

China pilot summary: Further investigation into current chemical compliance (September 2015)

Summary

Primark has a stringent chemical management policy in place which complies fully with EU and US legislation¹. Beyond this, Primark recognises the importance of continuing to evolve its chemical management policy in line with industry best practice and of continuing to minimise the environmental impact of textile manufacturing processes. As a result, Primark has committed to working with industry and other stakeholders to achieve the goal of 'zero discharge' of hazardous chemicals within the textile and apparel supply chain by 2020. The detail of this is outlined in Primark's Detox Commitment².

Working with strategic suppliers, Primark initiated a deep-dive pilot project in 2014 in China involving six mills within its supply chain³. In 2015, Primark extended this pilot to include an additional four mills linked to these same suppliers in order to gather additional insight into chemical usage and management practices. All four of these mills were dyeing units.

The pilot aimed to identify chemicals present in the effluent discharges from the mills (with a particular focus on current compliance levels regarding APEOs, PFCs and Phthalates) and to assess current chemical management practices within wet processing units. Findings are being used to inform a longer term programme of supplier engagement and chemical phase out.

In many cases the chemicals were either not detected or well below the 1ppm⁴ level. Such levels are generally considered very low in terms of dyehouse effluent. The levels detected in the effluent are not directly related to end product compliance, which is assured by our Restricted Substances List (RSL) and due diligence testing programme.

¹ Please refer to Primark's Restricted Substances List (RSL)

<https://www.primark.com/~media/ourethics/detox/pdfs/primark%20restricted%20substances%20list%20rsl.ashx?la=en>

² Please refer to Primark's Detox Commitment

<https://www.primark.com/~media/ourethics/detox/pdfs/primark%20detox%20commitment.ashx?la=en>

³ These mills are not owned by Primark and are producing fabric for several brands, including Primark.

⁴ 1ppm is 1 part per million. This is equivalent to 1 milligram per litre (mg/l)

Methodology

Independent testing, inspection and certification provider Bureau Veritas and environmental auditing and consultancy firm Sustainable Textile Solutions⁵ (STS) were selected as project partners. Bureau Veritas served as the third party laboratory to test water samples from each factory, while STS specialises in environmental management audits, including chemical management.

1. Technicians from Bureau Veritas visited each factory to collect samples of incoming water, wastewater before treatment, wastewater after treatment and final sludge, where in-house effluent treatment plants (ETP) were available. In cases where no ETP facilities were available, only two samples were collected: incoming water and discharge water. These samples were tested for 117 chemical analytes of concern within the 11 priority classes of hazardous chemicals.
2. Auditors from STS visited the production sites to document the chemical inventory, collect recipes of production during the sampling period and track the chemicals used during production.
3. STS then reviewed the water and sludge analysis data provided by Bureau Veritas in order to identify potential sources of hazardous chemicals detected in the samples and to advise on possible steps to ensure their elimination.
4. Corrective Action Plans (CAP) were prepared for and shared with the mills, outlining general improvement areas in relation to chemical management practices and recommending specific chemical substitutions in order to switch to safer alternatives.



⁵ Sustainable Textile Solutions (STS) is a trademark of DyStar Colours Distribution GmbH.

Results

Of the four mills participating in the pilot, two had their own ETP, one had no ETP and one had their own pre-treatment ETP that they used before sending the pre-treated waste water to the external ETP of the neighbouring industrial zone.

The following chemicals were not detected in any of the streams at the mills:

Priority Chemical Groups	Inlet water	Water before treatment	Water after treatment	Sewage sludge
Brominated and Chlorinated Flame Retardants	ND	ND	ND	ND
Azo Dyes	ND	ND	ND	ND
Organotin Compounds	ND	ND	ND	ND
Chlorinated Solvents	ND	ND	ND	ND
Chlorobenzenes	ND	ND	ND	ND
Short-chained Chlorinated paraffins	ND	ND	ND	ND

The following chemicals were found in the streams of the following number of mills:

Priority Chemical Groups	No. of mills where chemical was found in inlet water	No. of mills where chemical was found in water before treatment	No. of mills where chemical was found in water after treatment	No. of mills where chemical was found in sludge
APs and APEOs	1	3	0	2
Phthalates	2	4	1	2
PFCs	0	0	0	1
Total Heavy Metals	4	4	2	2
Chlorophenols	0	2	0	0

Effluent results summary

APEO

Effluent of three mills was found to contain APEO at levels below 1 ppm*

Phthalates

Effluent of four mills was found to contain phthalates at levels below 1 ppm

PFCs

PFCs were not detected in the effluent of any mill. Sludge from one mill was found to contain PFCs at levels below 0.1 ppm

Total Heavy metals

Heavy metals were found in the effluent of all four mills but in each case at levels below 1 ppm

Chlorophenols

Effluent of two mills was found to contain chlorophenols at levels below 1 ppm

**ppm = part per million. 1ppm is equivalent to 1 milligram per litre (mg/l)*

In many cases the chemicals were either not detected or well below the 1ppm level. Such levels are generally considered very low in terms of dyehouse effluent. Only two incidences were found above the 1ppm level but were below 2ppm. The levels detected in the effluent are not directly related to end product compliance, which is assured by our Restricted Substances List (RSL) and due diligence testing programme.

All of the above chemical groups are included within Primark's Restricted Substances List (RSL) and have been prioritized for phase out from the supply chain. Primark is continuing to work with the mills who participated in the pilot to identify how the detected chemicals can be phased out and how safer alternatives can be effectively phased in.

Next steps

Insight from the pilot has identified the following priority areas for action, both at the pilot mills and within the broader supply base as part of a long term programme:

1. Raise awareness of the need for and the benefits of chemical management at all levels of the supply chain
2. Provide comprehensive training and support on chemical management to suppliers, with a particular focus on wet processing units; the training programme should be tailored to take into account the differences across manufacturing regions, production processes and job roles
3. Through on-going supplier engagement and training, ensure effective phase out of chemicals which contribute to the detected levels of hazardous chemicals in the effluent and, in turn, ensure these are substituted through the sustainable phase-in of safer alternatives
4. Track the aforementioned substitutions and test their effectiveness through follow-up visits and on-going wastewater analysis
5. Ask suppliers to subsequently engage with their chemical suppliers to ensure compliance to the brand RSL and provision of all relevant documentation to support procurement of all chemical formulations
6. Beyond chemical management, engage suppliers to set up and implement an effective environmental management system that includes assigning ownership of all EHS (Environmental Health and Safety) aspects within the factory to dedicated personnel and the provision of necessary EHS training to support this role

Appendix 1

Test results for APEO, Phthalates, and Chlorophenols

Key:

1001-Incoming water mg/l

1002-Production outlet mg/l

1003-Wastewater discharge mg/l

1004-Sludge mg/l

ND – Not Detected i.e. not present above 10ppb*

NA – Not Applicable i.e. a sample was not taken

APEOs:

	I001	I002	I003	I004
Mill 1				
NP	ND	0.0193	ND	3.19
NPEOs	ND	0.174	ND	2.72
Mill 2				
NPEOs	ND	0.338	NA	NA
Mill 3				
OP	ND	ND	17.9	NA
NP	ND	0.0249	145	NA
Mill 4				
NP	ND	ND	ND	18.4
NPEOs	ND	ND	ND	4.22

*ppb = part per billion. Parts per billion (ppb) is the number of units of mass of a contaminant per 1000 million units of total mass

Phthalates:

	I001	I002	I003	I004
Mill 1				
DBP	ND	ND	ND	3.78
DEHP	0.0114	0.124	ND	26.8
DIBP	ND	ND	ND	8.58
Mill 2				
DEHP	0.0102	0.0376	NA	NA
DIBP	ND	0.0123	NA	NA
Mill 3				
DEHP	ND	0.0449	33.6	NA
Mill 4				
DBP	ND	0.0472	ND	2.22
DEHP	ND	0.363	0.0194	19.9
DIBP	ND	0.0575	ND	13.9

PFCs:

	I001	I002	I003	I004
Mill 1				
PFCs	ND	ND	ND	0.0585
Mill 2				
PFCs	ND	ND	NA	NA
Mill 3				
PFCs	ND	ND	ND	NA
Mill 4				
PFCs	ND	ND	ND	ND