



**UL'S GREEN SERVICES
FOR SUSTAINABLE
CHEMISTRY & SUPPLY
CHAIN MANAGEMENT**

Reducing Discharge of Hazardous Chemical



The textile industry is under increasing pressure to minimize its impact upon the environment and improve the sustainability of supply chains. One aspect of textile supply chain management that is under particular scrutiny is the use of hazardous chemicals in the manufacturing process that can be discharged into waste water.



UL is a Contributor of
 **ZDHC**

Numerous initiatives have emerged to address this issue, including:

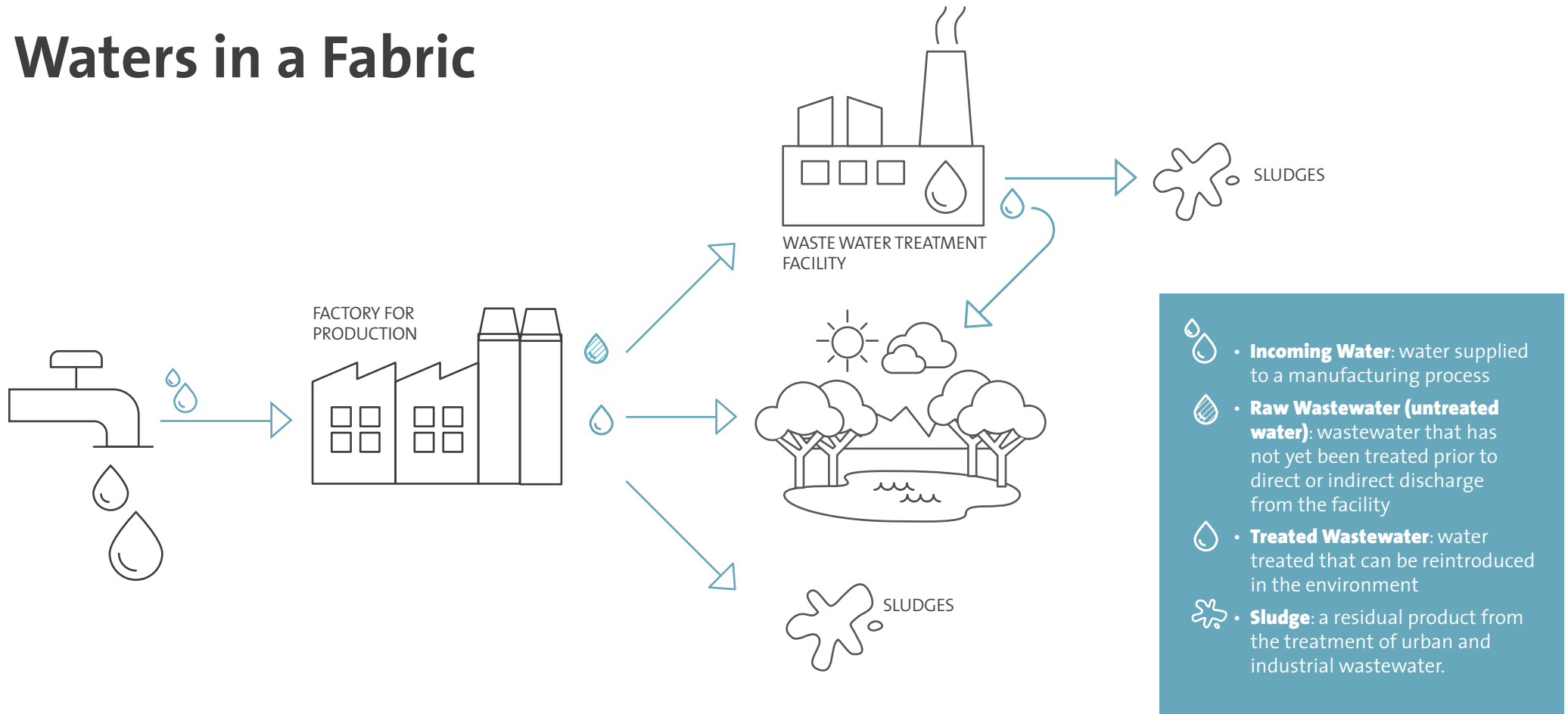
- **Greenpeace's Detox campaign** launched in 2011 and aims to expose direct links between global clothing brands, their suppliers and toxic water pollution around the world. The campaign objective is to eliminate all releases of hazardous chemicals from textile supply chains and products within one generation.

- The Joint Roadmap towards **Zero Discharge of Hazardous Chemicals (ZDHC)**, developed in response to the Detox campaign, demands that hazardous chemicals are eliminated from textile supply chains by 2020, to be replaced by safer alternatives.

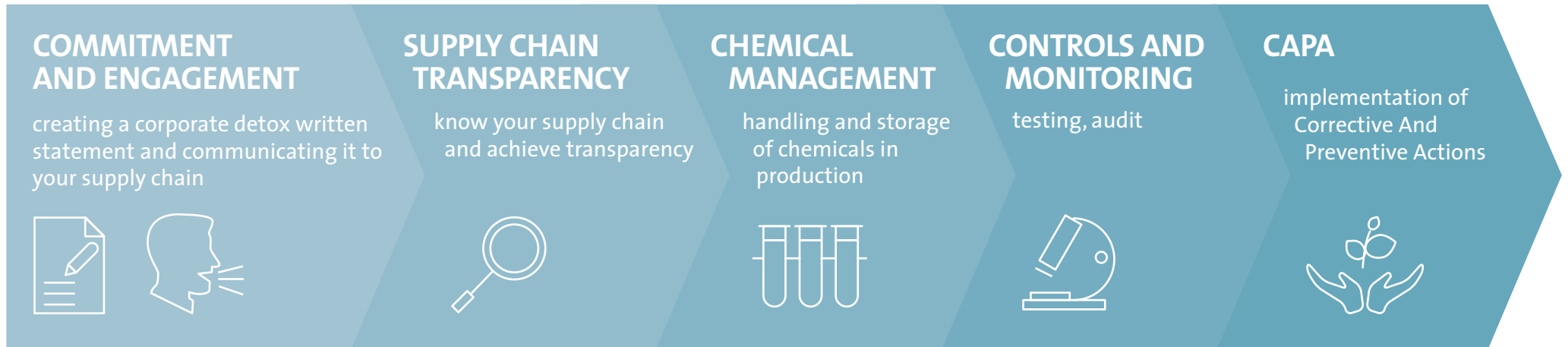
To meet the ambitious requirements of these initiatives, or even understand how your company meets them, it is vital to have in-depth supply chain knowledge in order to identify areas for improvement, develop corporate policies and seek alternative solutions.



Waters in a Fabric



Key steps to detox



Testing Parameters

Conventional Parameters

- Temperature
- TSS
- COD
- Total-N
- pH
- Color
- BOD₅
- Ammonium-N
- Total-P
- AOX
- Oil and Grease
- Phenol
- Coliform (bacteria/100 mL)
- Persistent foam

Metals

- Antimony
- Chromium total
- Cobalt
- Copper
- Nickel
- Silver
- Zinc
- Arsenic
- Cadmium
- Chromium (VI)
- Lead
- Mercury

Anions

- Cyanide
- Sulfide
- Sulfite

Organic Chemicals

- Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs)
- Chlorobenzenes, Chlorotoluenes
- Chlorophenols
- Dyes Azo (Forming restricted Amines), Carcinogenic or Equivalent Concern, Disperse (sensitizing)
- Flame retardants
- Glycols
- Halogenated Solvents
- Organotin Compounds
- Perfluorinated and Polyfluorinated Chemicals (PFCs)
- Ortho-Phthalates
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Volatile Organic Compounds (VOC)



Chemical Management System



Chemical Management System is a systematic approach to procuring, storing, using and disposing of chemicals within a facility. One of the key elements of a Chemical Management System is the existence of chemical inventory in the factory.

A technical review of the chemical inventory can support you with:

- Compliance with legislation
- Conformity to your RSL and MRSL
- Definition of targeted testing programme
- Substitution of polluting chemicals
- Reaction to new chemical legislations/evidence
- Improvements in your detox commitments
- Safety in the workplace



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