

**MANGO DETOX 2015-2016 ROADMAP****1. INITIAL STAGE REVIEW:**

As a first step after joining the DETOX commitment, MANGO sent out a reminder to all suppliers regarding the urgent need to progressively work towards the elimination of hazardous substances along the supply chain. Initially, MANGO highlighted NPEOs as a priority substance within the 11 priority substance groups found in MANGO's MRSL. After reviewing water sampling results MANGO identified PFCs and Azos as priority substances for elimination. Therefore, MANGO sent out a second reminder to suppliers and added PFCs and Azos as priority substances for elimination.

Parallel, a sampling protocol was set based on the audit procedure by the Oeko-Tex® Standard 1000 jointly by a third party auditor (AITEX) and MANGO staff. The selected laboratory to perform testing was INTERTEK Testing Services Ltd.

Waste water samples were collected in China, Turkey and India. Results can be found in MANGO's 2014 statement of progress and roadmap.

Disclosure of reports was made using the IPE online platform ([www.ipe.org.cn/en](http://www.ipe.org.cn/en)) to facilitate full transparency of results.

**2. SECOND STAGE:****2.1 New suppliers and Follow-up analysis:**

MANGO decided to expand results found during the initial stage of the DETOX project. New Turkish suppliers were selected using the same selection criteria as in the initial stage in order to expand analysis in Turkey. Furthermore MANGO selected Bangladesh as the next country to target for the DETOX project. MANGO also initiated both follow-up and new waste water analyses in China. Results can be found in MANGO's 2015 results report.

**2.2 MRSL update:**

Recently, the MANGO MRSL was reviewed and updated to include new substances within the 11 priority chemical groups as well as expanding the MRSL to include substances beyond these initial 11. MANGO will contact suppliers before the upcoming season (season 8, Spring 2017) and inform them of these changes in the MRSL as well as reminding them the importance of applying the "Clean Factory Approach" in order to achieve DETOX 2020 standards throughout the whole supply chain.

In line with the "Clean Factory Approach" MANGO will urge suppliers to apply the MANGO MRSL throughout their whole supply chain and to consider DETOX standards as day-to-day business and not a temporary measure or specific requirement in time. DETOX standards must serve as guidelines to establish permanent measures to avoid sources of contamination and ensure chemical safety throughout all factory production processes.

The new categories added to the MRSL include both the expansion of existing groups as well as the addition of new groups. Substances have been selected taking into account their relevance to the textile industry following recommendations of an expert external lab. Detection limits reflect the lowest limits possible according to the best current technology available.

The following substances have been added to MANGO's MRSL:

NAME	CAS nº	Detection Limit (µg/l)	MRSL group	Relevance to Textile Industry
o-Phenylphenol	90-43-7	0.5	Chloro phenols	Used as biocide for textile preservation
(methylenebis(4,1-phenylenazo (1-(3-(dimethylamino)propyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxopyridine-5,3-diyl))-1,1'-dipyridinium dichloride dihydrochloride 118658-99-4	118658-99-4	0.1	Azo Dyes	Used as Azo dye
C.I. Acid Red 26 3761-53-3	3761-53-3			
Pigment Rot 53:1 (C.I. 15585:1); D&C Red No. 9	5160-02-1			
C.I. Solvent Yellow 14	842-07-9			
1,2-dihydro-6-hydroxy-4-methyl-1-[3-(1-methylethoxy)propyl]-2-oxo-5-[[4-(phenylazo)phenyl]azo]-3-pyridinecarbonitrile	85136-74-9			
C.I. Disperse Yellow 3	2832-40-8			
C.I. Solvent Yellow 2	60-11-7			
C.I. Direct Blue 218	28407-37-6			
Diaminobenzidine [biphenyl-3,3',4,4'-tetrayltetraamine]	91-95-2			
diaminotoluene	25376-45-8			
N,N'-Diacetylbenzidine	613-35-4			
toluene-2,4-diammonium sulphate	65321-67-7			
Aniline	62-53-3			
Benzyl chloride; α-chlorotoluene	100-44-7			Detection limit pending
p-chlorobenzotrichloride	5216-25-1			
α,α,α-trichlorotoluene; benzotrichloride	98-07-7			
α,α-Dichlorotoluene (Benzal chloride)	98-87-3			

				herbicides and defoliantes.
Beryllium & beryllium oxide	7440-41-7/ 1304-56-9	Detection limit pending	Heavy Metals	Used as pigment
Vanadium pentoxide	1314-62-1	Detection limit pending		Used as pigment
Formaldehyde	50-00-0	0.1	Solvents	Used as anti-creasing, anti-shrinking agent also as fixation dyes and prints, can be found on fluorescent dyes and pigments and adhesives.
Formamide	75-12-7	Detection limit pending		Solvent residues
Dimethyl formamide (DMF)	68-12-2	0.1		Solvent residues
N,N-dimethylacetamide	127-19-5			Solvent residues
N-methyl-2-pyrrolidone	872-50-4	Detection limit pending		Solvent residues

### 3. NEXT STEPS / OBJECTIVES:

#### 3.1 Implementation:

After three years of developing the appropriate tools and methods to carry out the DETOX project, MANGO prepares to shift its DETOX focus from development towards implementation. MANGO will continue to carry out water sampling tests and will always update its methodology to provide the best possible results.

In this next step towards implementation MANGO will work on establishing tools and taking action to influence suppliers to ensure the non-use of hazardous chemicals along the supply chain.

Actions include:

1. Incentive program:
  - a. MANGO will start to rank suppliers and countries according to their collaboration and commitment to the DETOX project. Suppliers will be privately informed of where they stand in comparison to others.
  - b. MANGO will issue warning letters to those suppliers/countries with poor results. Letters will include recommendations regarding hazardous chemicals detected in the corresponding supplier/country results.
  - c. MANGO will provide feedback to its buying teams referencing suppliers with good performance in the DETOX project. Commitment to the DETOX project will be included as criteria for the selection of suppliers for production.

2. MANGO will work jointly with expert labs and suppliers to improve the assessment of results by identifying chemical inputs which are the root cause of hazardous chemicals detected in discharge waters.

MANGO will initiate the random testing of chemicals (dye stuffs etc.) in addition to the testing of discharge water. MANGO will collect and test chemical samples from facility chemical rooms during its DETOX sampling visits as well as collecting discharge water samples.

3. MANGO will reach out to companies/suppliers in seek for collaborations and interchange of knowledge in order to mutually better the progress of the DETOX project.

### **1.2 Beyond the 11 priority chemical groups:**

MANGO will progressively include chemical groups beyond the 11 priority chemicals substances in its MRSL taking into consideration their relevance and use in the textile industry. Suppliers will be made aware of any and all changes regarding the MANGO MRSL.

### **1.3 MANGO PFCs commitment:**

PFCs are used on textiles for their non-stick and water-resistant properties, making textiles and leather products breathable while also water and stain proof. PFCs are very persistent and are not degraded easily and thus accumulate in our environment.

MANGO's core business does not involve the intensive use of PFC treatments. PFCs are now marked as banned on MANGO's MRSL and are no longer considered to be in the "phase-out" stage. MANGO is conscious of the importance of eliminating PFCs throughout the textile supply chain and will continue to test for PFCs and remind suppliers of the urgent need of the elimination of this hazardous substance.

MANGO also includes PFCs in its Product Restricted Substance List (PRSL) and can certify that its final products are free of PFC's.

MANGO will develop a PFCs substitution case study in collaboration with our external expert lab. Once the case study is complete MANGO will notify suppliers and upload the case study on the MANGO DETOX web page as well as on Subsport.

### **1.4 Expansion:**

Next target countries for the MANGO DETOX project include carrying out follow-up analyses in India and expanding the DETOX project in Korea. MANGO has selected Korea as a next target for DETOX analysis because most Vietnam suppliers use wet process facilities in Korea. Vietnam supplier production represents approximately 11% of MANGO's total global production. MANGO's target is to have analyzed 60% of global production by June 2017.

It is important to keep in mind that percentages are accurate estimations. All calculations are based on volume of production at a certain time (i.e. certain season). Percentage of production

with suppliers is variable from season to season therefore we must take into account certain limitations when extrapolating these results beyond the period of time which they refer to.

Results are based on global production excluding “Cut, Make, Trim” (CMT) production carried out in Morocco. MANGO provides the raw materials for this circuit of production, therefore the volume of wet processes in this country are insignificant. Consequently calculations include all countries, suppliers and processes along the supply chain excluding those carried out in Morocco. Results represent the percentage from this total global production (excluding Morocco) which has been analyzed. All factories analyzed correspond to wet process facilities.

### **1.5 Public disclosure:**

MANGO will progressively invite its suppliers to disclose their DETOX analysis results on the IPE platform ([www.ipe.org.cn/en](http://www.ipe.org.cn/en)) in order to encourage transparency.

MANGO will inform suppliers of the need to comply with the public’s “right to know” and the need to encourage maximum transparency through the disclosure of DETOX results on the IPE platform. MANGO will provide suppliers with the tools and support necessary to upload their DETOX results.

### **1.6 Internal commitments:**

MANGO is aware of its responsibility as a producer to promote responsible/sustainable design internally as well as encouraging responsible consumption towards its clients. In line with extended producer responsibility MANGO commits to internally work to develop the following projects:

- MANGO will expand its clothing “take back” pilot project starting with a national expansion in Spain. This project consists in placing in-store containers in order to give customers the opportunity to “close the loop” and recycle their used clothes. More information regarding this project can be found at [www.MANGO.com/takeaction](http://www.MANGO.com/takeaction).
- MANGO will promote basic collections to encourage long-term use of clothing and durability.
- MANGO will continue to explore the use of alternative sustainable materials (i.e. organic cotton, recycled fibers etc.) to expand its offer of sustainable clothing.