment to using MRSL-compliant chemistry. Suppliers must understand the technical requirements of the ZDHC MRSL and use the tools that support procurement of compliant formulations.

We have two expectations:

1 COMPLIANCE WITH THE ZDHC MRSL

Facilities within our supply chain must use chemical formulations that meet the applicable requirements of the ZDHC MRSL.

- Suppliers must not intentionally use chemicals listed in the ZDHC MRSL.
- All chemical formulations purchased and used to process raw materials (such as dyes) must meet the strict chemical limits outlined in the ZDHC MRSL.
- To procure compliant chemicals, suppliers should discuss ZDHC MRSL requirements with their chemical suppliers.

Currently, the ZDHC MRSL covers the production of textiles, synthetic leather and natural leather as well as the processing chemistries related to each of these materials. Future updates of the ZDHC MRSL will include other types of raw material production, such as rubber, foam and adhesives.

CONTROLLING CHEMICAL INPUTS

Suppliers demonstrate compliance with the MRSL in a number of ways:

- Testing wastewater against the ZDHC Wastewater Guideline.
- Through the use of CleanChain, found at www.cleanchain.adec-innovations.com/en.
- Through the use of ZDHC's InCheck reporting tool, found at www.roadmaptozero.com/incheck/?ADMCMD_cooluri=1.

2 NIKE'S CLS ON RESTRICTED SUBSTANCE MANAGEMENT

As part of our factory compliance program, we use Nike CLSs to help evaluate management systems and the leadership behaviors and practices that demonstrate COC compliance. We expect our suppliers to meet these requirements.

IMPLEMENTATION TOOLS

ZDHC FOUNDATION

The ZDHC Foundation provides support to help guide the procurement of ZDHC MRSL-compliant chemistry and formulations:

- **MRSL CONFORMANCE GUIDANCE**
  This valuable resource helps suppliers understand how chemical formulations are evaluated and rated for ZDHC MRSL conformity. The rating structure, from Level 0 to Level 3, is related to the depth of the assessment and confidence that the formulation will consistently meet ZDHC MRSL requirements.
- **ZDHC GATEWAY-CHEMICAL MODULE**
  Released in 2017, this database provides visibility into MRSL-compliant chemical formulations registered by the global chemical industry. The registration process is linked to the MRSL Conformance Guidance, with each registered chemical assigned a specific conformity level rating, from 0 to 3.

  Nike strongly encourages suppliers to source formulations that meet the highest level of conformity. We encourage suppliers to contact their chemical suppliers and communicate the ZDHC MRSL to them. Chemical suppliers should be able to confirm which of their products meet this requirement and help guide procurement of compliant formulations. Find more information at www.roadmaptozero.com/gateway/.
- **ZDHC GATEWAY WEB-BASED AND IN-PERSON TRAINING**
  The ZDHC Foundation offers valuable web-based and in-person chemicals management training sessions. Find more information at www.roadmaptozero.com/events/webinars/.

ADEC CLEANCHAIN MODULE

Using a service such as ADEC Cleanchain™ (http://cleanchain.adec-innovations.com) enables factories and vendors to cross-reference their inventories with the ZDHC Gateway and to provide real-time validation of MRSL compliance. The ability to report inventory data accurately to Nike and other brands greatly benefits suppliers.

BLUESIGN® BLUEFINDER

This independently managed database of certified chemical formulations is an excellent resource for textile suppliers that want to source bluesign® certified chemical formulations. Importantly, these chemicals also meet ZDHC MRSL requirements. Nike suppliers are encouraged to use this database in their procurement practices.

SCIVERALENS RAPID SCREEN

This subscription-based third-party service allows suppliers to assess formulations and obtain an early indication of whether the formulation or process aligns with Nike's better chemistry goals, including MRSL compliance.

CHEMICALS MANAGEMENT PLAN

A strong chemicals management plan helps suppliers monitor for RSL and MRSL conformity as well as broader compliance with other global regulatory lists.

Such reviews enable suppliers to look for controversial or regulated chemicals in their inventories and help expedite the work of removing those chemicals from use.

REDUCING SOLVENT USE IN FINISHED-GOODS FACTORIES

Nike has a long history of controlling the use of solvents within manufacturing: We have reduced petroleum-based solvent use in Footwear by 96% since 1995.[1] As we work with other brands to achieve alignment on the industry-wide management and restriction of solvents, we recognize that we must continue to control their use in our own supply chain.

Nike requires suppliers to tightly manage a number of solvents (see Table 1). We will continue to provide guidance on better alternatives – to further protect workers, consumers and the environment – until these solvents and other listed chemistries can be eliminated from the global supply base.

Table 1.

SOLVENTS AND OTHER CHEMISTRIES THAT REQUIRE TIGHT CONTROL

CAS NO.	SUBSTANCE	SYNONYMS
71-43-2	Benzene	Benzol, Phenyl Hydride
Various	Class I and II Ozone-depleting Substances	----
127-19-5	N,N-Dimethylacetamide	DMAC
68-12-2	Dimethyl Formamide[2]	DMF
67-68-5	Dimethyl Sulfoxide	DMSO
111-76-2	Ethylene Glycol Monobutyl Ether	EGBE/Butyl Cellusolve
50-00-0	Formaldehyde[2]	Formic Aldehyde
75-09-2	Methylene Chloride	Dichloromethane, Methylene Dichloride
110-54-3	n-Hexane	Hexane
872-50-4	n-Methyl Pyrrolidone	NMP, 1-Methyl-2-pyrrolidinone
108-95-2	Phenol	Carbolic Acid, Phenyl Alcohol, Phenyl Hydroxide
127-18-4	Tetrachloroethylene	Perchloroethylene, PERC
71-55-6	1,1,1-Trichloroethane	1,1,1 – TCA, Methyl Chloroform
108-88-3	Toluene	Methylbenzene
79-01-6	Trichloroethylene	TCE, Trichlorethene
1330-20-7	Xylene – all isomers	o-,m-,p-Xylene
67-66-3	Trichloromethane	Chloroform
79-00-5	1,1,2-Trichloroethane	Vinyl Trichloride
75-35-4	1,1-Dichloroethylene	1,1-Dichloroethene
Non-Solvent Chemistries		
1319-77-3	Cresol	Cresylic Acid
108-39-4	m-Cresol	
95-48-7	o-Cresol	
106-44-5	p-Cresol	
101-14-4	4,4'-Methylenebis (2-Chloraniline)	MOCA
584-84-9 91-08-7	2,4-Toluene Diisocyanate Toluene-2, 6-Diisocyanate	TDI

[1]Nike Sustainable Business Report FY14/15, page 48

[2] Chemicals identified as high priority in Nike's prioritization process

CHEMICALS MANAGEMENT

MANAGING THE USE OF CHEMICAL PRODUCTS

OVERVIEW

Procurement of compliant chemistries is the beginning of an ongoing journey towards creating compliant materials and finished goods, protecting workers, and reducing chemical impacts across the supply chain. From initial procurement to delivery of finished goods, chemistry must be managed properly at every step.

Chemicals management is the link between product conception and production, and between effective occupational hygiene and proactive environmental protection.

Creating strong policies and procedures that guide inventory management, storage, handling and use is important to create sustainable and efficient manufacturing.

APPROACH

Effective chemicals management is important for both material vendors and finished-goods factories, and all suppliers should have the capabilities in place to effectively integrate the guiding principles of chemicals management into their businesses. Nike uses two approaches to assess current performance and gauge future capabilities:

1 FOR FINISHED-GOODS FACTORIES

We use the NCAT to evaluate performance and behaviors against the CLSs for Hazardous Materials and Restricted Substance Management. Supplier performance against both CLSs influences overall factory ratings.

Nike uses these data points to direct resources and prioritize support to elevate the supply chain.

2 FOR MATERIAL VENDORS

Nike strongly encourages vendors to use the Higg FEM framework to assess chemical management capability.

OUR COMMITMENT

Establishing a strong foundation of chemicals management capability across our supply chain is a key priority. In updates to our COC in 2017, we elevated our expectations of suppliers, and, importantly, maintained our 2020 target of 100% Bronze compliance across our contract factories.

HIGG FEM

As a founding member of the Sustainable Apparel Coalition (SAC), Nike was actively engaged in rolling out the Higg FEM. Similar to other components of the Higg Index, the FEM is a self-assessment tool that measures and guides sustainability performance in a structured way, with a focus on chemicals management, energy, water and waste to:

- Better understand a facility's environmental impacts.
- Encourage development of strategic policies to manage and improve environmental performance.
- Identify opportunities to improve performance and gain efficiencies.
- Benchmark results against industry peers.
- Share assessment results more easily with multiple customers or supply chain partners.

EXPECTATIONS

Nike expects all supplier facilities – both finished-goods factories and materials vendors – to employ a successful chemicals management program and to use applicable assessment tools to demonstrate capabilities and guide efforts to elevate performance.

ELEMENTS OF A SUCCESSFUL CHEMICAL MANAGEMENT PROGRAM

To successfully mitigate the risks associated with chemical use, suppliers must follow best practices, which include:

- Sourcing chemicals that comply with MRSL and RSL requirements, in addition to legal requirements within the country of use.
- Communicating chemical hazards by understanding how to use safety data sheets (SDSs) and label chemicals accurately.
- Effectively managing chemical inventory.
- Understanding how chemicals are used and when personal protective equipment (PPE) may be required.
- Storing chemicals in appropriate buildings as required by code.
- Disposing of chemicals in accordance with local law and permits.
- Appropriate handling and transportation of chemicals.
- Assessing spill response and requirements for exposure.

Facility leadership must ensure that all workers understand these basic principles and are aware of the risks associated with improper chemical management. Nike believes that continuous improvement is central to a successful program and that “there is no finish line.”

TRAINING OPPORTUNITIES

The foundation of a robust chemicals management program is knowledge. Understanding the principles of chemicals management and putting them into practice requires an ongoing commitment to training from factory leadership and staff. There are many resources available for training. Nike offers this streamlined list of educational opportunities.

NIKE WEB-BASED TRAINING

Nike offers a web-based, on-demand chemicals management training course that covers the key elements of a successful program.

This training can be accessed at the Nike Chemistry website at any time and should be completed whenever staffing changes occur.

AFIRM CHEMISTRY TOOLKIT

The AFIRM Group publishes a Chemistry Toolkit to support suppliers in their journeys toward strong chemicals management. This toolkit shares valuable information about RSL compliance, RSL failure resolution, chemicals management, SDSs and other online educational resources. Visit www.afirm-group.com/toolkit/.

ZDHC IN-PERSON TRAINING

The ZDHC Foundation offers a valuable two-day in-person chemicals management training session.

Find more information at www.roadmaptozero.com/academy/.

OCCUPATIONAL HEALTH AND HYGIENE

Nike partners with leading occupational health experts to offer basic courses to suppliers.

The Occupational Hygiene Training Association (OHTA), a registered UK charity, promotes better standards of occupational hygiene practices globally. They have developed training materials and make them freely available for use by students and trainers. Nike will periodically facilitate training sessions using OHTA-approved trainers and training materials.

Initial trainings kick off in 2019 through the Apparel Innovation Training Center (AITC).

HAZARD COMMUNICATION

Simple, early communication about chemistry helps to increase worker confidence, minimize risks of improper use or exposure and encourage a culture of workplace safety.

Effective communication across a facility — from chemical procurement to chemical disposal — also facilitates compliance and increases efficient chemical decisions.

Chemical information must be clearly communicated to employees, including:

- Labeling all chemical containers with formulation, manufacturer and date.
- Labeling containers of hazardous chemicals with signal word, hazard and precautionary statements, and appropriate pictograms.
- Access to a current, compliant SDS for all chemicals for all employees.
- Training for all employees on chemicals and associated risks.

SDSs are critically important, helping facilities understand which specific chemistries might require specialized engineering controls, PPE, storage or environmental treatment systems. Reviewing an SDS is important for all employees in understanding how to safely manage a chemical within the facility.

INVENTORY MANAGEMENT

After procuring compliant input chemistry and implementing a hazard communication plan, developing a chemical inventory management program is a critical next step.

Effective inventory management optimizes suppliers' investments and supports efforts to protect workers, produce compliant finished goods and guide correct disposal of chemicals.

Once a chemical enters a facility, a typical inventory contains comprehensive information, including:

- Commercial name of all chemicals on-site going back 24 months
- Name of each chemical and its manufacturer
- Chemical volume/mass
- Location in the facility
- Expiration date
- Hazard information
- Disposal record
- Up-to-date and compliant SDSs
- ZDHC MRSL compliance status (including conformity level)
- References to recipes and formulas that use the chemical to support traceability

Establishing and maintaining a chemical inventory is critical and requires strong oversight to ensure it is accurate and up to date. Chemical inventory management software is an effective way of managing information.

By using a service such as ADEC Cleanchain™ (http://cleanchain.adec-innovations.com), the inventory can be cross-referenced with the ZDHC Gateway to provide real-time validation of MRSL compliance.

The ability to report inventory data accurately and automatically is of great benefit to suppliers, given Nike's commitment to 100% MRSL compliance as well as commitments by many other brands to adopt the ZDHC MRSL.

A robust chemical inventory also helps suppliers track and manage volumes of chemical products consumed or disposed of, enabling a facility to calculate efficiencies and use a mass balance approach for each unit process. Year-on-year review of chemical masses per kilogram of material or product should also be calculated to help clarify where more stringent controls can help save costs, reduce waste and decrease the amount of expiring chemicals.

Ensuring each chemical product has an accompanying SDS is also critical. SDSs help facilities understand which specific chemistries might require specialized engineering controls, PPE, storage or wastewater treatment systems. Reviewing an SDS is important for understanding how to safely manage a chemical within the facility. It is also one of several tools that allow a supplier to monitor for RSL and MRSL conformity as well as broader compliance with other global regulatory lists. Such reviews will enable suppliers to look for controversial or regulated chemicals in their inventories and help expedite the work of removing those chemicals from use.

TRANSPARENCY & TRACEABILITY

With industry focus on transparency and elevated chemical reporting requirements in multiple regions, suppliers must fully understand the chemical makeup of their materials and products to move towards a less hazardous future.

STORAGE & HANDLING

Chemical inventories and SDSs contain important guidance for storing and handling chemicals.

Specifically, the physicochemical properties and toxicological hazards outlined in the SDS are critical for making informed decisions that protect workers and the environment. For example, given the variety of chemicals typically sourced by a facility, it's unlikely that the same type of PPE is sufficient to protect against all chemicals. Care must be taken to understand the possible PPE requirements of each chemical.

Furthermore, decisions about safe chemical storage are predicated on an understanding of chemical properties and chemical compatibility. Though suppliers should always have a dry, well-ventilated storage space, chemical compatibility cannot be overlooked.

Nike provides detailed guidance on this topic in the Chemicals Management training course.

OCCUPATIONAL HYGIENE & WORKER PROTECTION

Protecting the health and safety of people in the workplace is a critical component of a good chemicals management program.

To ensure that workers are protected from chemical hazards, Nike developed a CLS that outlines principles and practices of a good Occupational Hygiene program. Suppliers are required to follow best practices to anticipate, recognize, evaluate and control occupational health and hygiene hazards in the workplace.

Where local requirements do not exist, suppliers must comply with the most restrictive recognized regulation or consensus standards:

- Threshold limit values (TLVs) from the American Conference of Governmental Industrial Hygienists (ACGIH).
- Permissible exposure limits (PELs) from the U.S. Occupational Safety and Health Administration (OSHA).

Standards selected must provide the greatest level of protection to employees in the work environment.

ANTICIPATE

- Review SDSs and chemical inventory.
- Document hazards associated with each chemical.
- Determine if chemicals are regulated or have established occupational exposure limits (OELs).
- Identify jobs that require transporting, handling and using chemicals; include those jobs in which workers may be exposed to chemicals while performing their work.
- Train affected workers on the hazards of the chemicals.
- Develop processes and procedures to reduce and minimize worker exposure to chemicals.

RECOGNIZE & EVALUATE

- Regularly assess new chemicals, modified mixtures, updates to workstreams and building equipment to determine if reassessment of chemical risks is necessary.
- Routinely monitor potential worker exposure to regulated chemicals using standard analytical methods.
- Determine the potential health effects of hazards that are present in the workplace.

CONTROL

- Reduce worker exposures to below established OELs, or as defined by local and international thresholds
- If no OEL exists, review available toxicological data and entry pathways into the body, and implement control measures to reduce worker exposure
- The control hierarchy to reduce worker exposure from most to least effective is:

1. Elimination
2. Substitution
3. Engineering
4. Administrative
5. PPE

OCCUPATIONAL HYGIENE PROGRAM MANAGEMENT

See the Nike CLS for Occupational Exposure Limit to review roles and responsibilities. To access Nike's COC and CLSs, refer to https://about.nike.com/pages/resources-faq.

OCCUPATIONAL HYGIENE EXAMPLE

To determine proper chemical safety considerations for a new coating, suppliers might consider the following questions:

- Is a coating actually required to create a properly functioning product? Is it possible to re-design the product to remove the coating, or is it possible to use a different chemical to achieve the same effect?
- If a coating is required, are there other less-impactful chemicals that could be substituted? Consider that one chemical may have less hazardous properties in one category and more hazardous properties in another; the overall chemical hazard must be quantified.
- Once the chemical has been decided, consider the application and processing methods. Are there ways in which the chemical is used and applied that could minimize exposure to humans? Has proper ventilation been considered?
- Are there procedures or best-known practices that can be established for use with this chemical to protect workers?
- Given the answers to all above questions, what is the proper PPE for protecting workers when they transport, use or dispose of this coating chemistry?
- Are there any other downstream impacts that should be considered? For example, is a curing step needed? If so, complete these questions for that step as well, ensuring that the hierarchy of controls are appropriately used.

USE & EFFICIENCY

Using RSL- and MRSL-compliant formulations in a manufacturing environment is the first step in meeting critical sustainability and compliance goals. The proper, efficient use of all chemicals will maximize value and minimize impacts. World-class procurement practices and maximizing chemical efficiencies in production amplify one another to accelerate efforts in reducing the amount of hazardous chemistries consumed and potentially discharged.

PROCESS CONTROLS TO INCREASE EFFICIENCY

Efficient chemical use is a broader concept than simply balancing chemical reactions. Implementing process controls that ensure a "first-time right" approach can reduce reworking and/or demand for extra chemistry – which has a huge impact on efficiency. The first-time right approach can increase overall efficiency and reduce water use, energy use and labor costs.

Beyond substitution, the most effective means for immediate reduction in chemical impacts is to optimize process efficiency by eliminating overuse. While this is simple in concept, it is not always simple in practice and requires both in-depth process knowledge and chemistry expertise.

Nike strongly encourages suppliers to investigate each unit process and perform mass balance calculations to ensure that only the appropriate amounts of chemical formulations are used to achieve the intended function.

A comprehensive approach must be used to include all inputs, uses and outputs from a facility.

CHEMICAL EFFICIENCY EXAMPLE

To determine how much scouring agent should be used in a water bath, the following questions might be asked and answered to stimulate a conversation on efficiency:

- How much scouring agent is required to clean the specific material? How is this determined?
- Has the minimum amount of required scouring agent been calculated for different material types, or is excess being used?
- Has the amount of scouring agent used increased or decreased in the previous two years on a per-kilogram basis? Why?
- How does the temperature, pH and water quality in the scouring bath affect the amount of chemical required?
- What impact does the scouring agent have on the wastewater treatment plant?
- Can the wastewater treatment plant be run more efficiently with a lower incoming surfactant load or benefit from an alternative scouring agent that degrades more readily?

- What impact does lower surfactant loading have on biological oxygen demand, chemical oxygen demand, pH and other wastewater testing requirements?
- Did the use of too little scouring agent result in dye uptake issues and/or reworking materials?
- Are better scouring agents available that reduce environmental impacts?
- Are sizing agents available that eliminate the need for scouring, or can the sizing agent be recovered?

All unit processes should be reviewed for chemistry use and to highlight areas for improvement. To find maximum impact and returns, facilities must employ a comprehensive approach that includes water use, energy use and considerations of the wastewater treatment plant or other discharge streams.

If no OEL exists, review available toxicological data and entry pathways into the body, and implement control measures to reduce worker exposure.

- The control hierarchy to reduce worker exposure from most to least effective is:

1. Elimination
2. Substitution
3. Engineering
4. Administrative
5. PPE

OUTPUT MANAGEMENT

MANAGING OUTPUTS

OVERVIEW

A manufacturing facility is not a closed system. Chemical, energy, material and labor inputs are converted into products, and what does not leave as product leaves as waste. Proper management of chemical outputs from a production facility is key to a holistic chemicals management program and represents another step toward the aspirational goal of zero discharge of hazardous chemicals.

APPROACH

Over the last several years, the apparel and footwear industry has transformed the practice of chemicals management, aligning on an MRSL, a chemicals management assessment framework and an RSL – all signs of maturity within the field of chemical compliance.

Robust industry-wide collaboration is a highly effective means of improving the management of chemical outputs.

A clear example is the success of the 2016 ZDHC wastewater guideline. This multi-brand effort improved brands' and suppliers' approach to managing wastewater.

OUR COMMITMENT

Nike is committed to working with suppliers to ensure compliance with the requirements of the ZDHC wastewater guideline.

Nike also maintains strong brand-specific requirements regarding the management of chemical outputs. These requirements are laid out in Nike CLSs. Detailed guidance covers:

- Wastewater
- Hazardous waste disposal
- Factory air emissions
- Hazardous materials
- Restricted substances/ input management
- Solid waste
- Storage tanks

Key requirements for wastewater, hazardous waste disposal and factory air emissions are covered below.

WASTEWATER

Wastewater is water that is considered no longer usable for a given purpose. This includes:

- Domestic wastewater used for showers, toilets, kitchens and dormitories.
- Industrial wastewater discharged from a manufacturing process such as dyeing, finishing, laundries, washing, rinsing, etc.

The Nike CLS for Wastewater stipulates that all wastewater be properly managed and treated prior to discharge.

NIKE WATER MINIMUM PROGRAM

The Nike Water Minimum Program helps suppliers identify opportunities for greater efficiency and to adequately prepare for closed-loop water through recycling.

- Sets foundational expectations for facility's commitment to water stewardship including policy, key performance indicators, water balance and maintenance.

- Establishes expectations for water and wastewater treatment system data collection to assist with troubleshooting and optimizing wastewater treatment systems to comply with the ZDHC wastewater guideline.
- Encourages facilities to understand their water scarcity and flooding risks by using the World Resources Institute's Aqueduct platform, found at www.wri.org/our-work/project/aqueduct.
- Provides a structured approach to the operation and maintenance of water and wastewater treatment equipment.

NIKE WASTEWATER QUALITY REQUIREMENTS

Nike CLS for Wastewater requires that facilities comply with Nike's wastewater quality requirements.

- We assess finished-goods factories using the NCAT.
- We assess material vendors using the Higg FEM.

At a minimum, a facility must be legally compliant with the permit issued to them by the authority having jurisdiction. This authority may vary from location to location; it might be the operator of an industrial park wastewater treatment system or a local, state or national government.

Nike requires proof of compliance at least twice per year, even if the legal obligation only requires annual sampling. It is critical for the enterprise to fully understand the legal requirements associated with discharging wastewater prior to any wastewater output.

Note that the definition of legal compliance varies from country to country, and in some countries what is considered "legal compliance" may not meet Nike's requirements for wastewater.

At no time shall untreated wastewater be released into the environment.

This includes both domestic and industrial wastewater. Discharges to unlined ponds or lagoons are considered releases to the environment.

ZDHC WASTEWATER GUIDELINE REQUIREMENTS

Finished-goods factories that directly discharge wastewater to the environment are required to meet foundational limits for ZDHC conventional and metal parameters twice per year by sampling before April 30 and October 31 using an ISO-17025-certified lab.

Nike requires material vendors and finished-goods factories with material vendor operations to follow the entire ZDHC wastewater guideline. These suppliers are responsible for determining ZDHC requirements using applicability found in the ZDHC wastewater guideline, including:

- Uploading ISO 17025 and ZDHC-accredited laboratory results to the ZDHC Gateway Wastewater Module by April 30 and October 31 of each year at www.roadmaptozero.com/login.
- Direct dischargers must meet requirements for conventional wastewater parameters (chemical oxygen demand, biological oxygen demand, ammonia, coliform, etc.) as well as metals (Lead, Mercury, etc.).
- Ensure wastewater ZDHC MRSL parameters do not exceed the specified limits.
- For any parameter that exceeds ZDHC requirements, the facility must provide a corrective action plan and commit to a date for resolving the non-compliance(s)

For indirect and direct wastewater discharging facilities, the ZDHC wastewater guideline sets MRSL limits that support activities phasing out the intentional use of MRSL-restricted chemistries. For direct dischargers, the ZDHC wastewater guideline uses a three-level approach – foundational, progressive and aspirational – to drive continuous improvement with conventional and metal wastewater quality parameters. As facilities achieve progressive and aspirational performance, it becomes feasible to recycle some of the treated wastewater back into manufacturing processes.

By adopting the ZDHC wastewater guideline and coupling this approach with closed-loop water, we envision a supply chain with little industrial wastewater discharge, making the need for a wastewater quality guideline obsolete.

NIKE WASTEWATER GUIDANCE DOCUMENTS

The Nike Global Water Team has guidance documents to assist with troubleshooting wastewater parameters, including but not limited to:

- Antimony
- Coliform
- Chemical oxygen demand
- Color
- Ammonia/Nitrogen

In the event a facility or enterprise requires technical support to address a specific wastewater issue, Nike has retained an engineering firm specializing in wastewater treatment to provide phone and e-mail support. Suppliers may request access to this resource – available in English and Mandarin Chinese – through Nike's Global Water Team.

LINKS

Nike Global Water Team
waterprogram@nike.com

Roadmap to Zero Foundation
www.roadmaptozero.com/programme/wastewater-quality

World Resources Institute
www.wri.org/our-work/topics/water

Sustainable Apparel Coalition
Higg Index and FEM
www.apparelcoalition.org/the-higg-index

HAZARDOUS WASTE DISPOSAL

Determining if waste is hazardous is the first step in dealing with these potential manufacturing outputs. If hazardous waste is generated on site, suppliers must safely manage it within waste collection areas, taking necessary precautions – such as ventilation, secondary containment, fire prevention and spill response. Key personnel within the facility should receive training to understand how to identify and safely handle hazardous waste, manage its legal disposal with licensed waste contractors and comply with any local permitting requirements.

FACTORY AIR EMISSIONS

Air emissions at a facility must be characterized and routinely monitored to ensure that any change in chemical formulation or chemical use does not negatively impact factory emissions.

Any factory with an air permit must diligently track emissions to prove adherence to requirements.

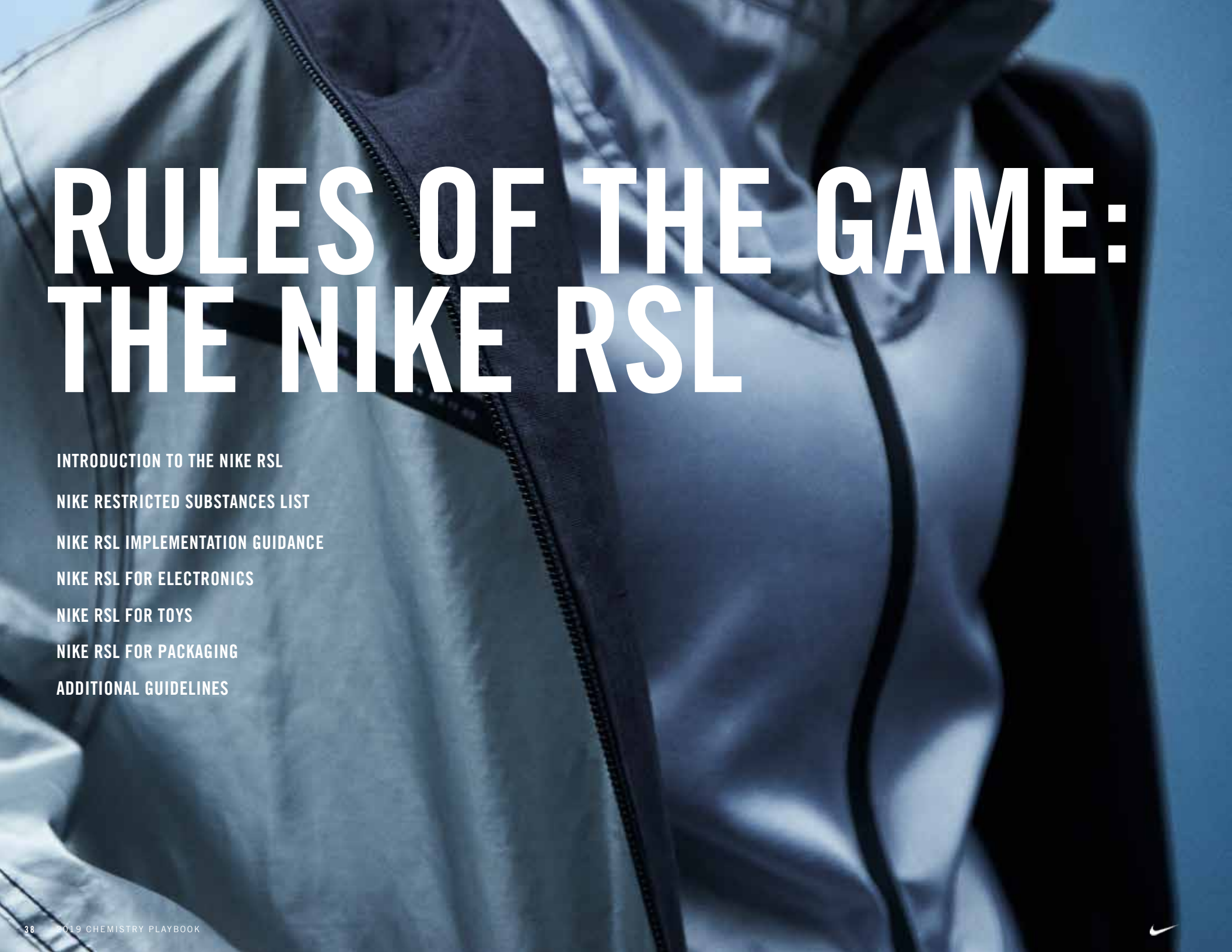
When air emissions must be modified at the facility level, it is essential that suppliers complete an inventory of release identifying the source, type and amount of any chemical that is released during day-to-day operations. From routine air sampling for determining that indoor air quality meets legal standards to understanding when to use abatement technology to reduce emissions and exposure, the management and control of factory air emissions is key.

Underscoring the importance Nike and the broader industry place on air emissions management, an evaluation of supply chain capability and compliance is embedded within Nike CLSs and the Higg FEM.

MATERIALS

Finished-goods factories and material production facilities are designed to efficiently manufacture a product, be it a textile, leather or a finished shoe. Output from these facilities is based on the production and utilization of materials. From a Nike standpoint, our products and the materials used to make them must comply with Nike RSL requirements. Our approach to material compliance can be found in the following section of the Playbook.

In addition to the material testing requirements outlined in the Nike RSL, our finished-goods factories must demonstrate the necessary leadership behaviors – outlined in our COC and the Restricted Substance Management CLS – to successfully comply with Nike's RSL requirements.



RULES OF THE GAME: THE NIKE RSL

INTRODUCTION TO THE NIKE RSL

OVERVIEW

As part of our commitment to protect workers, consumers and the environment, we routinely update the Nike RSL to keep suppliers informed about new global regulatory requirements as well as Nike's voluntary restrictions on chemicals.

NIKE RSL GOALS

1. Ensure products comply with the strictest global legislation
2. Ensure targeted substances are limited or eliminated
3. Catalyze sustainable product innovation

ADDITIONAL MATERIAL GUIDANCE

In addition to restrictions on specific chemical substances, the Nike RSL also provides guidance regarding:

- Nanomaterials
- Odor management: antimicrobials and scented items
- Animal skins
- PVC (prohibited from use)

COMPLIANCE

Nike's intent is to give suppliers ample lead-time to understand changes and take steps to remain compliant. However, there may be special circumstances – such as new or pending legislation – that result in short notice.

Upon publication of this document (the "Nike RSL Effective Date"), all policies and test limits listed herein are in effect.

To help suppliers transition to new requirements, the RSL team will review all test failures between the effective date and the deadline to comply. If a failure would have met the previous RSL limit(s), the team may grant an exception. The exception will require immediate corrective action to ensure future compliance.

SUPPLIER AGREEMENTS

Nike supplier agreements reflect the need for compliance with RSL requirements. This compliance is in addition to the Nike COC, quality standards and other health and safety standards. Nike hereby designates the following to be the official RSL successor website as designated in supplier agreements: https://about.nike.com/pages/chemistry-homepage

KEY POINTS

- Specific information on how and what to test is included in the "Scope" section of this document.
- RSL test results are valid for one year from the test date unless otherwise stated.
- Nike reserves the right to request testing of any material or product at any time.
- Suppliers cannot change process or chemicals once they receive an RSL PASS for a material. Any change requires retesting to confirm RSL compliance.
- Subcontractors must comply with all RSL testing requirements.

NIKE RSL EFFECTIVE DATE:
MAY 31, 2019

ALL MATERIALS, PRODUCTS & ITEMS MUST COMPLY WITH THIS RSL BY:
SEPTEMBER 1, 2019

UPDATES IN THIS VERSION

All end users should read the Nike Chemistry Playbook in its entirety to ensure they take note of and understand all updates to policies, procedures and test limits.

For an overview of the most critical revisions to the Nike RSL, visit https://about.nike.com/pages/chemistry-resources to view the "RSL Update Highlights" document.

NIKE RESTRICTED SUBSTANCES LIST

RSL & CHEMICALS MANAGEMENT TRAINING

THE AFIRM GROUP RSL

ADDITIONAL CHEMICAL LIMITS

AGE RANGES FOR INTERPRETING RSL LIMITS

NIKE RESTRICTED SUBSTANCES LIST

OTHER LIMITS & RESTRICTIONS

NIKE-SPECIFIC CHEMICAL & MATERIAL RESTRICTIONS

RSL & CHEMICALS MANAGEMENT TRAINING

To access training, please visit the Nike Chemistry website.

RSL TRAINING

This mandatory training for all finished-goods suppliers and material vendors focuses on understanding and implementing Nike RSL policy, selecting and submitting test samples, reviewing test results and the failure-resolution process.

- Suppliers must repeat RSL training every two years. As a best practice, we suggest reviewing training materials with the release of each Playbook update.
- Available on demand as a refresher course and to help train new workers.

CHEMICALS MANAGEMENT TRAINING

This optional training focuses on procuring formulations that comply with the Nike Manufacturing Restricted Substances List (MRSL), facility chemicals management, evaluating chemicals for hazards, and tools and resources available for sustainable production.

RSL TESTING APPLICATION TRAINING

All suppliers must use the new RSL Testing Application, available at www.RSLTesting.nike.com, to create a test request form (TRF) and submit RSL test reports.

Training on how to use the RSL Testing Application is available within the application itself. Translations are available upon request.

For assistance in gaining access to the application or to receive a language-specific “How-To” guide, please contact RSLsupport@nike.com.

THE AFIRM GROUP RSL

Apparel and Footwear International RSL Management (AFIRM) Group is an apparel and footwear industry body focused on chemistry. Nike, one of six founding member brands, has worked with the group for more than 15 years to improve the management of hazardous and restricted substances in the global supply chain.

INDUSTRY-WIDE APPROACH TO RSL COMPLIANCE

AFIRM released the first version of its RSL in 2015 and publishes updates annually.

Based on the collaborative effort of more than 25 brands, this industry-wide RSL provides a simplified and aligned approach to managing restricted substances across the largely shared global supply chain.

NIKE & AFIRM

Nike uses the AFIRM RSL to inform our own RSL requirements.

Implementing the AFIRM RSL builds on Nike’s legacy of chemical limits based on the strictest global legislation, industry best practices and voluntary reductions in hazardous chemicals.

This collaborative approach supports broad industry alignment with the AFIRM RSL.

NIKE-SPECIFIC RESTRICTIONS

A separate list of Nike-specific chemical and material restrictions follows the Nike RSL.

ADDITIONAL CHEMICAL LIMITS

The substances listed in the AFIRM and Nike RSLs represent chemistries identified through historical chemical testing, chemistry expertise in the global footwear and apparel industries, and brands' commitment to safeguarding workers, consumers and the environment against exposure to hazardous chemistries – though most of these chemistries are unlikely to be found in a supply chain that practices responsible chemicals management.

Nike is continually innovating new materials, which requires us to consider new chemistries – some of which may be outside the realm of typical apparel and footwear production.

Because of this, it's imperative that suppliers comply with the current Nike RSL as well as other legislated limits, such as the REACH Substances of Very High Concern (SVHCs) List, the California Proposition 65 List, etc.

AGE RANGES FOR INTERPRETING RSL LIMITS

- Various countries define the terms "babies," "infants," "toddlers," "children" and "adults" differently.
- Based on legislation, the age ranges listed in Table 2 satisfy the most restrictive global requirements.

Table 2.
SIZING BY AGE RANGE

	BABIES, INFANTS, TODDLERS	LITTLE KIDS	BIG KIDS	ADULTS
	0–36 months	3–7 years	7–14 years	14 years +
APPAREL SIZE UNITED STATES	0–4T	4–7 boys 4–6x girls	8–20 boys 7–14 girls	
APPAREL SIZE EUROPE	68–98 cm	104–128 cm	128–182 cm boys 128–176 cm girls	
APPAREL SIZE ASIA	< 85 cm	85–120 cm	120–170 cm	
FOOTWEAR	≤ 17 cm	17.5–22 cm	22.5–25 cm	
EQUIPMENT	Pee Wee	Junior	Youth	


NIKE

NIKE RESTRICTED SUBSTANCES LIST

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Acetophenone and 2-Phenyl-2-Propanol				
98-86-2	Acetophenone	50 ppm = Pass >50–1,000 ppm = Warning range; follow up required >1000 ppm = Do not ship	25 ppm each	Potential breakdown products in EVA foam when using Dicumyl Peroxide as a cross-linking agent.	Extraction in acetone GC/MS, sonication for 30 minutes at 60°C
617-94-7	2-Phenyl-2-Propanol				
	Alkylphenols (AP) **Alkylphenol Ethoxylates (APEOs) including all isomers**				
Various	Nonylphenol (NP), mixed isomers	Total: 100 ppm	Sum of NP and OP: 10 ppm	APEOs can be used as or found in detergents, scouring agents, spinning oils, wetting agents, softeners, emulsifying/ dispersing agents for dyes and prints, impregnating agents, de-gumming for silk production, dyes and pigment preparations, polyester padding and down/feather fillings. APs may be used as intermediaries in the manufacture of APEOs and antioxidants used to protect or stabilize polymers. Biodegradation of APEOs into APs is the main source of APs in the environment.	Textiles: Extraction: 1 g sample/20 mL THF, sonication for 60 minutes at 70°C Measurement: EN ISO 18857-2:2011 (with derivatization) Leather: EN ISO 18218-2:2015 Polymers: 1 g sample/20 mL THF, sonication for 60 minutes at 70°C analysis with LC/MS or LC/MS/MS All other materials: 1 g sample/20 mL THF, sonication for 60 minutes at 70°C analysis with GC/MS
Various	Octylphenol (OP), mixed isomers				
Various	Nonylphenol Ethoxylates (NPEOs)	Total: 100 ppm	Sum of NPEO/ OPEO: 20 ppm		All materials except leather: EN ISO 18254-1:2016, determination of APEO using LC/MS or LC/MS/MS Leather: EN ISO 18218-1:2015
Various	Octylphenol Ethoxylates (OPEOs)				

NIKE RESTRICTED SUBSTANCES LIST

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Azo-amines				
92-67-1	4-Aminobiphenyl	20 ppm each	5 ppm each	Azo dyes and pigments are colorants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those which degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for dyeing of textiles.	All materials except leather: EN ISO 14362-1:2017 Leather: EN ISO 17234-1:2015 p-Aminoazobenzene: All materials except leather: EN ISO 14362-3:2017 Leather: EN ISO 17234-2:2011
92-87-5	Benzidine				
95-69-2	4-Chlor-o-toluidine				
91-59-8	2-Naphthylamine				
97-56-3	o-Aminoazotoluene				
99-55-8	2-Amino-4-nitrotoluene				
106-47-8	p-Chloraniline				
615-05-4	2,4-Diaminoanisole				
101-77-9	4,4'-Diaminodiphenylmethane				
91-94-1	3,3'-Dichlorobenzidine				
119-90-4	3,3'-Dimethoxybenzidine				
119-93-7	3,3'-Dimethylbenzidine				
838-88-0	3,3'-Dimethyl-4,4'-diaminodiphenylmethane				
120-71-8	p-Cresidine				
101-14-4	4,4'-Methylen-bis(2-chloraniline)				
101-80-4	4,4'-Oxydianiline				
139-65-1	4,4'-Thiodianiline				
95-53-4	o-Toluidine				
95-80-7	2,4-Toluylendiamine				
137-17-7	2,4,5-Trimethylaniline				
95-68-1	2,4 Xylidine				
87-62-7	2,6 Xylidine				
90-04-0	2-Methoxyaniline (= o-Anisidine)				
60-09-3	p-Aminoazobenzene				
3165-93-3	4-Chloro-o-toluidinium Chloride				
553-00-4	2-Naphthylammoniumacetate				

NIKE RESTRICTED SUBSTANCES LIST

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Azo-amines, continued				
39156-41-7	4-Methoxy-m-phenylene Diammonium Sulphate	20 ppm each	5 ppm each	See page 45	See page 45
21436-97-5	2,4,5-trimethylaniline hydrochloride				
106-49-0	p-Toluidine	Additional screening tests for all Nike products. For informational purposes only.			
108-44-1	m-Toluidine				
	Bisphenols				
80-05-7	Bisphenol-A (BPA) Testing required for food-contact items including water bottles and mouth guards.	1 ppm	1 ppm each	Used in the production of epoxy resins, polycarbonate plastics, flame retardants and PVC. Prohibited from use in food and drink containers, and items intended to come into contact with the mouth.	All materials: Extraction: 1 g sample/20 mL THF, sonication for 60 minutes at 60°C. Measurement: LC/MS
80-09-1	Bisphenol-S (BPS)	For informational purposes only. Nike recommends testing polycarbonate materials to assess content levels.		BPA alternatives with known or suspected similar hazards; used in the production of epoxy resins, polycarbonate plastics, flame retardants and PVC. Applicable to food and drink containers, and items intended to come into contact with the mouth.	
620-92-8	Bisphenol-F (BPF)				
1478-61-1	Bisphenol-AF (BPAF)				

NIKE RESTRICTED SUBSTANCES LIST

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Chlorinated Paraffins				
85535-84-8	Short-chain Chlorinated Paraffins (SCCPs) (C10-C13)	1,000 ppm	100 ppm	May be used as softeners, flame retardants or fat-liquoring agents in leather production. Also used as plasticizer in polymer production.	All materials: Combined CADS / ISO 18219:2015 method V1:06/17 (extraction by ISO 18219 and analysis by GC/NCI/MS)
85535-84-9	Medium-chain Chlorinated Paraffins (MCCPs) (C14-C17)	1,000 ppm	100 ppm		
	Chlorophenols				
15950-66-0	2,3,4-Trichlorophenol (TriCP)	0.5 ppm each	0.5 ppm each	Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP), Tetrachlorophenol (TeCP), and Trichlorophenols (TriCP) are sometimes used to prevent mold and kill insects when growing cotton and when storing/transporting fabrics. PCP, TeCP and TriCP can also be used as in-can preservatives in print pastes and other chemical mixtures.	All Materials: 1M KOH extraction, 16 hours at 90°C, derivatized and analysis § 64 LFGB B 82.02-08 or DIN EN ISO 17070:2015
933-78-8	2,3,5-Trichlorophenol (TriCP)				
933-75-5	2,3,6-Trichlorophenol (TriCP)				
95-95-4	2,4,5-Trichlorophenol (TriCP)				
88-06-2	2,4,6-Trichlorophenol (TriCP)				
609-19-8	3,4,5-Trichlorophenol (TriCP)				
4901-51-3	2,3,4,5-Tetrachlorophenol (TeCP)				
58-90-2	2,3,4,6-Tetrachlorophenol (TeCP)				
935-95-5	2,3,5,6-Tetrachlorophenol (TeCP)				
87-86-5	Pentachlorophenol (PCP)				

NIKE RESTRICTED SUBSTANCES LIST

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Chlororganic Carriers				
95-49-8	2-Chlorotoluene	Total: 1 ppm	0.1 ppm	Chlorobenzenes and Chlorotoluenes (Chlorinated Aromatic Hydrocarbons) can be used as carriers in the dyeing process of polyester or wool/polyester fibers. They can also be used as solvents.	DIN 54232:2010
108-41-8	3-Chlorotoluene				
106-43-4	4-Chlorotoluene				
32768-54-0	2,3-Dichlorotoluene				
95-73-8	2,4-Dichlorotoluene				
19398-61-9	2,5-Dichlorotoluene				
118-69-4	2,6-Dichlorotoluene				
95-75-0	3,4-Dichlorotoluene				
2077-46-5	2,3,6-Trichlorotoluene				
6639-30-1	2,4,5-Trichlorotoluene				
875-40-1	2,3,4,6-Tetrachlorotoluene				
1006-31-1	2,3,5,6-Tetrachlorotoluene				
877-11-2	Pentachlorotoluene				
541-73-1	1,3-Dichlorobenzene				
106-46-7	1,4-Dichlorobenzene				
87-61-6	1,2,3-Trichlorobenzene				
120-82-1	1,2,4-Trichlorobenzene				
108-70-3	1,3,5-Trichlorobenzene				
634-66-2	1,2,3,4-Tetrachlorobenzene				
634-90-2	1,2,3,5-Tetrachlorobenzene				
95-94-3	1,2,4,5-Tetrachlorobenzene				
608-93-5	Pentachlorobenzene				
118-74-1	Hexachlorobenzene				
5216-25-1	p-Chlorobenzotrichloride				
98-07-7	Benzotrichloride				
100-44-7	Benzyl Chloride				
95-50-1	1,2-Dichlorobenzene	10 ppm	1 ppm		

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	Dimethylfumarate				
624-49-7	Dimethylfumarate (DMFu)	0.1 ppm	0.05 ppm	DMFu is an anti-mold agent used in sachets in packaging to prevent the buildup of mold, especially during shipping.	All materials: CEN ISO/TS 16186:2012
	Dyes – Disperse				
2475-45-8	C.I. Disperse Blue 1	Prohibited 50 ppm each (as impurities only)	15 ppm each	Disperse dyes are a class of water-insoluble dyes that penetrate the fiber system of synthetic or manufactured fibers (e.g., polyester, acetate, polyamide) and are held in place by physical forces without forming chemical bonds. Restricted disperse dyes are suspected of causing allergic reactions and are prohibited from use for dyeing of textiles.	All materials: DIN 54231:2005
2475-46-9	C.I. Disperse Blue 3				
3179-90-6	C.I. Disperse Blue 7				
3860-63-7	C.I. Disperse Blue 26				
12222-75-2	C.I. Disperse Blue 35				
69766-76-6	C.I. Disperse Blue 102				
12223-01-7	C.I. Disperse Blue 106				
61951-51-7	C.I. Disperse Blue 124				
23355-64-8	C.I. Disperse Brown 1				
2581-69-3	C.I. Disperse Orange 1				
730-40-5	C.I. Disperse Orange 3				
82-28-0	C.I. Disperse Orange 11				
12223-33-5	C.I. Disperse Orange 37/76/59				
13301-61-6					
51811-42-8					
85136-74-9	C.I. Disperse Orange 149				
2872-52-8	C.I. Disperse Red 1				
2872-48-2	C.I. Disperse Red 11				

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	Dyes – Disperse, continued				
3179-89-3	C.I. Disperse Red 17	Prohibited 50 ppm each (as impurities only)	15 ppm each	Disperse dyes are a class of water-insoluble dyes that penetrate the fiber system of synthetic or manufactured fibers (e.g., polyester, acetate, polyamide) and are held in place by physical forces without forming chemical bonds. Restricted disperse dyes are suspected of causing allergic reactions and are prohibited from use for dyeing of textiles.	All materials: DIN 54231:2005
61968-47-6	C.I. Disperse Red 151				
119-15-3	C.I. Disperse Yellow 1				
2832-40-8	C.I. Disperse Yellow 3				
6300-37-4	C.I. Disperse Yellow 7				
6373-73-5	C.I. Disperse Yellow 9				
6250-23-3	C.I. Disperse Yellow 23				
12236-29-2	C.I. Disperse Yellow 39				
54824-37-2	C.I. Disperse Yellow 49				
54077-16-6	C.I. Disperse Yellow 56				
	Dyes – Acid, Basic, Direct, Other				
3761-53-3	C.I. Acid Red 26	Prohibited 50 ppm each (as impurities only)	15 ppm each		All materials: DIN 54231:2005
569-61-9	C.I. Basic Red 9				
569-64-2	C.I. Basic Green 4				
2437-29-8					
10309-95-2					
548-62-9	C.I. Basic Violet 3				
632-99-5	C.I. Basic Violet 14				
2580-56-5	C.I. Basic Blue 26				
1937-37-7	C.I. Direct Black 38				
2602-46-2	C.I. Direct Blue 6				
573-58-0	C.I. Direct Red 28				
16071-86-6	C.I. Direct Brown 95				
60-11-7	4-Dimethylaminoazobenzene (Solvent Yellow 2)				
6786-83-0	C.I. Solvent Blue 4				
561-41-1	4,4'-bis(dimethylamino)-4''-(methylamino) trityl alcohol				

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	Dyes – Navy Blue				
118685-33-9	Component 1: C39H23ClCrN7O12S.2Na	50 ppm each (as impurities only)	15 ppm each	Navy blue colorants are regulated and prohibited from use for dyeing of textiles. (Index 611-070-00-2)	DIN 54231:2005
Not allocated	Component 2: C46H30CrN10O20S2.3Na				
	Flame Retardants				
32534-81-9	Pentabromodiphenyl ether (PentaBDE)	10 ppm each	5 ppm each	Flame-retardant chemicals are rarely used to meet flammability requirements in children's clothing and adult products. They should no longer be used in apparel and footwear.	All materials: EN ISO 17881-1:2016
32536-52-0	Octabromodiphenyl ether (OctaBDE)				
1163-19-5	Decabromodiphenyl ether (DecaBDE)				
Various	All other Polybrominated diphenyl ethers (PBDEs)				
79-94-7	Tetrabromobisphenol A (TBBP A)				
59536-65-1	Polybromobiphenyls (PBB)				
3194-55-6	Hexabromocyclododecane (HBCDD)				
3296-90-0	2,2-bis(bromomethyl)-1,3-propanediol (BBMP)				
13674-87-8	Tris(1,3-dichloro-isopropyl) phosphate (TDCPP)				
25155-23-1	Trixylyl phosphate (TXP)				
126-72-7	Tris(2,3-dibromopropyl) phosphate (TRIS)				
545-55-1	Tris(1-aziridinyl) phosphine oxide) (TEPA)				
115-96-8	Tris(2-chloroethyl) phosphate (TCEP)				
5412-25-9	Bis(2,3-dibromopropyl) phosphate (BDBPP)				

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	Fluorinated Greenhouse Gases				
Various	See Regulation (EC) No 842/2006 for a complete list.	0.1 ppm each	0.1 ppm each	Prohibited from use. May be used as foam-blowing agents, solvents, fire retardants and aerosol propellants.	Sample preparation: Purge and trap – thermal desorption or SPME Measurement: GC/MS
	Formaldehyde				
50-00-0	Formaldehyde	Adults and children: 75 ppm Infant/Toddler: 16 ppm	16 ppm	Used in textiles as an anti-creasing and anti-shrinking agent. It is also often used in polymeric resins. Although very rare in Apparel and Footwear, composite wood materials, e.g., particle board and plywood, must comply with existing California and forthcoming US formaldehyde emission requirements (40 CFR 770). Suppliers are advised to refer to brand-specific requirements for these materials.	All materials except leather: JIS L 1041-1983 A (Japan Law 112) or EN ISO 14184-1:2011 Leather: prEN ISO 17226-2:2017 with prEN ISO 17226-1:2017 confirmation method in case of interferences. Alternatively, prEN ISO 17226-2017 can be used on its own.

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CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Metals				
7440-36-0	Antimony (Sb)	Extractable: 30 ppm	3 ppm	Found in or used as a catalyst in polymerization of polyester, flame retardants, fixing agents, pigments and alloys.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017
7440-38-2	Arsenic (As)	Extractable: 0.2 ppm Total: 100 ppm	Extractable: 0.1 ppm Total: 10 ppm	Arsenic and its compounds can be used in preservatives, pesticides and defoliants for cotton, synthetic fibers, paints, inks, trims and plastics.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: All materials except leather: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017
7440-39-3	Barium (Ba)	Extractable: 1,000 ppm	Extractable: 100 ppm	Barium and its compounds can be used in pigments for inks, plastics, surface coatings, as well as in dyeing, mordant, filler in plastics, textile finish, and leather tanning.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017
7440-43-9	Cadmium (Cd)	Extractable: 0.1 ppm Total: 40 ppm	Extractable: 0.05 ppm Total: 5 ppm	Cadmium compounds are used as pigments (especially in red, orange, yellow and green); as a stabilizer for PVC; and in fertilizers, biocides and paints.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: All materials except leather: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017

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CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Metals, continued				
7440-47-3	Chromium (Cr)	Extractable for textiles: 2 ppm Leather footwear for Infant/Toddler: 60 ppm	Extractable: 0.5 ppm	Chromium compounds can be used as dyeing additives, dye-fixing agents, color fastness after-treatments, dyes for wool, silk and polyamide (especially dark shades) and leather tanning.	Textiles: DIN EN 16711-2:2016 Leather: EN ISO 17072-1:2017
18540-29-9	Chromium VI Screening Test	Natural leather and coated leather products Total Chromium screening test	Screening level only; if total Cr found >3 ppm, analyze for Cr(VI)	Though typically associated with leather tanning, Chromium VI also may be used in the dyeing of wool after the chroming process.	All materials except leather: EN 16711-1:2016 Leather: ISO 17072-2:2011
18540-29-9	Chromium VI	Leather: 3 ppm Textiles: 1.0 ppm	Leather: 3 ppm Textiles: 0.5 ppm	Though typically associated with leather tanning, Chromium VI also may be used in the dyeing of wool after the chroming process.	All materials except leather: DIN EN 16711-2:2016 with EN ISO 17075-1:2017 if Cr is detected Leather: EN ISO 17075-1:2017 and EN ISO 17075-2:2017 for confirmation if the extract causes interference. Alternatively, EN ISO 17075-2:2017 may be used on its own. Ageing test: ISO 10195:2018 Method A2 is used at supplier discretion to review the potential for Cr(VI) conversion

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	Metals, continued				
7440-48-4	Cobalt (Co)	Extractable: Adults/Children: 4ppm Infants/toddlers: 1 ppm	Extractable: 0.5 ppm	Cobalt and its compounds can be used in alloys, pigments, dyestuff and the production of plastic buttons.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017
7440-50-8	Copper (Cu)	Extractable: Adults/children: 50 ppm Infants/Toddlers: 25 ppm	5.0 ppm	Copper and its compounds can be found in alloys and pigments, and in textiles as an antimicrobial agent.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017
7439-92-1	Lead (Pb)	Extractable: Adults and Children: 1 ppm Infant/Toddler: 0.2 ppm Total: 90 ppm Lead in surface coating: 90 ppm Includes Children's products (up to 12 years)	Extractable: 0.1 ppm Total: 10ppm	May be associated with plastics, paints, inks, pigments and surface coatings.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: Non-metal: CPSC-CH-E1002-08.3 Metal: CPSC-CH-E1001-08.3 Lead in paint and surface coating: CPSIA Section 101 16 CFR 1303

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	Metals, continued				
7439-97-6	Mercury (Hg)	Extractable: 0.02 ppm Total: 0.5 ppm	Extractable: 0.02 ppm Total: 0.1 ppm	Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They may also be used in paints.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: All materials except leather:: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017
7440-02-0	Nickel (Ni)	Extractable: 1 ppm	0.1 ppm	Nickel and its compounds can be used for plating alloys and improving corrosion-resistance and hardness of alloys. They can also occur as impurities in pigments and alloys.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017
7440-02-0	Nickel (Ni) Release	For metal items coming into direct and prolonged contact with the skin: 0.5 µg/cm²/week Pierced part: 0.2 µg/cm²/week Eyewear frames: 0.5 µg/cm²/week	0.10 µg/cm²/week		EN 12472:2005+ A1:2009 and EN 1811:2011 +A1:2015 Eyewear frames: EN 16128:2015
7782-49-2	Selenium (Se)	500 ppm	50 ppm	May be found in synthetic fibers, paints, inks, plastics and metal trims.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017

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	Metals, continued				
7440-31-5	Tin Screening (all materials)	Tin 0.1 ppm If Tin > ppm; organotin analysis required	0.1 ppm	May be found in metal items, coatings, polymers, paints and adhesives.	All materials except leather: EN 16711-1:2016 Leather: ISO 17072-2:2011
	Monomers				
100-42-5	Styrene	500 ppm	50 ppm	Styrene is a precursor for polymerization and may be present in various styrene-copolymers like plastic buttons.	GC/MS Headspace 120°C for 45 minutes Extraction in Methanol GC/MS, sonication for 60 minutes at 60°C
75-01-4	Vinyl Chloride	1 ppm Nike prohibits the use of PVC in all materials and products.	1 ppm	Vinyl Chloride is a precursor for polymerization and may be present in various PVC materials like prints, coatings, flip flops, and synthetic leather.	EN ISO 6401:2008
	N-Nitrosamines				
62-75-9	N-nitrosodimethylamine (NDMA)	0.5 ppm each	0.5 ppm each	Can be formed as by-product in the production of rubber.	GB/T 24153-2009: determination using GC/MS with LC/MS/MS verification if positive. Alternatively, LC/MS/MS may be performed on its own. prEN 19577:2017
55-18-5	N-nitrosodiethylamine (NDEA)				
621-64-7	N-nitrosodipropylamine (NDPA)				
924-16-3	N-nitrosodibutylamine (NDBA)				
100-75-4	N-nitrosopiperidine (NPIP)				
930-55-2	N-nitrosopyrrolidine (NPYR)				
59-89-2	N-nitrosomorpholine (NMOR)				
614-00-6	N-nitroso N-methyl N-phenylamine (NMPhA)				
612-64-6	N-nitroso N-ethyl N-phenylamine (NEPhA)				

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	Organotin Compounds				
	See also Tin Screening in Metals section				
Various	Dibutyltin (DBT)	1 ppm each	0.1 ppm each	Class of chemicals combining Tin and Organics such as butyl and phenyl groups. Organotins are predominantly found in the environment as antifoulants in marine paints, but they can also be used as biocides (e.g., antibacterials), catalysts in plastic and glue production, and heat stabilizers in plastics/rubber. In textiles and apparel, Organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat-transfer material.	All materials: CEN ISO/TS 16179:2012
Various	Dioctyltin (DOT)	1 ppm each			
Various	Monobutyltin (MBT)				
Various	Tricyclohexyltin (TCyHT)				
Various	Trimethyltin (TMT)				
Various	Trioctyltin (TOT)				
Various	Tripropyltin (TPT)				
Various	Tributyltin (TBT)	0.5 ppm each			
Various	Triphenyltin (TPhT)				
	Ortho-phenylphenol				
90-43-7	Ortho-phenylphenol (OPP)	1,000 ppm	100 ppm	OPP can be used for its preservative properties in leather or as a carrier in dyeing processes.	All materials: 1 M KOH extraction, 16 hours at 90°C, derivatization and analysis § 64 LFGB B 82.02-08 or DIN EN ISO 17070:2015

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	Ozone-depleting Substances				
Various	See Regulation (EC) No 1005/2009 for a complete list.	Prohibited (5 ppm each)	5 ppm each	Ozone-depleting substances have been used as a foaming agent in PU foams as well as a dry-cleaning agent and are prohibited from use.	All materials: GC/MS headspace 120°C for 45 minutes
	pH – Acidic & Alkaline Substances				
Various	pH-value	Textiles: 4.0 – 7.5 Leather: 3.5 – 7.0	Not applicable	The pH-value is a characteristic number, ranging from pH 0 to pH 14, indirectly showing the content of acidic or alkaline substances in a product. pH-values below 7 indicate sources of acidic substances and values above 7 indicate sources of alkaline substances. To avoid irritation or chemical burns to skin the pH-value of products shall be in the range of human skin with about pH 5.5. Limits cited comply with global regulations for all products.	Textiles and artificial leather: EN ISO 3071:2006 Leather: EN ISO 4045:2018

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	Perfluorinated & Polyfluorinated Chemicals (PFCs)				
	C8-based perfluorinated chemistries are prohibited from use on any Nike material or product.				
2795-39-3	Perfluorooctane Sulfonate (PFOS)	All materials with a repellent finish applied: 1 µg/m² each	1 µg/m² each	PFOA and PFOS may be present as unintended byproducts in long- or short-chain commercial water-, oil- and stain- repellent agents. PFOA may also be used in polymers like Polytetrafluoroethylene (PTFE)	All materials: prISO FDIS 23702-1: 2018
3825-26-1	Perfluorooctanoic Acid (PFOA) & its salts & esters				
Various	PFOA-related substances	1000 ppb total	1000 ppb total		
	Pesticides, Agricultural & Residual				
Various	Refer to list of pesticides in Appendix A of the current AFIRM RSL. http://afirm-group.com/afirm rsl	0.5 ppm each	Varies	May be found in natural fibers, primarily cotton and leather.	All materials: ISO 15913/DIN 38407 F2 or EPA 8081/EPA 8151A or BVL L 00.00-34:2010-09

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	Phthalates				
	Nike restricts all Ortho-phthalates. The Phthalates listed are those most commonly used and regulated across industry sectors.				
28553-12-0	Di-isononylphthalate (DINP)	500 ppm each Total: 1,000 ppm Please review the information regarding the REACH SVHC list and California Proposition 65 list at the beginning of the RSL.	50 ppm each	Esters of Ortho-phthalic acid (Phthalates) are a class of organic compound commonly added to plastics to increase flexibility. They are sometimes used to facilitate the molding of plastic by decreasing its melting temperature. Phthalates can be found in: • Flexible plastic components (e.g. PVC) • Print pastes • Adhesives • Plastic buttons • Plastic sleevings • Polymeric coatings	Sample preparation: CPSC-CH-C1001-09-4 Measurement: Textiles: GC/MS, EN ISO 14389:2014 7.1 Calculation based on weight of print only; 7.2 Calculation based on weight of print and textile if print cannot be removed. All materials except textiles: GC/MS
117-84-0	Di-n-octylphthalate (DNOP)				
117-81-7	Di(2-ethylhexyl)-phthalate (DEHP)				
26761-40-0	Diisodecylphthalate (DIDP)				
85-68-7	Butylbenzylphthalate (BBP)				
84-74-2	Dibutylphthalate (DBP)				
84-69-5	Diisobutylphthalate (DIBP)				
84-75-3	Di-n-hexylphthalate (DnHP)				
84-66-2	Diethylphthalate (DEP)				
131-11-3	Dimethylphthalate (DMP)				
131-18-0	Di-n-pentyl phthalate (DPENP)				
84-61-7	Dicyclohexyl phthalate (DCHP)				
71888-89-6	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich				
117-82-8	Bis(2-methoxyethyl) phthalate				
605-50-5	Diisopentyl phthalate (DIPP)				
131-16-8	Dipropyl phthalate (DPRP)				
27554-26-3	Diisooctyl phthalate (DIOP)				
68515-50-4	Diisohexyl phthalate (DIHP)				
68515-42-4	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)				
84777-06-0	1,2-benzenedicarboxylic acid				

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	Polycyclic Aromatic Hydrocarbons (PAHs)					
83-32-9	Acenaphtene	No individual restriction	Total: 10 ppm	0.2 ppm each	PAHs are natural components of crude oil and are common residues from oil refining. PAHs have a characteristic smell similar to that of car tires or asphalt. Oil residues containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers and coatings. PAHs are often found in the outsoles of footwear and in printing pastes for screen prints. PAHs can be present as impurities in Carbon Black. They also may be formed from thermal decomposition of recycled materials during reprocessing.	All materials: AFPS GS 2014
208-96-8	Acenaphthylene					
120-12-7	Anthracene					
191-24-2	Benzo(g,h,i)perylene					
86-73-7	Fluorene					
206-44-0	Fluoranthene					
193-39-5	Indeno(1,2,3-cd) pyrene					
91-20-3	Naphthalene[1]					
85-01-8	Phenanthrene					
129-00-0	Pyrene					
56-55-3	Benzo(a)anthracene	1 ppm each				
50-32-8	Benzo(a)pyrene					
205-99-2	Benzo(b)fluoranthene					
192-97-2	Benzo[e]pyrene					
205-82-3	Benzo[j]fluoranthene					
207-08-9	Benzo(k)fluoranthene					
218-01-9	Chrysene					
53-70-3	Dibenzo(a,h)anthracene					

[1] Dispersing agents for textile dyes may contain high residual Naphthalene concentrations due to the use of low-quality Naphthalene derivatives (e.g., poor-quality Naphthalene Sulphonate Formaldehyde condensation products).

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	Quinoline				
91-22-5	Quinoline	50 ppm	10 ppm	May be found as an impurity in polyester and some dyestuffs.	AFPS GS 2014
	Solvents/Residuals				
68-12-2	Dimethylformamide (DMFa)	500 ppm = Pass >500–1000 ppm = Warning range; follow up required >1000 ppm = Do not ship	50 ppm each	DMFa is a solvent used in plastics, rubber and polyurethane (PU) coating. Water-based PU does not contain DMFa and is therefore preferable.	All materials: DIN CEN ISO/TS 16189:2013
75-12-7	Formamide	1000 ppm each	50 ppm each	Potential byproduct in the production of some EVA foams.	
127-19-5	Dimethylacetamide (DMAC)			DMAC is a solvent used in the production of elastane fibers and sometimes as a substitute for DMFa.	
872-50-4	N-Methyl-2-pyrrolidone (NMP)			Industrial solvent used in the production of water-based PUs and other polymeric materials. May also be used for surface treatment of textiles, resins and metal coated plastics, or as a paint stripper.	
	UV Inhibitors				
3846-71-7	2-benzotriazol-2-yl-4,6-di-tert-butylphenol	1000 ppm each	100 ppm each	PU foam materials such as open-cell foams for padding. Potential uses as UV-absorbers for plastics (PET, PC, PA, ABS and other polymers), rubber, polyurethane.	ADIN EN 62321-6: 2016-05 Extraction in THF, analysis by GC/MS
3864-99-1	2,4-Di-tert-butyl-6-(5-chlorobenzotriazole-2-yl) phenol				
25973-55-1	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol				
36437-37-3	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV-350)				

NIKE RESTRICTED SUBSTANCES LIST

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Volatile Organic Compounds (VOCs)				
71-43-2	Benzene	5 ppm	5 ppm	These VOCs should not be used in textile auxiliary chemical preparations. They are also associated with solvent-based processes such as solvent-based Polyurethane coatings and glues/adhesives. They should not be used for any kind of facility cleaning or spot cleaning.	For general VOC screening: GC/MS headspace 120 °C, 45 minutes. DIN CEN ISO/TS 16189:2013
75-15-0	Carbon Disulfide	Total: 1000 ppm	20 ppm each		
56-23-5	Carbon tetrachloride				
67-66-3	Chloroform				
108-94-1	Cyclohexanone				
107-06-2	1,2-Dichloroethane				
75-35-4	1,1-Dichloroethylene				
76-01-7	Pentachloroethane				
100-41-4	Ethylbenzene				
630-20-6	1,1,1,2- Tetrachloroethane				
79-34-5	1,1,2,2- Tetrachloroethane				
127-18-4	Tetrachloroethylene (PERC)				
108-88-3	Toluene				
71-55-6	1,1,1- Trichloroethane				
79-00-5	1,1,2- Trichloroethane				
79-01-6	Trichloroethylene				
1330-20-7	Xylenes (meta-, ortho-, para-)				
108-38-3					
85-47-6					
106-42-3					

OTHER LIMITS & RESTRICTIONS

CAS NO.	LIST	NIKE COMPLIANCE REQUIREMENTS
Various	REACH SVHC listed chemistries www.echa.europa.eu/candidate-list-table California Proposition 65 listed chemistries www.oehha.ca.gov/proposition	Suppliers must notify Nike immediately if substances found on either of these lists are identified in materials or products.

NIKE-SPECIFIC CHEMICAL & MATERIAL RESTRICTIONS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Asbestos				
77536-66-4	Actinolite	Not detected	Not applicable Presence/absence only	No intentional uses	Microscopic examination; minimum magnification 1-250, polarized light filter attached; ratio of fiber length to diameter is at least 3:1.
12172-73-5	Amosite				
77536-67-5	Anthrophyllite				
12001-29-5	Chrysotile				
12001-28-4	Crocidolite				
77536-68-6	Tremolite				

NIKE-SPECIFIC CHEMICAL & MATERIAL RESTRICTIONS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Dioxins and Furans				
40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	Group 1 Sum of Group 1: 1 µg/kg	0.1 µg/kg per congener (Dioxin or Furan)	No intentional use in Apparel or Footwear manufacturing	USEPA 8290
57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran				
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran				
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin				
70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	Group 2 Sum of Groups 1 and 2: 5 µg/kg			
39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin				
57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran				
57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin				
72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran				
19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin				
57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran				
60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran				
39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	Group 3 Sum of Groups 1, 2 and 3: 100 µg/kg			
3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin				
67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran				
35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin				
55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran				
109333-34-8	1,2,3,7,8-Pentabromodibenzo-p-dioxin	Group 4 Sum of Group 4: 1 µg/kg			
131166-92-2	2,3,4,7,8-Pentabromdibenzofuran				
67733-57-7	2,3,7,8-Tetrabromodibenzofuran				
50585-41-6	2,3,7,8-Tetrabromodibenzo-p-dioxin				
110999-44-5	1,2,3,4,7,8-Hexabromodibenzo-p-dioxin	Group 5 Sum of Groups 4 and 5: 5 µg/kg			
110999-45-6	1,2,3,6,7,8-Hexabromodibenzo-p-dioxin				
110999-46-7	1,2,3,7,8,9-Hexabromodibenzo-p-dioxin				
107555-93-1	1,2,3,7,8-Pentabromodibenzofuran				

NIKE-SPECIFIC CHEMICAL & MATERIAL RESTRICTIONS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Polyvinyl Chloride (PVC)				
9002-86-2	Polyvinyl Chloride (PVC)	Prohibited from use in all products and all materials.	Due to complexity of analysis, Nike defines detection limit as 10%.	Plastic items, flexible plastics, screen-printing inks.	Two tests for confirmation: Beilstein's Test* (Burning test for the presence of chlorine.) Infrared Analysis* Spectroscopy (IR) with or without solvent extraction. Positive results for both tests indicate PVC. * PVC test methods are qualitative, therefore the 10% limit is estimated sensitivity.

NIKE RSL IMPLEMENTATION GUIDANCE

COMPLYING WITH NIKE RSL REQUIREMENTS

OVERVIEW

All materials, items and finished goods manufactured for Nike, Nike affiliates or Licensees must comply with the requirements in this document.

This document is subject to updates. If requirements change, we will issue an effective date that allows suppliers sufficient time to comply.

The most up-to-date version of this document can be found at the Nike Chemistry website.

SUPPLIERS NOW ACCESS NIKE'S ONLINE RSL TESTING APPLICATION TO START THE RSL TESTING PROCESS.

WWW.RSLTESTING.NIKE.COM

NEW FOR 2019: ONLINE RSL TESTING APPLICATION

All suppliers must log in to the Nike RSL Testing Tool to create, submit and print a Test Request Form (TRF).

To access the RSL Testing Application, please visit www.RSLTesting.nike.com.

To request log-in credentials for the RSL Testing Application, or if you do not have a Nike or affiliate supplier code, contact RSLsupport@nike.com.

NIKE-APPROVED LABS

Nike only accepts data from approved laboratories as proof of compliance. A list of Nike-approved laboratories is included at the end of this document.

Each material is tested against the designated Nike RSL Test Package.

TYPES OF TESTING

Nike employs two testing approaches:

1 STANDARD TESTING

Suppliers use the implementation guidance on the following pages and send samples for testing as described.

2 DIRECTIVE TESTING

Nike may choose to implement a directive testing approach for a particular supplier. Rather than using the standard implementation guidance, Nike RSL Teams work directly with the supplier to test specific materials in a given season. Directive testing is in addition to tests the supplier undertakes to ensure RSL compliance, as well as to any testing that a Tier 1 factory may request.

SELECTING TEST SAMPLES

The Materials Testing Matrix (MTM) on page 75 outlines required test packages by material type. Material-specific guidance detailing how to select samples for testing follows the MTM.

For example, suppliers choose natural leather and coated leather test samples based on production volumes, but lab testing is distinct for the two materials because of differing base chemistries and processing approaches.

TEST SAMPLE DESIGNATIONS

When filling out a TRF on the RSL Testing Application, suppliers must select between two types of samples.

PRODUCTION-READY MATERIAL TEST SAMPLES

The samples must use the same input chemicals and process steps used in production. To receive a PASS result for a material, suppliers must submit production-ready material test samples.

RESEARCH AND DEVELOPMENT (R&D) MATERIAL TEST SAMPLES

When developing new materials or processes, material vendors may submit R&D samples at any time for any subset of chemistries as required by the supplier. R&D test samples are for informational purposes only and cannot achieve a PASS result.

TIER 1 FACTORY TESTING

The Nike Code of Conduct requires finished-goods factories to maintain a program that ensures product compliance with the Nike RSL. The Nike RSL team strongly recommends that finished-goods factories test materials received from external vendors as well as those produced in-house. This testing helps protect finished goods factories from inadvertent RSL violations by identifying issues prior to production. We encourage Tier 1 factories to work directly with the Nike RSL team to identify which materials to test on a recurring basis. Please contact RSLsupport@nike.com for support.

COMPONENTS & COMPLEX MATERIALS

The Nike RSL program classifies materials by category, as outlined in the MTM. However, there are components and complex materials not easily categorized, such as zippers (which can have metal, plastic and fabric components), painted items (which can have paint or lacquer applied on a metal or plastic base), and more. For these items, suppliers can indicate multiple test packages when filling out the TRF in the online RSL Testing Application.

If suppliers have concerns or questions regarding how to classify a material or item on the TRF, please reach out to RSLsupport@nike.com for specific guidance.

MATERIALS TESTING PROGRAM

The RSL testing implementation program outlined in the MTM is the minimum required testing.

New suppliers are required to provide RSL test results for the first five materials used in Nike, Inc., products. All suppliers are required to provide test reports when requested by Nike teams or Nike factories.

Nike strongly encourages suppliers to test additional materials against Nike RSL limits as well as related lists such as the REACH SVHC List and the California Proposition 65 List.

If suppliers have specific concerns about the chemistry of a material or product, such as meeting REACH SVHC and California Proposition 65 requirements, please reach out to RSLsupport@nike.com.

1 TEST PACKAGE 1

Test Package 1 (TP1) tests a material in a given category for a defined set of chemical substances – substances that have been historically present in the material and place it at risk for RSL test failure.

2 TEST PACKAGE 2

Test Package 2 (TP2) includes all the substances in TP1, with additional specified substances.

NOTE: The Nike RSL Testing App automatically selects TP2 for every fifth sample submisssion:

- Samples 1-4 TP1
- Sample 5 TP2
- Samples 6-9 TP1
- Sample 10 TP2

3 TESTS NOT LISTED AS TEST PACKAGE 1 OR 2

A substance restricted by legislation or Nike requirements that:

- Has been successfully phased out of the supply chain, or
- Has not been identified as a chemistry in use for the specified material

Suppliers must still meet the RSL limits for these substances, but the substances are very unlikely to be found when suppliers follow proper chemicals management.

THE COST OF RSL TESTING CAN VARY DEPENDING ON WHETHER THE MATERIAL SAMPLE UNDERGOES TP1 OR TP2 TESTING. THIS IS DUE TO THE ADDITIONAL TESTS INCLUDED IN TP2.

TEST ADMINISTRATION

All testing must be performed on production-ready material – material identical to that used in actual product. While materials or products are undergoing RSL testing, they cannot be used in production or shipped until Nike receives a passing test report.

If a material or component fails RSL testing, all materials affected must be quarantined immediately. After product disposition, suppliers must complete a failure resolution process with Nike.

Only materials that pass both Adult and Kid (Infant / Toddler, Little Kids and Big Kids) RSL testing requirements can be used for products intended for children, including any "take down" product.

- Prior to production, suppliers must provide factories with test results proving compliance with the Nike RSL.
- All testing must be performed at a Nike-approved lab.
- Suppliers create a TRF in the online RSL Testing Application, a printed copy of which must accompany each test sample.
- Test results are valid for one year from the RSL test report date unless otherwise stated.
- Nike reserves the right to request testing documentation at any time.

NOTE: The PDF version of the TRF is no longer in use.

HANDLING RSL DATA

As shown in Figure 1, Nike-approved labs conduct testing and upload test results to the Nike RSL Testing Application.

The RSL Testing Application stores test reports and allows suppliers to export data files.

The Nike Code of Conduct requires suppliers to maintain test reports for a minimum of three years.

Only test reports uploaded to the RSL Testing Application can be used to satisfy Nike requirements. Test results from non-approved laboratories are not accepted as proof of compliance.

ALL FINISHED GOODS MUST MEET NIKE RSL REQUIREMENTS — WHETHER TESTING IS IDENTIFIED AS "TP1" OR "TP2," OR IS BLANK IN THE MATERIALS TESTING MATRIX.

Figure 1.
NIKE RSL TESTING FLOWCHART

FAILURE RESOLUTION

Vendors must perform due diligence to ensure that all shipped materials and components used on finished goods meet Nike RSL requirements. In the event of a FAIL or KID FAIL rating, suppliers must take immediate action. See the flowchart in Figure 2.

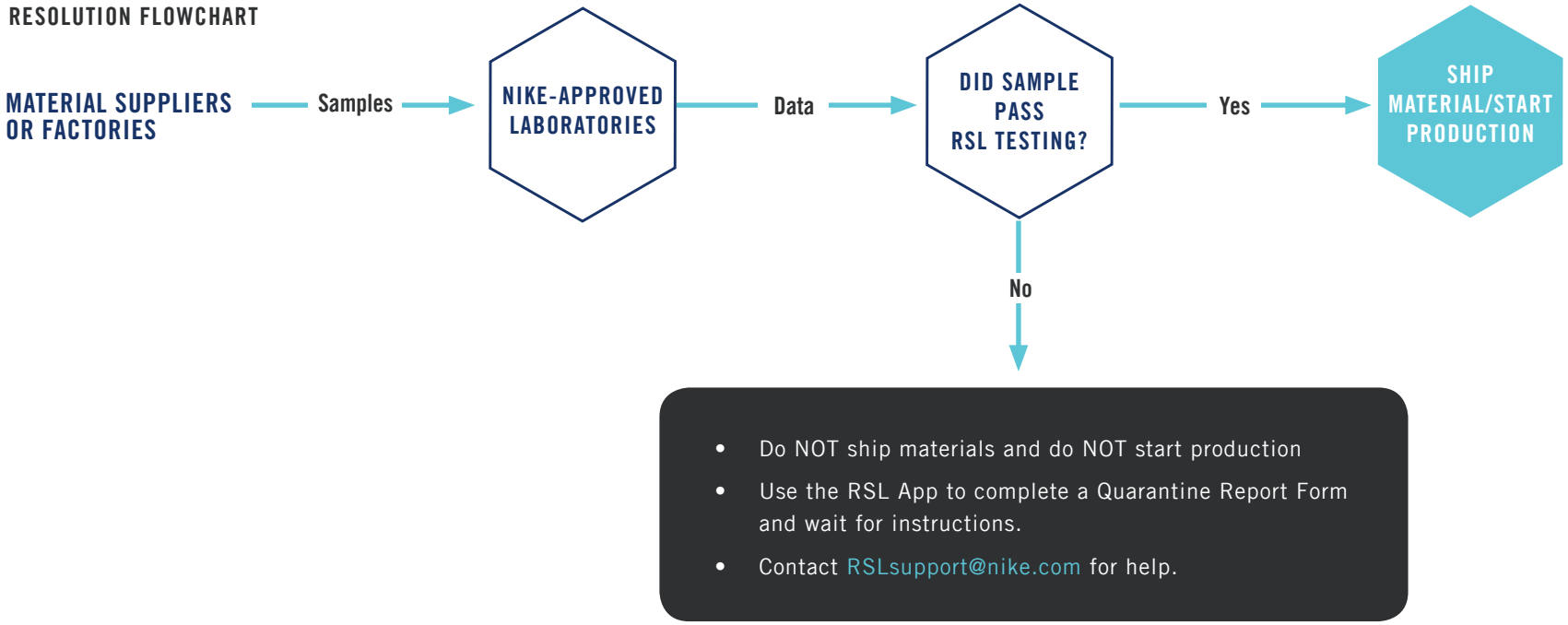
- Failing materials must be quarantined immediately.
- The RSL Testing Application guides factories and suppliers through each step of the failure-resolution process, including the Nike Quarantine Report Form (QRF) or the RSL Failure Resolution Form (FRF).
- After the supplier has remediated the cause of the failure, the material may need to be retested.
- NOTE: Suppliers should not retest materials until they receive instruction to do so from Nike or an Affiliate. This instruction will be given after the failure-resolution process is completed.

Failure to remediate the cause of the failure could result in significant consequences.

- If a vendor is deemed unreliable due to multiple material RSL failures, Nike, at its sole discretion, may place that vendor on probationary status. This will result in increased testing requirements.
- If a vendor on probation continues to supply non-compliant material, Nike and/or affiliates may initiate further measures at our sole discretion. Measures include termination of all business dealings with the vendor.

Figure 2.

FAILURE RESOLUTION FLOWCHART



MATERIALS TESTING MATRIX

RESTRICTED SUBSTANCE	NATURAL FIBERS	SYNTHETIC FIBERS Nylon, PET, Etc.	NATURAL & SYNTHETIC FIBER BLENDS	PLASTICS, THERMOPLASTICS & POLYMERS							SYNTHETIC LEATHER	NATURAL LEATHER	COATED LEATHER	INKS & PAINTS	SUBLIMATION & DIGITAL PRINTS	SCREENPRINT STRIKE-OFFS	ADHESIVES	METAL ITEMS	OTHER Rhinestones, Sequins, Etc.
				EVA Materials	PU Foams	PU & TPU Skins / Films	Rubber Materials	Polycarbonate & Epoxied Materials	ABS Plastic Materials	All Other Foams, Plastics & Polymers									
Acetophenone & 2-Phenyl-2-Propanol				TP2															
Acidic & Alkaline Substances (pH)												TP2							
Alkylphenols (NP, OP)	TP2	TP2	TP2	TP2	TP2	TP2	TP2	TP2	TP2	TP2	TP2			TP2	TP2	TP2	TP2		
Alkylphenol Ethoxylates (NPEO, OPEO)	TP1	TP1	TP1	TP1	TP1	TP1	TP1	TP1	TP1	TP1	TP1	TP1	TP1	TP1	TP2	TP1	TP1		
Asbestos	Prohibited																		
Azo-amines	TP2 (8)	TP2 (8)	TP2 (8)									TP2	TP2	TP1 (1, 8)	TP2				
Bisphenols (BPA, BPF, BPS, BPAF)								TP1											
Chlorinated Paraffin												TP2	TP2						
Chlorophenols		TP2	TP2																
Chlororganic Carriers		TP2																	
Dimethylfumarate (DMFu)																			
Dioxins & Furans	Prohibited																		
Dyes (Acid, Basic, Direct, Other)	TP2 (8)		TP2 (8)									TP2			TP2				

MATERIALS TESTING MATRIX

RESTRICTED SUBSTANCE	NATURAL FIBERS	SYNTHETIC FIBERS Nylon, PET, Etc.	NATURAL & SYNTHETIC FIBER BLENDS	PLASTICS, THERMOPLASTICS & POLYMERS: EVA Materials	PU Foams	PU & TPU Skins / Films	Rubber Materials	Polycarbonate & Epoxied Materials	ABS Plastic Materials	All Other Foams, Plastics & Polymers	SYNTHETIC LEATHER	NATURAL LEATHER	COATED LEATHER	INKS & PAINTS	SUBLIMATION & DIGITAL PRINTS	SCREENPRINT STRIKE-OFFS	ADHESIVES	METAL ITEMS	OTHER Rhinestones, Sequins, Etc.
Dyes (Disperse)		TP2 (8)	TP2 (8)								TP2				TP1 (8)				
Dyes (Navy Blue)																			
Flame Retardants	Prohibited																		
Fluorinated Greenhouse Gases	Prohibited																		
Formaldehyde	TP1	TP1	TP1	TP2	TP2		TP2			TP2		TP2	TP2	TP1	TP1	TP1	TP1		TP1
Metals (Chromium VI)												TP1 (4)	TP1 (4)						
Metals (Extractable)	TP2	TP2	TP1								TP2	TP2 (13)							
Metals (Nickel Release)																		TP1 (10)	TP1 (3)
Metals (Total)	TP2	TP2	TP2	TP1	TP1	TP1	TP1	TP1	TP1	TP1	TP2	TP2	TP2	TP1	TP2	TP2	TP2	TP1	TP1 (3)
Monomers									TP2	TP2									
N-Nitrosamines							TP2												
Organotin Compounds					TP1 (2)	TP1 (2)	TP1 (2)	TP1 (2)		TP1 (2)	TP1 (2)		TP1 (2)	TP1 (2)	TP1 (2)	TP1 (2)	TP1 (2)	TP1 (15)	
Ortho-phenylphenol	TP2																		
Ozone-depleting Substances	Prohibited																		

MATERIALS TESTING MATRIX

RESTRICTED SUBSTANCE	NATURAL FIBERS	SYNTHETIC FIBERS Nylon, PET, Etc.	NATURAL & SYNTHETIC FIBER BLENDS	PLASTICS, THERMOPLASTICS & POLYMERS: EVA Materials	PU Foams	PU & TPU Skins / Films	Rubber Materials	Polycarbonate & Epoxied Materials	ABS Plastic Materials	All Other Foams, Plastics & Polymers	SYNTHETIC LEATHER	NATURAL LEATHER	COATED LEATHER	INKS & PAINTS	SUBLIMATION & DIGITAL PRINTS	SCREENPRINT STRIKE-OFFS	ADHESIVES	METAL ITEMS	OTHER Rhinestones, Sequins, Etc.
Perfluorinated & Polyfluorinated Chemicals	Testing required for materials with repellent finishes applied — please select on the TRF																		
Pesticides, Agricultural																			
Phthalates		TP2		TP2	TP2	TP2	TP2	TP2	TP2	TP1	TP2		TP2	TP1	TP2	TP1	TP1		TP1
Polycyclic Aromatic Hydrocarbons (PAHs)							TP1												
Polyvinyl Chloride (PVC)										TP1				TP2		TP2			TP2
Quinoline		TP2																	
Solvents & Residuals (DMFa, DMAC, NMP, Formamide)				TP1 (17)		TP1 (14)					TP1 (16)		TP1						
UV Inhibitors (UV 320, 327, 328, 350)					TP1														
Volatile Organic Compounds (VOCs)				TP2	TP2					TP2	TP2						TP2		

TP1 = Test Package 1

The online RSL Testing Application automatically selects this required set of tests for 4 of 5 samples. Similar to "Core" testing from the 2018 RSL.

TP2 = Test Package 2

The online RSL Testing Application automatically selects this required set of tests for 1 of 5 samples. Similar to "Supplemental" testing from the 2018 RSL.

1 = Screenprint ink only
2 = If Tin in sample >0.1 mg/kg
3 = Tests vary by material type; consult with lab or Nike RSL team
4 = If total Cr screening is > 3 mg/kg, analyze for Cr(VI)
8 = Testing for dyes is not required for white materials
10 = Only Metal items coming into skin contact
13 = Infant/Toddler leather Footwear only
14 = DMFa in PU skins only, must be tested after application to base material (ex: fuse or no sew package)
15 = Testing of coated/painted metal items only
16 = DMFa testing only
17 = Formamide testing only

MATERIAL-SPECIFIC IMPLEMENTATION GUIDANCE

TEXTILES: NATURAL, SYNTHETIC & BLENDED FIBERS

The Nike RSL defines unique textiles as a combination of:

- **Material composition**
- **Color**
- **Applied chemistries or finishes**
- **Material vendor location**

In addition, each textile type (natural, synthetic or blend compositions) in combination with a chemical finish is considered a unique material.

A difference or change in any of these properties indicates the textile has changed and may be subject to further testing.

For example, 100% cotton, 100% polyester, 60/40 cotton/poly, 50/50 cotton/poly, etc. are all unique and subject to routine and/or random testing.

Each season, suppliers must test 5% of all natural, synthetic and blended fibers, or materials composed of these fibers, on the basis of unique material/color combinations, choosing materials with the highest production volumes.

EXAMPLE: A supplier producing 100 unique material/color combinations in a season must test their top five unique material/color combinations by production volumes. This testing guidance is summarized in Figure 3 and Table 3.

NOTE: For any calculated value, the result must be rounded up to the highest whole number; for example, 45 material/color combinations x 5% = 2.25, which would require three total tests (not two).

When ranking by current-season production volume isn't possible:

- Calculate the previous season's number of materials to use as a basis for the current season.
- Focus testing on higher-volume materials that haven't already passed RSL testing within the previous calendar year.

For guidance on items produced from yarn to finished good without a material phase, contact: RSLsupport@nike.com

Figure 3.

TESTING GUIDANCE FOR TEXTILES: NATURAL, SYNTHETIC & BLENDED FIBERS

ROUTINE TESTING

All Apparel, Footwear and Equipment materials and all denim require testing. Select materials at 5% of total number of unique material/color combinations on a seasonal basis, as shown in Table 3.

RANDOM TESTING

Vendors and factories should also randomly verify Apparel, Footwear and Equipment materials in any color.

A NOTE ABOUT DENIM

Denim materials must be tested after any garment treatment, including but not limited to overdyeing, sanding and acid washing. This test may be performed on samples that represent production-ready materials.

Table 3.

CALCULATING THE NUMBER OF TEST SAMPLES FOR TEXTILES

MATERIAL IDENTIFICATION	LINEAR YARDS PRODUCED	TOTAL NUMBER OF TESTS REQUIRED	TEST THIS MATERIAL?
Unique material/color combination 1	50,000	• Supplier produces 100 unique material/color combinations, as shown in Material Identification column • **5% Testing Requirement = Five (5) Total Tests** • Choose top five materials by production volume, as shown in Linear Yards Produced column	Yes
Unique material/color combination 2	25,000		Yes
Unique material/color combination 3	40,000		Yes
Unique material/color combination 4	15,000		Yes
Unique material/color combination 5	60,000		Yes
Unique material/color combination 6	2,200		No
Unique material/color combination 7	1,000		No
Materials 8–100	20,000 combined		No

NATURAL LEATHER, COATED LEATHER & SYNTHETIC LEATHER

Nike is implementing a substantially revised testing approach for all leather materials in 2019. Please review this information carefully, as it impacts suppliers of any type of leather.

MATERIAL DEFINITIONS & MINIMUM TESTING FREQUENCY

Suppliers are required to submit a minimum number of materials for RSL testing based on the total volume of materials supplied, as outlined below. The specific test-per-volume ratio is the "minimum testing frequency."

NATURAL LEATHER. Animal hide without a plastic or polymer coating: minimum of one test per 150,000 square feet of material.

COATED LEATHER. Animal hide with any plastic or polymer coating or composite leather made of natural leather and a polymer additive: minimum of one test per 500,000 square feet of material.

SYNTHETIC LEATHER. Minimum of one test per 200,000 square meters of material.

Suppliers are required to conduct one RSL test regardless of the quantity of material supplied.

In addition to these minimum testing frequency requirements, suppliers should proactively test higher risk materials such as:

- New innovations in R&D phase
- High-volume
- Fluorescent colors
- Metallic finishes or specialized performance coatings
- Direct skin contact

Table 4 shows the minimum number of passing RSL tests required, based on order volumes for Natural Leather, Coated Leather and Synthetic Leather. Note that these are minimum requirements only.

SELECTING MATERIAL TEST SAMPLES

- RSL test samples can be of any color, thickness or finish.
- Nike considers Composite Leathers or any Leather with polymer present to be a Coated Leather for the purposes of RSL testing
- Nike encourages suppliers to submit their highest-volume production-ready materials as well as new, innovative R&D materials.

Table 4.

MINIMUM NUMBER OF PASSING RSL TESTS REQUIRED FOR LEATHER MATERIALS

Based on order volumes for Natural Leather, Coated/Composite Leather and Synthetic Leather

ORDER VOLUME SQUARE FEET OR SQUARE METERS	NATURAL LEATHER	COATED LEATHER	SYNTHETIC LEATHER
1 – 100	1	1	1
100,000	1	1	1
150,000	1	1	1
200,000	2	1	1
250,000	2	1	2
250,000	2	1	2
350,000	3	1	2
550,000	4	2	3
750,000	5	2	4
950,000	6	2	5
1,050,000	7	3	6
1,550,000	10	4	8
3,550,000	24	8	18
9,550,000	64	20	48
10,005,000	67	21	51
20,005,000	133	41	101

PLASTICS, THERMOPLASTICS, RUBBER & POLYMERS: EVA, PU, RIGID PLASTICS, LAMINATES, ETC.

Nike is implementing a substantially revised testing approach for all plastic materials in 2019. Please review this information carefully, as it impacts suppliers of any type of plastic materials.

APPAREL, FOOTWEAR AND EQUIPMENT

Nike identifies unique plastics, thermoplastics, rubber and other polymers etc. as a combination of:

- **Material chemistry**
- **Thickness**
- **Material vendor location**

A change to any of these properties identifies a material for routine or random testing. See Table 5 for guidance on how to determine a unique material.

Table 5.

GUIDANCE FOR DETERMINING UNIQUE PLASTIC, THERMOPLASTIC, RUBBER AND POLYMER MATERIALS

POLYMER 1	POLYMER 2	ADDITIVES	COLOR	UNIQUE MATERIAL?
50% Butadiene Rubber	50% Natural Rubber	A, B	White	Yes
60% Butadiene Rubber	40% Natural Rubber	A, B	White	Yes
60% Butadiene Rubber	40% Natural Rubber	A, B	Black	No
60% Butadiene Rubber	40% Natural Rubber	A, C	White	Yes
60% EVA	40% Natural Rubber	A, C	White	Yes
60% EVA	40% Natural Rubber	A, C	Black	No

TESTING FREQUENCY

The testing frequency for Plastics, Thermoplastics, Rubber and other Polymers depends on the end use of the materials. Please see Figure 4 for guidance.

SPECIFIC GUIDANCE FOR FOOTWEAR FACTORIES

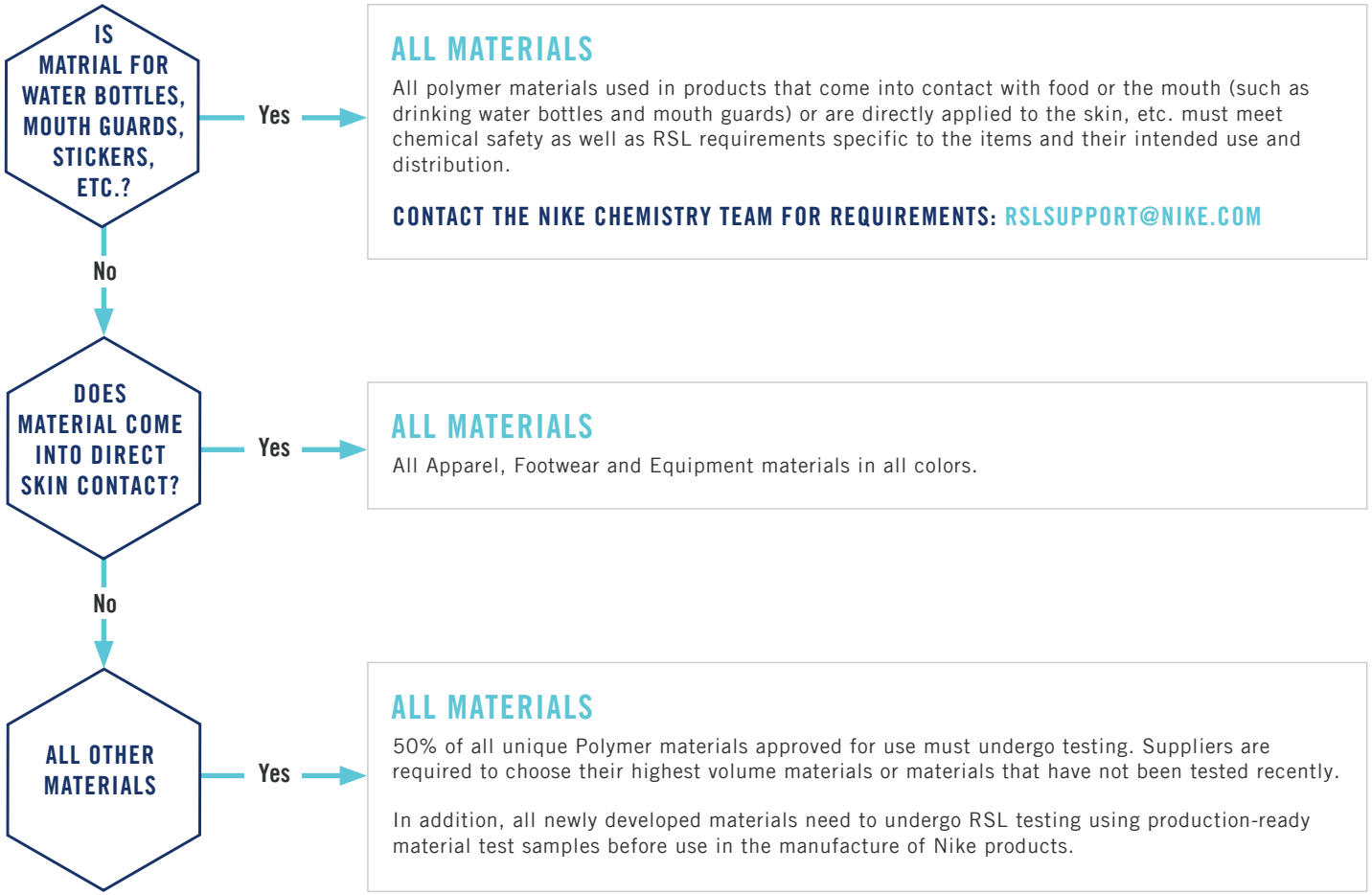
Factories must test 50% of all MCS numbers produced annually. This 50% should represent the highest volume MCS numbers. When selecting samples, please choose a variety of colors (example: MCS 1 in black, MCS 2 in white, MCS 3 in red, etc.).

EXAMPLE: A factory creates 20 different MCS materials in one year. The factory must submit 10 samples for testing. Note that this approach does not include color as a unique identifier.

- Rank production volume for all MCS numbers from high to low.
- Select the top 10 materials in the list for maximum coverage of production.
- Select a different color for each MCS if possible.

Figure 4.

TESTING FREQUENCY GUIDANCE FOR PLASTICS, THERMOPLASTICS, RUBBER & POLYMERS



INKS & PAINTS

Nike considers inks and paints to be at high risk for RSL non-compliance. These materials MUST be tested prior to production in an "as applied" state; for example, ink that has cured, paint that has dried, etc.

All inks and paints must be tested annually and receive an RSL PASS result prior to application to any product. They must be retested every time a change is made to the color system formulation or on an annual basis, whichever comes first.

SCREEN-PRINTING INKS

Component-based screen-printing inks consist of three main component types:

- **Bases**
- **Pigments**
- **Additives**

Each base, pigment and additive in a component-based screen-printing ink system must be tested at least once per year.

Suppliers must create multiple material test samples for a component-based printing system. Each printed sample should contain a single base, a single pigment and as many additives as necessary. When submitting base color samples, print at least 10 grams on RSL-compliant fabric representative of production material and cured following the recommended curing instructions. When creating each base color sample, the pigment loading must be at the maximum recommended level per the ink manufacturer's recommendation.

Submit material test samples of ready-to-use (RTU) ink products with no changes to the formulation. All RTU products must be dried and cured on RSL-compliant fabric representative of production material and consistent with the ink manufacturer's recommendations.

Note: Labs do not accept composite ink samples (more than one pigment in a base color).

DIGITAL PRINTING INKS

Digital printing inks must be tested once per year. The sample should be prepared by printing each color individually on RSL-compliant fabric representative of production material. The samples must be applied with production transfer paper and on production equipment.

When creating a digital printing ink test sample, print one sample for each base color – least 10 grams of ink on RSL-compliant material.

For example, a CMYK digital printing ink system requires one sample for cyan, one sample for magenta, one sample for yellow, and one sample for black.

SUBLIMATION PRINTING DYES

Sublimation prints must be tested once per year. When submitting sublimation prints to the lab, print each base color independently on one A4-sized sheet of RSL-compliant material. Create samples for each base color. For example, if four base colors are used for sublimation printing (CMYK), print one A4-sized sheet for each color.

HEAT TRANSFER INKS

Heat transfer inks typically resemble a screen-printing ink system or a digital printing ink system. Refer to those sections for instructions.

UNCURED INKS

If a supplier is unable to provide a cured ink sample to the RSL testing lab, please reach out to the appropriate Nike RSL lead listed at the end of the Playbook. Labs will not cure wet ink samples, so it is important that the sample submitter – whether an ink manufacturer or a printing facility – ensures the printed sample is cured properly on RSL-compliant fabric representative of production material.

RSL-COMPLIANT INKS LIST

A report summarizing Nike RSL-compliant base color samples can be found on nikeConnect. These ink systems have proven compliance to the Nike RSL, and printers can use them without performing additional RSL testing on the ink system itself. Strike-off testing requirements still apply to printing facilities (see requirements on the next page).

SCREEN PRINT STRIKE-OFF TESTING

Nike considers screen print inks, heat transfers and similar embellishments to be at high risk for RSL non-compliance. In addition to the RSL testing requirement for inks and paints, Nike requires strike-off testing of finished goods with such embellishments.

STRIKE OFF TESTING REQUIREMENTS

For screen prints, heat transfers and similar embellishments, suppliers must test strike-offs at a rate of 2% by style (not color) per season. Selected samples should be dark-colored or fluorescent prints.

SAMPLE SELECTION

During a given season, a supplier may not be able to predict which styles will be the top 2% by volume, as orders may still be coming in. When this is the case, use the previous season's order history to determine the number or strike-off tests required, and then choose styles to test based on high-volume inks and base fabrics used in the style.

WORKING EXAMPLE: As shown in Figure 5, a printing house produces 148 styles in a given season. Using the 2% minimum testing requirement, the printer must submit three styles for Nike RSL testing.

Choose the top 2% of styles by production volume for strike-off testing, rotating colorways. Style numbers should not include the color code. In the table, production volumes are added together for each order of a specific style for a given season. As shown, the top 3 styles by volume are selected for RSL testing – "Style 1," "Style 4," and "Style 5." Round up to nearest whole number.

Figure 5

REQUIRED STRIKE-OFF TESTING OF TOP 2% OF STYLES BY PRODUCTION VOLUME

Choose the top 2% of styles by production volume for strike-off testing, rotating colorways. Style numbers should not include the color code.

TOP 2% OF STYLES BY PRODUCTION VOLUME

STYLES	PRODUCTION VOLUME	STRIKE-OFF TEST REQUIRED FOR THIS STYLE?
Style 1	50,000	Yes
Style 2	500	No
Style 3	20,000	No
Style 4	30,000	Yes
Style 5	40,000	Yes
Styles 6 – 148	400	No

In this example, a factory produces 148 styles:

148 styles x 2% = 2.96

Round up to the nearest whole number.

The top 3 styles by production volume must undergo RSL testing.

ADHESIVES

Nike considers adhesives (glue, bonding agents) to be at high risk for RSL non-compliance. Testing is required once per year and prior to using any new adhesive in production.

All adhesives test samples must be in an "as applied" state, following the same curing processes that would be used in production whenever applicable.

Samples should be cured and dried on a material that allows the adhesive to be removed for testing at the laboratory. If this is not possible, application to an RSL-compliant material may be required.

In the event that samples cannot be cured following production practices, reach out to RSLsupport@nike.com for guidance.

DIMENSION WELDS

All dimension welds are considered high risk and require testing. No substitutions can be made unless the substitute is also compliant (proven by testing).

METAL PARTS

All metal items are considered high risk and each component must be tested annually or when a base metal is changed.

OTHER: RHINESTONES, SEQUINS, ETC.

These components, due to the presence of metal and plastic materials, are generally considered very high risk for RSL non-compliance. Each component must be tested annually or when a base metal changes. The testing approach varies based upon material type and end use. Consult the testing lab or the Nike RSL team for guidance.

PROMOTIONAL GIVEAWAY ITEMS

All promotional giveaway items bearing a Nike or Affiliate brand logo must meet the requirements listed in the Nike RSL and may be subject to further requirements.

Promotional giveaway items should be tested according to the base material and intended use of the item. Many promotional giveaway items fall into the categories described within this document and should be tested accordingly. This includes items such as customized T-shirts (screenprints), toys, electronics and electrical equipment (EEE) such as luminescent armbands, and various objects (such as water bottles, bracelets, necklaces and dog tags) that come in direct contact with the skin or mouth (leather, plastics, rubber and metal).

If you have a promotional giveaway item that does not clearly fit into a category within the Nike RSL or need help getting the correct (local) requirements, please contact the RSLsupport@nike.com for assistance with the verification process.

In addition to RSL testing, promotional giveaway items must be evaluated for general legal compliance. To obtain this evaluation, please contact lst-product.safety.global@nike.com.

TOYS, ELECTRONIC & ELECTRICAL EQUIPMENT, AND FOOD-CONTACT MATERIALS

The testing requirements for toys, EEE and food contact materials differ from the testing requirements for general Nike Apparel, Footwear and Equipment products. Please refer to the specific RSL lists on the following pages.

Because these products may also require technical files or additional labeling, please consult your Nike RSL contact when developing a product that has the characteristics of a toy, EEE or food-contact material.

RESTRICTED SUBSTANCES LIST

ELECTRICAL& ELECTRONIC COMPONENTS

OVERVIEW

NIKE RESTRICTED SUBSTANCES LIST FOR ELECTRONICS

RSL REQUIREMENTS FOR ELECTRONICS

OVERVIEW

Electrical and electronic components are defined as any component dependent on electric current or electromagnetic fields to function properly.

The following is general guidance:

- When electronics are embedded into a product, both the electronics and the product components must meet the requirements in the Nike RSL for Electronics.
- Any portion of an electrical item that comes into contact with the end user must comply with the lowest limit for a given chemistry on either the standard Nike RSL or the Nike RSL for Electronics.
- Electrical components that don't come into contact with the end user must comply with the Nike RSL for Electronics.
- In addition to chemical restrictions, the Nike Product Safety Team must perform a review of the specific item prior to launch.

Prior to testing any items, please contact the Nike Product Safety Team for specific guidance and confirmation of a compliance approach, please contact the Product Safety Team at lst-product.safety.global@nike.com.

ELECTRICAL AND ELECTRONIC COMPONENTS ARE DEFINED AS ANY COMPONENT DEPENDENT UPON ELECTRICAL CURRENT OR ELECTROMAGNETIC FIELDS TO FUNCTION PROPERLY.

NIKE RESTRICTED SUBSTANCES LIST FOR ELECTRONICS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use)	POTENTIAL USES Textile Processing for Apparel & Footwear	SUITABLE TEST METHOD Sample Preparation & Measurement
	Metals in Battery or Button Cell				
	End-users must be able to easily remove batteries contained in consumer products.				
7440-43-9	Cadmium	5 mg/kg	0.5 mg/kg		Nike in-house method
7439-92-1	Lead	1000 mg/kg	100 mg/kg		Aqua regia/hydrogen peroxide digestion, followed by ICP/ VGA-AAS analysis
7439-97-6	Mercury	Prohibited	0.5 mg/kg		
	Electrical & Electronic Equipment				
	Applicable to equipment that is dependent on electric currents or electromagnetic fields to function properly; is designed for use with a voltage rating not exceeding 1000 volt a.c. or 1500 volt for d.c.; and falls under the categories set out in Annex II of Directive 2011/65/EU.				
85-68-7	Butyl benzyl phthalate (BBP)	1000 mg/kg The restriction of Phthalates DEHP, BBP, DBP and DiBP shall not apply to cables or spare parts for the repair, reuse, updating of functionalities or upgrading of capacity of EEE placed on the market before July 22, 2019.	50 mg/kg		IEC 62321-8:2017
84-74-2	Dibutyl phthalate (DBP)				
117-81-7	Di(ethylhexyl) phthalate (DEHP)				
84-69-5	Di-isobutyl phthalate (DiBP)				
7440-43-9	Cadmium	100 mg/kg	10 mg/kg		IEC62321-5:2013
18540-29-9	Chromium (VI)	1000 mg/kg	100 mg/kg		IEC 62321-7-1:2015 IEC 62321-7-2:2017
7439-92-1	Lead	1000 mg/kg	100 mg/kg		IEC62321-5:2013
7439-97-6	Mercury	1000 mg/kg	100 mg/kg		IEC62321-4:2013
Various	PBDEs and PBBs	1000 mg/kg	100 mg/kg		IEC 62321-6:2015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RESTRICTED SUBSTANCES LIST

TOYS

RSL REQUIREMENTS FOR TOYS

OVERVIEW

A toy is defined as any product or material with play value intended for children less than 14 years of age. Testing requirements apply to products both sold and given away. Toys must meet the lowest limit listed on either the Nike RSL for Toys or listed on the Nike RSL.

Toys must also pass strict mechanical and safety testing beyond these chemical requirements. Always consult with your Nike product safety contact before testing.

TESTING GUIDANCE FOR TOYS

Testing Guidance for Toys (see the table on the next page) specifies toys, toy components and toy materials, as well as applicable chemicals that should not be released above the limits stated.

This table is based on the requirements of EN71-3:2013 and EN71- 9:2005, in association with EN71-10:2005 and EN71-11:2005.

In addition, the Lead Poisoning Prevention Act (LPPA) of the U.S. State of Illinois enforces a warning label provision if the Lead content of paint on toys exceeds 40 mg/kg but is within the U.S. federal limit of 90 mg/kg (for surface coating in CSPIA).

A TOY IS DEFINED AS ANY PRODUCT OR MATERIAL WITH PLAY VALUE INTENDED FOR CHILDREN LESS THAN 14 YEARS OF AGE.

TESTING GUIDANCE FOR TOYS

SPECIFIC TOY OR TOY COMPONENT	MATERIAL	FLAME RETARDANTS	COLORANTS	PRIMARY AROMATIC AMINES	MONOMERS	SOLVENTS – MIGRATION	SOLVENTS – INHALATION	WOOD PRESERVATIVES	PRESERVATIVES	PLASTICIZERS	HEAVY METALS
Toys intended to be mouthed by children less than three years of age	Polymeric				X	X				X	X
Toys or accessible components with a mass of 150 g or less, intended to be played with in the hands of children of less than three years of age	Polymeric				X	X				X	X
	Wood		X	X				X			X
	Paper		X	X							X
Toys or accessible components intended for children less than three years of age	Textile	X	X	X							X
	Leather		X	X					X		X
Mouthpiece components of mouth-actuated toys	Polymeric				X	X				X	X
	Wood		X	X				X			X
	Paper		X	X							X
Inflatable toys with a surface area greater than 0.5 m^2 when fully inflated	Polymeric						X				X
Toys worn over the mouth and nose	Polymeric				X		X				X
	Textile		X	X			X				X
	Paper		X	X							X
Toys a child can enter	Polymeric										X
	Textile										X
Components of graphic instruments sold as toys or used in toys	Polymeric				X					X	X

TESTING GUIDANCE FOR TOYS

SPECIFIC TOY OR TOY COMPONENT	MATERIAL	FLAME RETARDANTS	COLORANTS	PRIMARY AROMATIC AMINES	MONOMERS	SOLVENTS – MIGRATION	SOLVENTS – INHALATION	WOOD PRESERVATIVES	PRESERVATIVES	PLASTICIZERS	HEAVY METALS
Toys and accessible components of toys for indoor use	Wood							X			X
Toys and accessible components of toys for outdoor use	Wood							X			X
Toys and components of toys that mimic food	Polymeric				X	X				X	X
Solid toy materials intended to leave a trace	All		X	X							X
Colored accessible liquids in toys	Liquid		X	X					X		X
Non-colored accessible liquids in toys	Liquid								X		X
Modeling clay, play clay and similar	All		X	X					X		X
Balloon-making compounds	All		X	X			X				X
Imitation tattoos with adhesive	All		X	X		X			X		X
Imitation jewelry	Polymeric		X	X	X	X				X	X
	Metal										X

NIKE RESTRICTED SUBSTANCES LIST FOR TOYS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use) mg/kg = Toy material basis mg/L = Aqueous extract basis	SUITABLE TEST METHOD Sample Preparation & Measurement
	Aromatic Amines			
92-87-5	Benzidine	Not detected For each restricted amine	5 mg/kg	EN71-11
91-59-8	2-Naphthylamine			
106-47-8	4-Chloroaniline			
91-94-1	3,3'-Dichlorobenzidine			
119-90-4	3,3'-Dimethoxybenzidine			
119-93-7	3,3'-Dimethylbenzidine			
95-53-4	o-Toluidine			
90-04-0	o-Anisidine (2-methoxyaniline)			
62-53-3	Aniline			
	Dyes			
2475-45-8	Disperse Blue 1	Not detected For each restricted dye	10 mg/kg	EN71-11
2475-46-9	Disperse Blue 3			
12223-01-7	Disperse Blue 106			
61951-51-7	Disperse Blue 124			
2832-40-8	Disperse Yellow 3			
730-40-5	Disperse Orange 3			
12223-33-5, 13301-61-6	Disperse Orange 37/76			
2872-52-8	Disperse Red 1			
60-09-3	Solvent Yellow 1			
60-11-7	Solvent Yellow 2			
97-56-3	Solvent Yellow 3			
569-61-9	Basic Red 9			
8004-87-3	Basic Violet 1			
548-62-9	Basic Violet 3			
3761-53-3	Acid Red 26			
1694-09-03	Acid Violet 49			

NIKE RESTRICTED SUBSTANCES LIST FOR TOYS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use) mg/kg = Toy material basis mg/L = Aqueous extract basis	SUITABLE TEST METHOD Sample Preparation & Measurement
	Elastomers			
	Toys intended for use by children less than 36 months of age or intended to be placed in the mouth.			
1116-54-7	N-nitrosodiethanolamine	N-nitrosamines ≤ 0.01 mg/kg N-nitrosatable substance ≤ 0.1 mg/kg	N-nitrosamines ≤ 0.01 mg/kg N-nitrosatable substance ≤ 0.1 mg/kg	EN71-12
62-75-9	N-nitrosodimethylamine			
55-18-5	N-nitrosodiethylamine			
621-64-7	N-nitrosodipropylamine			
601-77-4	N-nitrosodiisopropylamine			
924-16-3	N-nitrosodibutylamine			
997-95-5	N-nitrosodiisobutylamine			
1207995-62-7	N-nitrosodiisononylamine			
59-89-2	N-nitrosomorpholine			
100-75-4	N-nitrosopiperidine			
5336-53-8	N-nitrosodibenzylamine			
614-00-6	N-nitroso-N-methyl-N-phenylamine			
612-64-6	N-nitroso-N-ethyl-N-phenylamine			
	Flame Retardants			
78-30-8	Tri-o-cresyl phosphate	Not detected	50 mg/kg each	EN71-11
115-96-8	Tris(2-chloroethyl) phosphate			

NIKE RESTRICTED SUBSTANCES LIST FOR TOYS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use) mg/kg = Toy material basis mg/L = Aqueous extract basis	SUITABLE TEST METHOD Sample Preparation & Measurement
	Total Lead in Paint			
	Total Lead in paint on toys	Warning label required if Lead content is greater than 40 mg/kg but less than 90 mg/kg	40 mg/kg	Nike in-house method
	Metals			
		Values in parentheses refer to modeling clay, play clay and similar		ASTM F 963
7440-36-0	Antimony	60 mg/kg	5 mg/kg	
7440-38-2	Arsenic	25 mg/kg	2.5 mg/kg	
7440-39-3	Barium	1,000 mg/kg (250 mg/kg)	100 mg/kg	
7440-47-3	Chromium	60 mg/kg (25 mg/kg)	3 mg/kg	
7440-43-9	Cadmium	75 mg/kg (50 mg/kg)	25 mg/kg	
7439-92-1	Lead	90 mg/kg	50 mg/kg	
7439-97-6	Mercury	60 mg/kg (25 mg/kg)	5 mg/kg	
7782-49-2	Selenium	500 mg/kg	50 mg/kg	

NIKE RESTRICTED SUBSTANCES LIST FOR TOYS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component			LABORATORY LIMITS Reporting Limit (For Lab Use) mg/kg = Toy material basis mg/L = Aqueous extract basis			SUITABLE TEST METHOD Sample Preparation & Measurement
	Metals							
		Category 1 Dry, brittle, powder-like or pliable toy material	Category 2 Liquid or sticky toy material	Category 3 Scraped-off toy material	Category 1 Dry, brittle, powder-like or pliable toy material	Category 2 Liquid or sticky toy material	Category 3 Scraped-off toy material	
	Aluminium	5,626 mg/kg	1,406 mg/kg	70,000 mg/kg	50 mg/kg	50	50 mg/kg	
	Antimony	45 mg/kg	11.3 mg/kg	560 mg/kg	1 mg/kg	1	10 mg/kg	
	Arsenic	3.8 mg/kg	0.9 mg/kg	47 mg/kg	0.5	0.5	10 mg/kg	
	Barium	1,500 mg/kg	375 mg/kg	18,750 mg/kg	50	50	50 mg/kg	
	Boron	1,200 mg/kg	300 mg/kg	15,000 mg/kg	50	50	50 mg/kg	
	Cadmium	1.3 mg/kg	0.3 mg/kg	17 mg/kg	0.1	0.1	5 mg/kg	
	Chromium (III)	37.5 mg/kg	9.4 mg/kg	460 mg/kg	1	1	1 mg/kg	
	Chromium (VI)	0.02 mg/kg	0.005 mg/kg	0. 053 mg/kg	0.018	0.005	0. 053 mg/kg	
	Cobalt	10.5 mg/kg	2.6 mg/kg	130 mg/kg	0.5	0.5	10 mg/kg	
	Copper	622.5 mg/kg	156 mg/kg	7,700 mg/kg	50	50	50 mg/kg	EN 71-3:2013 + A3:2018
	Lead	2.0 mg/kg	0.5 mg/kg	23 mg/kg	0.5	0.5	10 mg/kg	
	Manganese	1,200 mg/kg	300 mg/kg	15,000 mg/kg	50	50	50 mg/kg	
	Mercury	7.5 mg/kg	1.9 mg/kg	94 mg/kg	0.5	0.5	10 mg/kg	
	Nickel	75 mg/kg	18.8 mg/kg	930 mg/kg	10	10	10 mg/kg	
	Selenium	37.5 mg/kg	9.4 mg/kg	460 mg/kg	5	5	10 mg/kg	
	Strontium	4,500 mg/kg	1,125 mg/kg	56,000 mg/kg	50	50	50 mg/kg	
	Tin	15,000 mg/kg	3,750 mg/kg	180,000 mg/kg	0.36	0.08	4.9 mg/kg	
	Organic Tin	0.9 mg/kg	0.2 mg/kg	12 mg/kg	0.2	0.14	0.5 mg/kg	
	Zinc	3,750 mg/kg	938 mg/kg	46,000 mg/kg	50	50	50 mg/kg	

NIKE RESTRICTED SUBSTANCES LIST FOR TOYS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use) mg/kg = Toy material basis mg/L = Aqueous extract basis	SUITABLE TEST METHOD Sample Preparation & Measurement
	Monomers			
79-06-1	Acrylamide	Not detected	0.02 mg/L	EN71-11 Limits are in terms of mg monomer per liter of simulant
80-05-7	Bisphenol-A	0.1 mg/L	0.01 mg/L	
50-00-0	Formaldehyde	2.5 mg/L	0.2 mg/L	
108-95-2	Phenol	15 mg/L	1.0 mg/L	
100-42-5	Styrene	0.75 mg/L	0.2 mg/L	
	Plasticizers			
115-86-6	Triphenyl phosphate	Not detected For each plasticizer listed	0.03 mg/L For each phosphate plasticizer listed	EN71-11
78-30-8	Tri-o-cresyl phosphate			
563-04-2	Tri-m-cresyl phosphate			
78-32-0	Tri-p-cresyl phosphate			
	All esters of Phthalic Acid, including but not restricted to:			
28553-12-0	Di-isononyl phthalate (DINP)	Not detected Sum total of all Phthalic Acid Esters	50 mg/kg Sum total of all Phthalic Acid Esters	Nike in-house method Determination of defined Ortho-Phthalic Esters in Synthetic Fibers and Thermoplastics by LC-DAD-MS or GC-MS Confirmation of failure by fragmentation HPLC-MS
117-81-7	Di(ethylhexyl) phthalate (DEHP)			
117-84-0	Di-n-octyl phthalate (DNOP)			
26761-40-0	Di-iso-decyl phthalate (DIDP)			
85-68-7	Butyl benzyl phthalate (BBP)			
84-74-2	Dibutyl phthalate (DBP)			
84-69-5	Diisobutylphthalate (DIBP)			
117-82-8	Di-(2-methoxyethyl) phthalate (DMEP)			
131-18-0	Dipentyl phthalate (DPP)			
84-75-3	Di-n-hexyl phthalate (DnHP)			
84-61-7	Dicyclohexyl phthalate (DCHP)			
84-66-2	Diethylphthalate (DEP)			

NIKE RESTRICTED SUBSTANCES LIST FOR TOYS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use) mg/kg = Toy material basis mg/L = Aqueous extract basis	SUITABLE TEST METHOD Sample Preparation & Measurement
	Polycyclic Aromatic Hydrocarbons (PAHs)			
	Benzo(a)pyrene	For items coming into contact with the mouth or skin <0.5 mg/kg for each PAH Also see expanded list of PAHs in the Nike RSL	0.2 mg/kg	CNS 3478 Clause 6.18 (plastic shoes) ZEK 01.4-8 (other)
58-89-9	Benzo(e)pyrene			
68359-37-5	Benzo(a)anthracene			
52315-07-8	Chrysene			
52918-63-5	Benzo(b)fluoranthene			
52645-53-1	Benzo(j)fluoranthene			
108-95-2	Benzo(k)fluoranthene			
2634-33-5	Dibenzo(a,h)anthracene			
	Preservatives			
	Pentachlorophenol (PCP) and its salts	Not detected	2 mg/kg	EN71-11
58-89-9	Lindane	Not detected	2 mg/kg	
68359-37-5	Cyfluthrin	Not detected	10 mg/kg	
52315-07-8	Cypermethrin	Not detected	10 mg/kg	
52918-63-5	Deltamethrin	Not detected	10 mg/kg	
52645-53-1	Permethrin	Not detected	10 mg/kg	
108-95-2	Phenol	Not detected	10 mg/kg	
2634-33-5	1,2-Benzylisothiazolin-3-one	Not detected	5 mg/kg	
2682-20-4	2-methyl-4-isothiazolin-3-one	15 mg/kg (sum total)	10 mg/kg (sum total)	
26172-55-4	5-chloro-2-methyl-4-isothiazolin-3-one			
50-00-0	Formaldehyde	500 mg/kg	400 mg/kg	

NIKE RESTRICTED SUBSTANCES LIST FOR TOYS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use) mg/kg = Toy material basis mg/L = Aqueous extract basis	SUITABLE TEST METHOD Sample Preparation & Measurement
	Solvents – Inhalation			
108-88-3	Toluene	260 µg/m³	260 µg/m³	EN71-11
100-41-4	Ethylbenzene	5,000 µg/m³	5,000 µg/m³	
95-47-6	o-Xylene	Total: 870 µg/m³	Total: 870 µg/m³	
108-38-3	m-Xylene			
106-42-3	p-Xylene			
108-67-8	Mesitylene (1,3,5-trimethylbenzene)	2,500 µg/m³	2,500 µg/m³	
79-01-6	Trichlorethylene	Not detected	Not detected	
75-09-2	Dichloromethane	3,000 µg/m³	3,000 µg/m³	
110-54-3	n-Hexane	1,800 µg/m³	1,800 µg/m³	
98-95-3	Nitrobenzene	Not detected	Not detected	
108-94-1	Cyclohexanone	136 µg/m³	136 µg/m³	
78-59-1	Isophorone	200 µg/m³	200 µg/m³	
71-43-2	Benzene	Not detected	Not detected	

NIKE RESTRICTED SUBSTANCES LIST FOR TOYS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use) mg/kg = Toy material basis mg/L = Aqueous extract basis	SUITABLE TEST METHOD Sample Preparation & Measurement
	Solvents – Migration			
79-01-6	Trichloroethylene	Not detected	0.02mg/L	EN71-11
75-09-2	Dichloromethane	0.06 mg/L	0.03 mg/L	
110-49-6	2-Methoxyethyl acetate	0.5mg/L (sum total)	0.1 mg/L	
110-80-5	2-Ethoxyethanol			
111-15-9	2-Ethoxyethyl acetate			
111-96-6	Bis-(2-methoxyethyl) ether			
70657-70-4	2-methoxypropyl acetate			
67-56-1	Methanol	5 mg/L	1 mg/L	
98-95-3	Nitrobenzene	Not detected	0.02 mg/L	
108-94-1	Cyclohexanone	46 mg/L	3 mg/L	
78-59-1	3,5,5-trimethyl-2-cyclohexen-1-one (isophorone)	3 mg/L	0.6 mg/L	
108-88-3	Toluene	2 mg/L	0.5 mg/L	
100-41-4	Ethylbenzene	1 mg/L	0.1 mg/l	
95-47-6	o-Xylene	2 mg/L (sum total)	0.1 mg/L	
108-38-3	m-Xylene			
106-42-3	p-Xylene			
71-43-2	Benzene	5 mg/L	1 mg/L	

NIKE RESTRICTED SUBSTANCES LIST FOR TOYS

CAS NO.	SUBSTANCE	NIKE LIMITS Maximum Allowable Concentration in Component	LABORATORY LIMITS Reporting Limit (For Lab Use) mg/kg = Toy material basis mg/L = Aqueous extract basis	SUITABLE TEST METHOD Sample Preparation & Measurement
Chemicals in toys intended for use by children less than 36 months of age or in toys intended to be placed in the mouth				
115-96-8	Tris(2-chloroethyl) phosphate (TCEP)	5 mg/kg (content limit) each	Total: 870 µg/m^3	EN71-11
13674-84-5	Tris(1-chloro-2-propyl) phosphate (TCPP)			
13674-87-8	Tris(1,3-dichloro-isopropyl) phosphate (TDCPP)			
80-05-7	Bisphenol-A (BPA)	0.04 mg/L (migration limit)	0.02 mg/L	
75-12-7	Formamide	20 µg/m3 (emission limit) 200 mg/kg (content limit)	10 µg/m3 (emission limit) 50 mg/kg (content limit)	
2634-33-5	1,2-benzisothiazol-3(2H)-one	5 mg/kg (content limit) for aqueous toys materials	5 mg/kg	
55965-84-9	Reaction mass of: 5-chloro-2- methyl-4-isothiazolin3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	1 mg/kg (content limit) for aqueous toys materials	1 mg/kg	
26172-55-4	5-Chloro-2-methyl-isothiazolin-3(2H)-one	0.75 mg/kg (content limit) for aqueous toys materials	0.75 mg/kg	
2682-20-4	2-methylisothiazolin-3(2H)-one	0.25 mg/kg (content limit) for aqueous toys materials	0.25 mg/kg	
108-95-2	Phenol	5 mg/L (migration limit) in polymeric materials 10 mg/kg (content limit) as a preservative	5 mg/L (migration) 10 mg/kg (content)	

RESTRICTED SUBSTANCES LIST

PACKAGING

OVERVIEW

TESTING REQUIREMENTS

SCOPE OF THE PACKAGING RSL

NIKE PACKAGING RESTRICTED SUBSTANCES LIST

RSL REQUIREMENTS FOR PACKAGING

OVERVIEW

At Nike, packaging represents our brand — communicating our brand ideals as well as product knowledge we want to share with customers. The chemistry in our packaging must reflect our values as a company as we push to increase worker safety and reduce our environmental footprint.

The following pages contain Nike's Packaging Restricted Substance List (PRSL) for 2019. It outlines mandatory standards, test limits and appropriate test methods for packaging.

PACKAGING DIRECTIVE

Packaging (made of any substrate) is defined by the "Packaging and Packaging Waste Directive 94/62/EC" (as amended by 2004/12/EC) and the Coalition of Northeastern Governors (CONEG) model legislation.

This information ensures that:

- Nike packaging complies with global legislation.
- Nike products are not contaminated by packaging materials.
- Standard test methods are used for packaging.
- Packaging is designed and produced with environmental sustainability in mind.

The full version of the PRSL and Packaging Design Requirements (PDR) is available online at the Nike Chemistry website.

Please note that as regulatory or consumer requirements change, Nike will update the PRSL as necessary. Nike is committed to giving suppliers as much advance warning as possible with regard to changes to test limits.

Nike requires all packaging vendors to sign and return the current Nike PRSL/PDR Acknowledgment Form. (Refer to the full PRSL/PDR at the Nike Chemistry website.)

- Nike only accepts results from Nike-approved laboratories.
- Suppliers must provide Nike with all testing results, certified information regarding compliance and supporting documentation within three business days of such a request.
- Suppliers must retain all technical files and test results for at least 10 years.
- Nike expects suppliers to conduct chemical testing every two years, at a minimum, for each packaging component.

Compliance with the PRSL and the PDR is required.

Nike may perform random testing to monitor and ensure compliance with these standards or request testing information from suppliers at any time regarding any packaging material.

TESTING REQUIREMENTS

Suppliers may only produce packaging components and systems that pass PRSL testing as outlined.

Nike requires that all new finished packaging pieces be tested in their final state. Suppliers may choose to test components before the final piece is submitted to address potential concerns. Note that Nike does not require testing of components or materials, only finished packaging components or pieces.

The tests listed in the PRSL for "All Packaging" are required for all packaging materials, regardless of substrate.

The following pages also outline additional testing requirements for plastics and non-pulp woods. No additional tests are required for paper materials.

The Implementation section of the Nike RSL provides instructions on test sample preparation and sample submission to approved labs.

PACKAGING RSL FAILURES & REPORTING

If a supplier experiences a PRSL testing failure, contact the Nike Packaging representative immediately. petra.knapp@nike.com

SCOPE OF THE PACKAGING RSL

All packaging materials, components and systems must comply with the PRSL. This list provides examples of packaging, but should not be considered all-inclusive.

PAPER & WOOD	PLASTIC & WRAP	FINISHING, DYES & INKS	METAL	TEXTILES	MISCELLANEOUS
Boxes	Boxes (single-pack and multi-pack)	Cellulose laminates	Magnets	Synthetic textiles	Silica gel/desiccant sachets
Corrugated dot com shipping boxes	Hang tags	Coatings containing heavy metals	Bead chain	Plant-based textiles	Antimicrobial stickers
Corrugated shipping boxes	Plastic cases	Foil stamping	Eyelets/grommets	Natural fibers (i.e. animal fiber, wool)	Stuffing materials, expanded foam materials
Gift boxes	Poly bags	Hot-stamp printing	Pins		
Hang tags	Price tags	Matte or gloss lamination			
J board	Retail carry bags	Soft-touch coating			
Labels (adhesive)	Zipper poly bags	Spot UV			
Stuffing	Stickers	Uncoated			
Tissue paper	Tape	UV coating			
UPC tags		Varnish coatings			
Stickers		Water-based (aqueous) lacquer coatings			
Tape					
Thermal receipt paper					

NIKE PACKAGING RESTRICTED SUBSTANCES LIST

PACKAGING/ COMPONENT	RESTRICTED SUBSTANCES/MATERIALS	NIKE LIMITS Maximum Allowable Concentration per Component	LABORATORY LIMITS Reporting Limit (For Lab Use) Per Substance Concentration in Product	SUITABLE TEST METHOD
ALL PACKAGING + Additional Tests • Plastics • Wood	**Metals**			
	Cadmium	Sum of all listed metals must be < 100 mg/kg (0.01%) Not to be intentionally added	10 mg/kg each	IEC 62321
	Lead			
	Mercury			
	Chromium (VI)			
	Formaldehyde			
	Not required for metal components	150 mg/kg All packaging that tests greater than 75 mg/kg must be reported to Nike representative.	20 mg/kg All packaging that tests greater than 75 mg/kg must be reported to Nike representative.	ISO 14184-2 (Modified to 80°C) Released Formaldehyde

NIKE PACKAGING RESTRICTED SUBSTANCES LIST

PACKAGING/ COMPONENT	RESTRICTED SUBSTANCES/MATERIALS	NIKE LIMITS Maximum Allowable Concentration per Component	LABORATORY LIMITS Reporting Limit (For Lab Use) Per Substance Concentration in Product	SUITABLE TEST METHOD
PLASTICS Plastic materials must undergo these additional tests.	**Butylhydroxytoluine**			
	Butylhydroxytoluine (BHT) (128-37-0)	Not detected	Not detected	ASTM D4275 – 09, "Standard Test Method for Determination of Butylated Hydroxy Toluene (BHT) in Polymers of Ethylene and Ethylene–Vinyl Acetate (EVA) Copolymers by Gas Chromatography"
	Phthalates			
	All esters of o–Phthalic Acid including but not restricted to:			
	Di-isononyl phthalate (DINP) (28553-12-0)	Total: < 500 mg/kg	50 mg/kg each	Nike – In-house Method Determination of defined Ortho-Phthalic Esters in Synthetic Fibers and Thermoplastics by LC-DADMS or GC-MS Confirmation of failure by fragmentation HPLC-MS
	Di(ethylhexyl) phthalate (DEHP (117-81- 7)			
	Di-n-octyl phthalate (DNOP) (117-84-0)			
	Di-iso-decyl phthalate (DIDP) - (26761-40-0)			
	Butyl benzyl phthalate (BBP) - (85-68-7)			
	Dibutyl phthalate (DBP) (84-74-2)			
	Di-isobutyl phthalate (DiBP) (84-69-5)			

NIKE PACKAGING RESTRICTED SUBSTANCES LIST

PACKAGING/ COMPONENT	RESTRICTED SUBSTANCES/MATERIALS	NIKE LIMITS Maximum Allowable Concentration per Component	LABORATORY LIMITS Reporting Limit (For Lab Use) Per Substance Concentration in Product	SUITABLE TEST METHOD
WOOD **NON-PULP** Wood materials must undergo these additional tests.	**Pentachlorophenol**			
	Pentachlorophenol, its salts and esters	0.2 mg/kg Sum of all Pentachlorophenols	0.1 mg/kg	EPA Method 8270 or similar
ALL PACKAGING All materials must comply with these standards and chemical lists. Testing may not be required if suppliers are confident they are following best practices for chemicals management in their facilities. Nike may require proof of compliance for any packaging material, component or system at any time.	**General PRSL Compliance Requirements**			
	Active Packaging Mold-Prevention Packaging	Not allowed	N/A	N/A
	Odor	Not unpleasant (grade 2)	Qualitative method	SNV 195651
	REACH Substances of Very High Concern (SVHCs) Current list is available at: www.echa.europa.eu/candidate-list-table	The lowest level of either: < 1000 mg/kg	Varies by analyte	Varies by analyte
	C8-based Perflourinated chemistries, including PFOA and PFOS Nike phase out for any packaging with water- or oil-repellent characteristics.	Not detected	0.005 mg/kg	Nike in-house method: Methanol extraction followed by LC-MS-MS or LC-MS-TOF
	Polyvinyl Chloride (PVC) in coated, printed or plastic materials	Not detected	Due to complexity of the analysis, Nike defines detection limit as 10%	Beilstein Test and IR Spectroscopy; confirmation by both tests indicate the presence of PVC

ADDITIONAL GUIDELINES

ODOR MANAGEMENT, ANTIMICROBIAL & SCENTED MATERIALS

NANOTECHNOLOGY MATERIALS

ANIMAL SKINS

ODOR MANAGEMENT, ANTIMICROBIAL & SCENTED MATERIALS

OVERVIEW

Nike defines odor-management technologies as chemicals, ingredients and materials that inhibit microbial growth, capture odors and/or mask odors with scents.

These include, but are not limited to, odor-management technologies identified as biocides, biostats, antibacterials, antimicrobials, odor capture and scented items/ingredients.

Odor-management technologies can offer benefits for apparel, footwear and athletic equipment. However, these technologies need to be carefully assessed to understand the implications of their use. Nike only allows the use of odor-management technologies after an approval process in which stringent criteria must be met. These criteria apply to any odor-management technologies that are applied to or are included with a product.

Certain jurisdictions require disclosures with the products when certain odor management, antimicrobial or scented materials are used. Consult your product safety team to ensure proper disclosures are made.

CRITERIA

The following criteria are designed to ensure that the chances of any impacts associated with the use of odor management technologies are minimized, if not eliminated.

For any odor management technology to be considered it must:

- Be proven effective for our product types.
- Pass a Nike chemical assessment.[A]
- Comply with the Nike RSL and related policies.[B]
- Not leach or release chemicals during wear or care to impart an antimicrobial effect.
- Meet all relevant global legislative standards, including appropriate registration following the European Union EU Biocidal Products Directive.
- Be listed on the bluesign® bluefinder when applicable.

RESTRICTIONS

Nike has previously identified specific odor-management technologies that do not comply with one or more of our restrictions. These include the following odor management technologies that are known to intentionally release substances to be effective, including:

- Copper
- Silver
- Organotins
- Triclosan
- Pentachlorophenol
- Dimethylfumerate

Odor management technologies that contain these chemicals are prohibited for Nike products.

Odor-management technologies may also be subject to additional restrictions under Nike's Nanomaterials policy.

NOTES

A The Nike chemical assessment for odor management technologies includes, but is not limited to:

- Evaluation of toxicity and hazard benchmarking.
- Evaluation of potential occupational exposures and necessary controls.
- Evaluation of possible manufacturing impacts associated with environmental release.
- Consideration of movement and accumulation in the environment.

B Scented items, perfumes and related technologies may be subject to additional cosmetics rules and legislation. Each item must undergo review by the Nike Product Safety Team: lst-product.safety.global@nike.com

NANOTECHNOLOGY MATERIALS

OVERVIEW

Nanomaterials are chemical substances or materials with particle sizes between 1 to 100 nanometers (nm) in at least one dimension.

Structures created from the aggregation of nanomaterials are also subject to these requirements.

Nanomaterials can exhibit unique chemical and physical properties that improve the performance of products.

While nanomaterials are currently used in a wide variety of products like pharmaceuticals, electronics, and cosmetics, they can also have applications in apparel, footwear and athletic equipment.

Understanding potential impacts to human health and the environment associated with nanomaterials can be much more complicated than the processes used for conventional materials and chemicals. The toxicity, exposure mechanisms, and movement in the environment make nanomaterials unique.

Nike only allows the use of nanomaterials after an approval process in which stringent criteria must be met. These criteria apply to any substance, compound or application that includes nanomaterials intentionally used in the manufacture of a Nike product or are present in the finished product.

CRITERIA

The following criteria are designed to ensure that impacts associated with the use of nanomaterials are minimized or eliminated.

For any nanomaterial to be considered for use it must:

- Be proven effective in the intended application.
- Pass a Nike chemical assessment.[A]
- Not intentionally or unintentionally release from a product during wear or care.
- Comply with relevant global regulations and be appropriately registered according to European Union requirements (e.g., EU Biocide Directive if used as bacteriostatic agent).
- Comply with the Nike RSL and related policies.

Nike evaluates the use of nanomaterials for products on a case-by-case basis using best practices[B] to assess possible risks associated with specific nanomaterials for specific uses.

Nanomaterials may also be subject to additional restrictions under Nike's Odor Management policy.

NOTES

A The Nike chemical assessment for nanomaterials may include, but is not limited to, the following:

- Evaluation of toxicity and hazard benchmarking.
- Use of nanomaterials-specific assessment frameworks and tools.
- Review of existing scientific data on nanomaterial hazards and safety.
- Evaluation of potential occupational and environmental exposures.
- Consideration of movement and accumulation in the environment.

B See best practices for assessing hazard from the European Chemicals Agency (ECHA).

ANIMAL SKINS

OVERVIEW

The following policy applies to Nike brand products or Nike Affiliate brand products (collectively "Products") that contain animal skin materials ("Animal Skins").

PERMITTED ANIMAL SKINS

The following Animal Skins are permitted for use in Products:

- Sheep (leather + hair-on hides / shearling; includes lamb)
- Cow (leather + hair-on hides)
- Goat
- Pig
- Kangaroo (If wild caught, must be sourced from actively managed populations with government agency oversight.)

SOURCE COUNTRIES

- Permitted Animal Skins may be sourced in all countries, except for China, India, or the Amazon Biome, as more specifically explained below.
- Products made with Animal Skins must be accompanied by the appropriate Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) or other required export certificate where applicable.

RESTRICTIONS

- Animal Skins (specifically cow) must not be sourced in the Amazon Biome (see policy below).
- Animal Skins must not be considered exotic or protected. Examples include, but are not limited to, alligator, cheetah, crocodile, elephant, fish, horse, leopard, lion, lizard, marine mammals, ostrich, shark, snake, tiger, rays, rhinoceros, etc.
- Animal Skins must not be derived from any species of domesticated or feral dog or cat.
- Animal Skins must not be "fur," except that cow "hair-on" hides or sheep shearling are permitted as provided above.
- Nike supports the use of wool fiber that is sourced and certified from non–mulesed sheep and will consolidate its wool sourcing accordingly, as rapidly as supplies and pricing allow.
- Nike supports down sourced from vendors that produce as a by-product of the meat industry. Vendors do not supply down harvested from live birds nor sourced as a by-product of the foie gras industry.
- Angora Rabbit: Nike requires that animal products are obtained in humane and responsible ways including Angora rabbit wool. This requirement precludes the use of live plucking.

AMAZON BIOME LEATHER SOURCING

- Raw hides / leather used in Nike products will not be produced from cattle raised in the Amazon Biome as defined by IBGE.
- Nike Brazilian hide / leather suppliers are required to certify, in writing, that they are supplying hides / leather for Nike products from cattle raised outside of the Amazon Biome.
- Suppliers of Brazilian hides / leather for Nike products must have an ongoing, traceable and transparent system to provide credible assurances that hides / leather used for Nike products are from cattle raised outside of the Amazon Biome.
- Nike will review suppliers' progress in establishing an ongoing, traceable and transparent system on a quarterly basis.

If suppliers are unable to provide credible assurances that hides/leather used for Nike products are from cattle raised outside of the Amazon Biome, Nike will consider increasing the exclusion area to include all of the Amazon Legal (as defined by IBGE).

ANIMAL SKINS

DEFINITIONS

- **Raised.** Refers to cattles' entire life.
- **IBGE.** Brazil's National Institute of Geography and Statistics.
- **Amazon biome.** Amazon rainforest and its related ecosystem. The boundary of the Amazon Biome within Brazil is defined by the Brazilian Institute of Geography and Statistics (IBGE).
- **Amazon Legal.** The entirety of the nine Brazilian states that contain portions of the Amazon Biome (Acre, Amazonas, Roraima, Amapá, Pará, Rondônia, Mato Grosso, Tocantins and Maranhão).

RELATED GUIDANCE

ANIMAL WELFARE

Suppliers must source Animal Skins from processors that use sound animal husbandry and humane animal treatment / slaughtering practices whether farmed, domesticated, or wild (managed).

LEATHER WORKING GROUP (LWG)

Leather suppliers must screen tanning processes against the LWG Protocol to ensure adherence to best environmental practices. Visit www.leatherworkinggroup.com.

NIKE RSL

Suppliers of Animal Skins must comply with the Nike RSL.

TRACEABILITY

Suppliers must to have the ability to trace raw hides / skins back to country of origin.

INTEGRITY

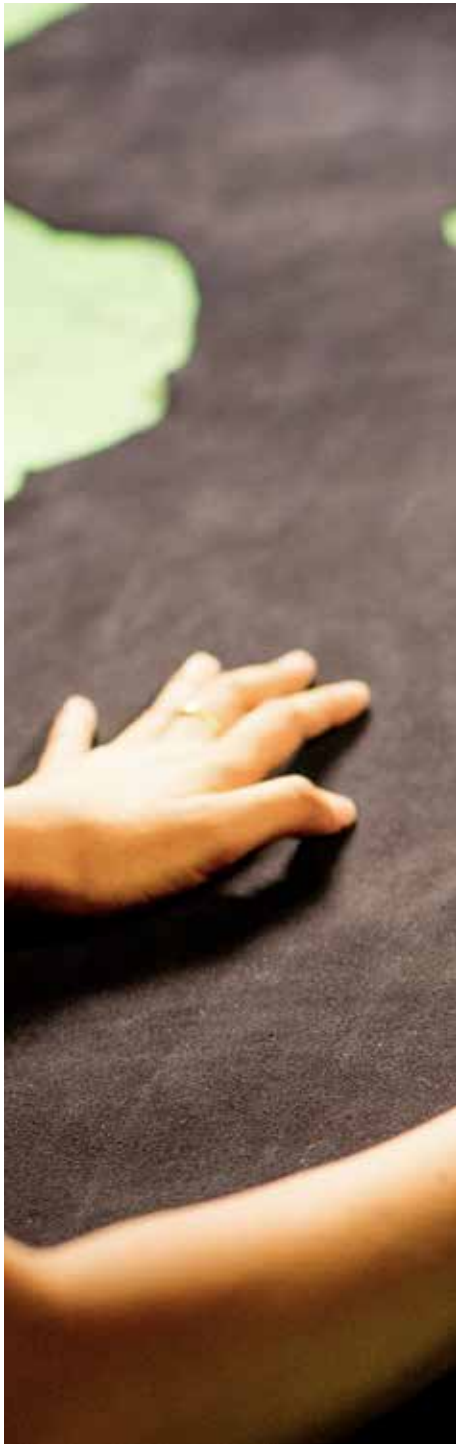
Animal Skins' identification of species must be accurate (i.e. scientific, Latin and common names) as appropriate for legal import/export of materials and product.

LEGISLATION

Suppliers must meet all applicable global legislative standards that apply to Animal Skins.

TRADE REGULATIONS

Suppliers must comply with country-specific import/export trade regulations that apply to Animal Skins.



CONTACTS

NIKE & AFFILIATES

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NIKE & AFFILIATES

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