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THE FINAL WORD

The official e-newsletter
of

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Article

1. Unique and Facinating : Chemistry at NIKE

What is NIKE working on?

Achieving the goal of zero discharge of hazardous chemicals requires more than the implementation of their (NIKE) internal programs. It demands their continued commitment to collaborate with industry peers, aligning on how they manage chemicals across a shared supply chain.

Why is Chemistry so important for NIKE?

In general terms, every product made in the world has a chemical component. Chemistry is how we discover new materials and improve what we've got, hence why it's so important that we get the chemistry right. And the same is considered at NIKE.

However, the ZDHC is only one step in the journey. This ambition to reduce Nike's impact requires more than the implementation of its Restricted Substance List (RSL) and Manufacturing Restricted Substance List (MRSL). It demands a commitment to work with industry peers, so they can align on how they manage chemicals across a shared supply chain.

Why Chemistry: NIKE's Approach

Chemistry plays an essential role in product innovation and manufacturing at Nike. It can influence and elevate product performance and design, yet chemistry can also affect the sustainability of the overall product creation process. In conjunction with the Zero Discharge of Hazardous Chemicals Foundation (ZDHC), NIKE has committed to an ambitious goal of zero discharge of hazardous chemicals in its supply chain by 2020.

Focused on three major Areas:

Elevating Chemicals Management Capability,

Assessing New Chemicals: Going beyond compliance by strengthening their review of new chemicals through a robust toxicological screening process,

Prioritizing Chemicals: Ahead of compliance, identifying priority chemicals for phase-out based on an intensive review of the chemicals used throughout their supply chain's manufacturing processes.

Considered Chemistry at Nike: Creating Safer Products through the Evaluation and Restriction of Hazardous Chemicals.

When you hear the word Nike, immediately what comes to mind are sneakers, the "Swoosh" logo, or Michael Jordan gracefully depositing a basketball in a waiting rim. Typically, one does not think about the vast array of materials that go into Nike products, the chemicals that make up those materials, and how both are chosen or, for that matter, rejected. Up until the mid-1990s, the company chose materials to meet performance and cost targets. Then, inspired by Paul Hawken and driven to respond to outside critics, Nike began to shoot for a third goal: Sustainability.

Nike's: Chemistry Focus, Consideration and Evaluation

Launched in 2005, Nike assembled a team of chemists, biologists, material specialists and designers and charged them with the task of fundamentally integrating environmental sustainability with other Nike product design objectives.

Specifically, Nike Considered Index evaluates the following attributes:

Solvents—the intensity of use of solvent-based cleaners, primers and solvents in footwear assembly as well as in decorative applications

Waste—in footwear, the waste footprint created in the manufacturing processes for material cutting, midsoles, sockliners, decorative applications, tooling use; in apparel, the waste footprint created in fabric cutting at the garment factory.

Material—a life cycle analysis approach to material evaluation which considers growing and extraction practices, chemistry, energy intensity, energy source, water intensity, waste, recycled content and end-of-life for both footwear and apparel

Garment Treatments—the use of post-assembly garment treatments in apparel.

Innovation—significant new solutions to product-related environmental impact issues that are not currently captured in the Index criteria for both footwear and apparel.

One of Nike's long-term corporate environmental goals is to eliminate substances known or suspected to be harmful to human health or the environment. In 2004, the company stated that it would proactively target, remove, or replace chemicals that, while not illegal to use, fit the scientific definition of toxic. Nike developed several programs to help realize this goal:

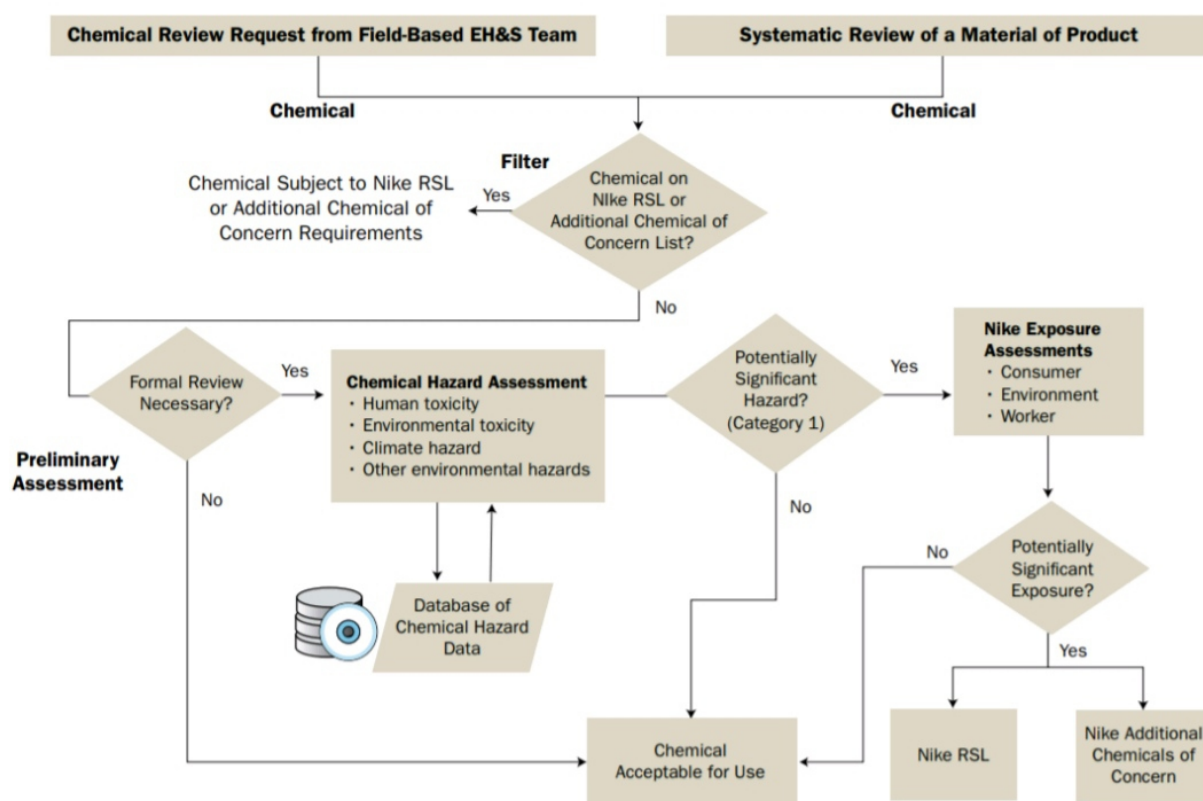
- a. A Restricted Substances List Program (RSL Program);
- b. An initiative to reduce the use of toxic chemicals in manufacturing operations;
- c. An on-going initiative to evaluate material platforms to develop environmentally preferred materials
- d. A chemical review process to evaluate individual chemicals.

Nike's Chemical Review Process

Step 1. Filter The process starts with the identification of a chemical, either during a systematic review of a material or product or through a request by a field-based environmental health and safety team to evaluate a chemical. The reviewer determines whether the chemical is already restricted by the existing RSL guidance or is a Nike Additional Chemical of Concern.

Step 2. Preliminary Assessment A preliminary assessment is conducted by a Nike toxicologist to determine whether a more detailed, formal review of the chemical is necessary. If the chemical is considered acceptable for use, i.e., it is a well-known chemical that is generally accepted as safe, no further evaluation is done. If the chemical cannot be deemed acceptable in this stage, it proceeds to a formal review.

Step 3. Formal Chemical Review Process Step 3a. Chemical Hazard Assessment Nike's approach to chemical hazard assessment follows the Organization for Economic and Cooperative Development (OECD) Harmonized Integrated Classification System for Human and Environmental Hazards of Chemical Substances and Mixtures. Nike chose the OECD system because it has gained wide acceptance among several countries, toxicologists and environmental chemists and has become an internationally recognized standard for the analysis of mammalian and aquatic toxicity.



Nike's assessment scheme evaluates chemicals across 18 hazard characteristics, listed below.

Chemical Hazard Characteristics:

- Acute toxicity
- Irritation of skin
- Eye irritation
- Skin or respiratory sensitization
- Genetic Toxicity/Mutagenicity
- Carcinogenicity
- Reproductive/Developmental Toxicity
- Specific target organ toxicity following repeated exposures
- Endocrine effects
- Chemical interactions/reactions
- Aquatic toxicity— Acute (Fish, crustacean, algae)
- Bioaccumulation potential
- Degradability/Persistence
- PBT Classification (Persistent Bioaccumulative Toxicant)
- Halogenated Organic Compound (AOX)
- Heavy metal content
- Climatic hazard (greenhouse gas)
- Other environmental classification (toxicity to soil organisms, terrestrial plants)

Each characteristic is given a category designation from 1 to 4, or inadequate data, as follows:

Category Definition

Category 4: Safe

Category 3: Low level of hazard

Category 2: Low to moderate hazard

Category 1: Moderate to a high level of Hazard

Inadequate Data: Unable to categorize hazard characteristic due to lack of data.

- Simrankaur Sandhu (IC-2016-'18)

2. The New Classroom

We must walk tightrope between online and offline learning. The COVID19 pandemic has had a great impact on the way children, accelerating force of digitization has created a disruptive online phenomenon across schools, colleges and learning spaces around the world. It is true that new challenges and opportunities have emerged for educators, parents and students, but we also have many uncertainties. Will colleges, functioning within old paradigms, impact on the way children learn? The accelerating force of digitization has created a disruptive online phenomenon across colleges and learning spaces around the world.

It is true that new challenges and opportunities have emerged for educators, parents and students, but we have also entered areas of many uncertainties. Will colleges, functioning within old paradigms, summon the courage to shift their practices to support the personal growth of the next generation of learners whether they are the privileged, marginalized or the disabled?

The teaching landscape has shifted from the notion of a singular path, towards a much more elastic understanding of how we have to walk the tightrope between online and offline learning. Quite suddenly, to redistribute, benefit and liberate learners through technology. At one level, online classes will connect students, and on another, create limitations. This has made us reflect on the inequality not only in bandwidth, gadgets and devices, but also in do not have the time or ability to support their children in this venture. The fact that most parents do not have the time or ability to support their children in this venture. If colleges do not focus on adapting teaching materials that can reach the last child, then the consequence could be a generation of young illiterates, the consequence will be detrimental for the society at large. The definition of what is meant by quality of education will have to be constantly revised because too much emphasis on of what is meant by quality of education could also exclude many children from education. Consider this Waldorf concept for education: "The danger lies in thinking that new technologies can substitute old realities or replace them without consequences."

When basic experience in nature, in everyday life activities, social interaction and creative play are replaced with too child's development is compromised. There is a great need to experience learning through all the senses. When children are surrounded by authenticity in the environment and in human interactions, a sense of substitute old realities or replace them without consequences. When basic experience in nature, in everyday life activities, social interaction and creative play are replaced, child's development is compromised. There is a great need to experience learning through all the senses. When children are surrounded by authenticity in the environment and in human interactions, a sense of self is supported in a positive way.

"Colleges are larger ecologies that are both human and cultural. And classrooms are capable living spaces which are diverse in many ways. Clubbing them into one homogenous online model will destroy diversity, inclusivity and dissent which is the essence of education. In many private schools and colleges despite the Right to Education, Equality and Equity are not integrated into the system. Reportedly, we only have 12% of children from the economically weaker sections attending private schools across the country instead of 25%." In Delhi, several of these students have dropped out because of the lack of facilities, or they have returned to their villages as their parents have lost their livelihoods. These children will be left behind because of their socio-economic condition.

The central and state governments must invest in uninterrupted free broadband and create apps like Microsoft teams/Zoom or Google platforms, to which teachers and students should have access this will lessen the financial constraints. These apps should be synced with programmers like VidyaDaan and e-Pathshala, and a 24/7 support system should be available for seamless functioning.

Unfortunately, millions of children are at severe learning risk now. They may miss weeks, months or even a year (and more) of education. Its impact will only be realized after a decade, when there will be a high rate of young adults who are neither in school nor employed. Some states have decided not to conduct online classes for primary students because it would be inequitable. Their understanding is that if learning is not available to all, then it should not be available to one. Are we, then saying that everyone should stay unlettered together? Systems should come into place that can ensure a variety of methods to equip all learners privileged, poor, middle-class and disabled. A child should always be a priority, not an afterthought. It must be remembered that disasters affect everyone: However, children from fragile families are more likely to be traumatized. Educators must have the generosity to share resources, build communities of practice and develop design thinking as there are no copyrights to learning. This new mutuality will create a culture of engagement towards staff, students and their families. The pandemic has really laid bare some of the deep-rooted problems in education. It has brought unprecedented challenges for educators, one of which is to recognize the highly excluded category of children with disabilities.

The entire focus is on online education, but no announcement has been made about the learning that should be provided to children with disabilities. None of the open education resources (e-Pathshala, SWAYAM etc.) have any beneficial platforms for children with special needs. Some progressive schools are negotiating the inclusive learning space independently. However, there are no provisions to ensure any kind of distance, open or home-based education for these children. Therefore, we need to develop a coherent and comprehensive national focus towards technology which also incorporates a humanized approach. Online and offline teaching have to be embedded with emotional and social learning.



June 2020

This will help to create a psychological safety net, increase thinking conversations, decrease social conflict and encourage diverse opinions and questioning minds. Children are educated so that they can take forward primary values, culture and learning, and keep them alive. This can only happen if there is a holistic, empathetic and adaptive audit of online learning which includes without prejudice every child in the community with compassion and care.

- Bhakti Bhatt (19IC09)