

2016

VALENTINO SPA

DETOX COMMITMENT UPDATE

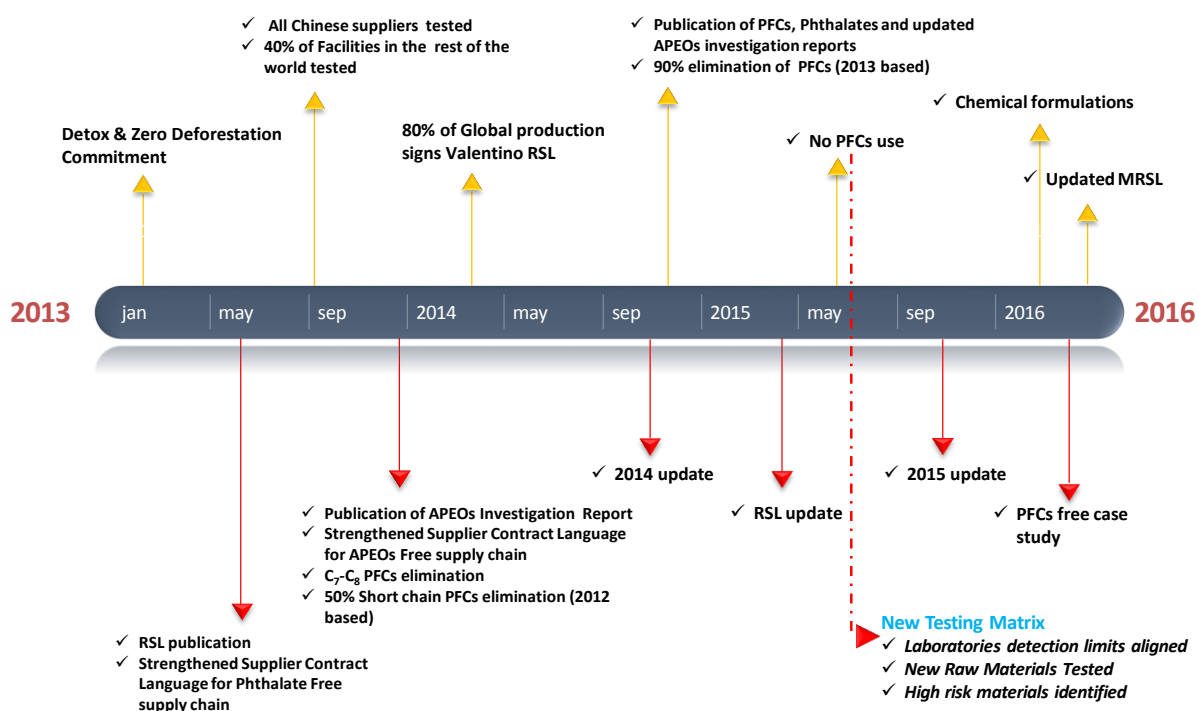
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1. COMMITMENT OVERVIEW

Further to VALENTINO SPA's (VSPA) Detox Commitment of February 6th 2013, and in line with the public's "right to know", this document discloses the actions undertaken by VSPA in the supervision of its global supply chain up to April 2016, on the road towards zero emissions of hazardous chemical substances by 2020.

As of 2013, VSPA has performed a series of steps in order to achieve the commitment objectives. The timeline below shows the principal milestones on this path.

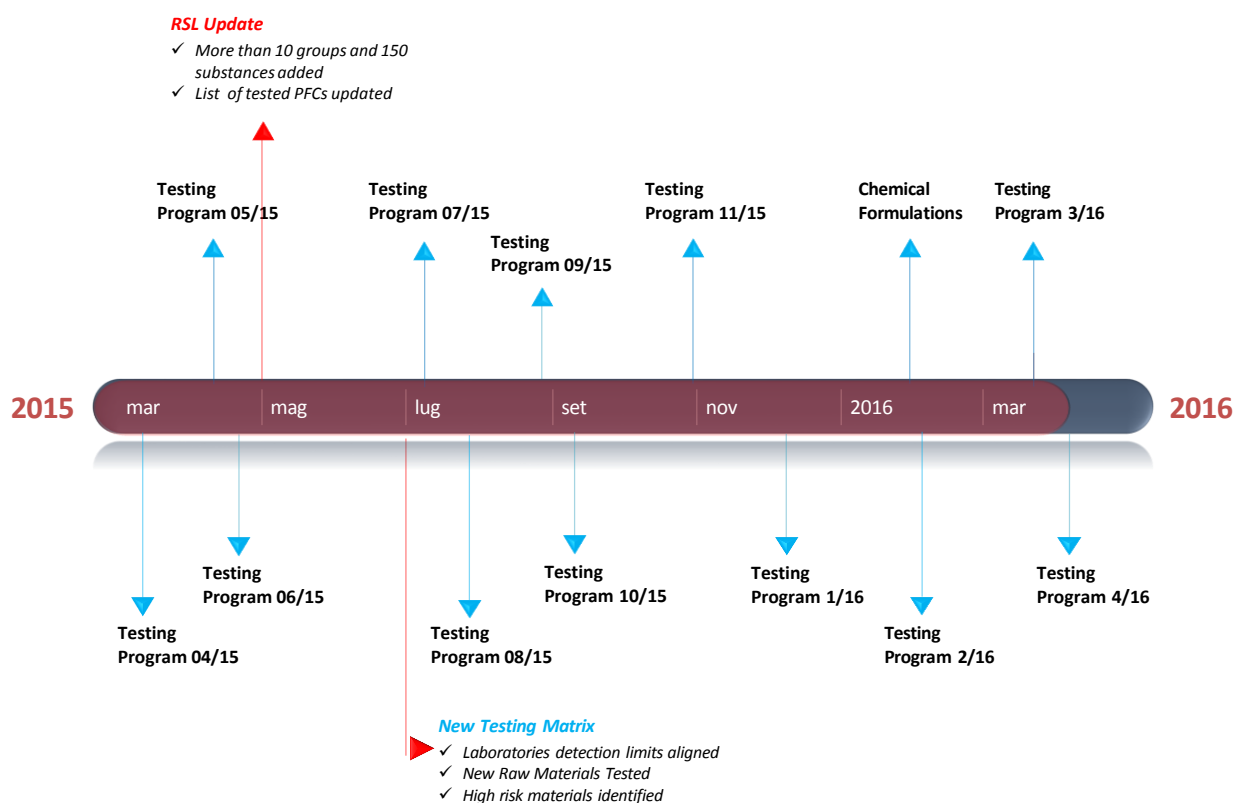


The focus of our research and control is on materials, products and chemicals testing, audit and water testing programs as well as on the research of alternative products in collaboration with our suppliers. In particular, activities in the latest months focused on optimizing what had already been set up and to deepen and broaden the range of action of the testing activities and substitution cases.

2. MATERIALS FINISHED PRODUCTS & CHEMICALS TESTING

Screening for hazardous substances in *materials* is conducted on seasonal basis within the scope of VSPA's product compliance procedure. The screening process is based on the *Testing Packages* created for each type of substrate. Each package contains multiple groups of substances that have to be tested depending on the materials involved, applying the best available techniques for the tested substances.

Testing activities start from research, then prototypes, sampling and production. Suppliers are active participants in the process; test results and knowledge are shared with them in order to achieve the complete elimination goal.

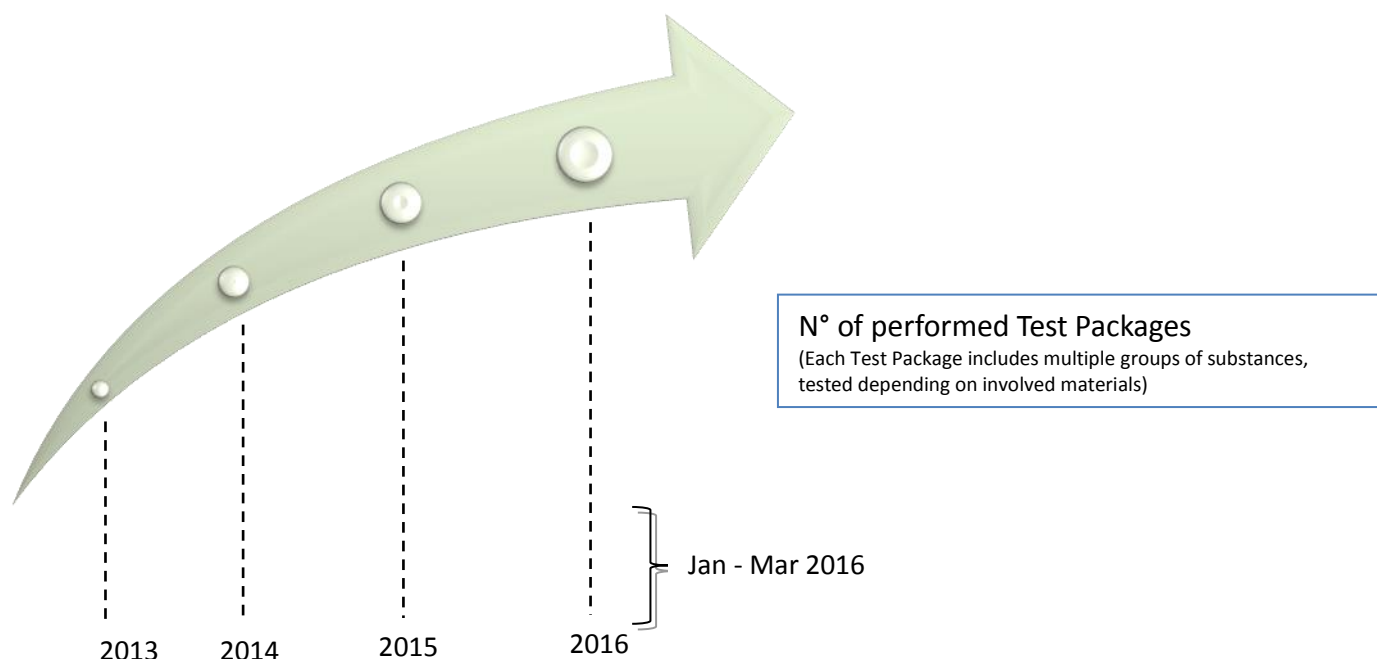


Continuous testing of our *finished products* and *raw materials* has brought to creation of a detailed results Database in order to control the use of hazardous chemicals and provide statistically valuable information.

In April 2015 the new updated RSL was released with more than 10 groups and 150 substances added and with the updated lists of tested PFCs and Phthalates.

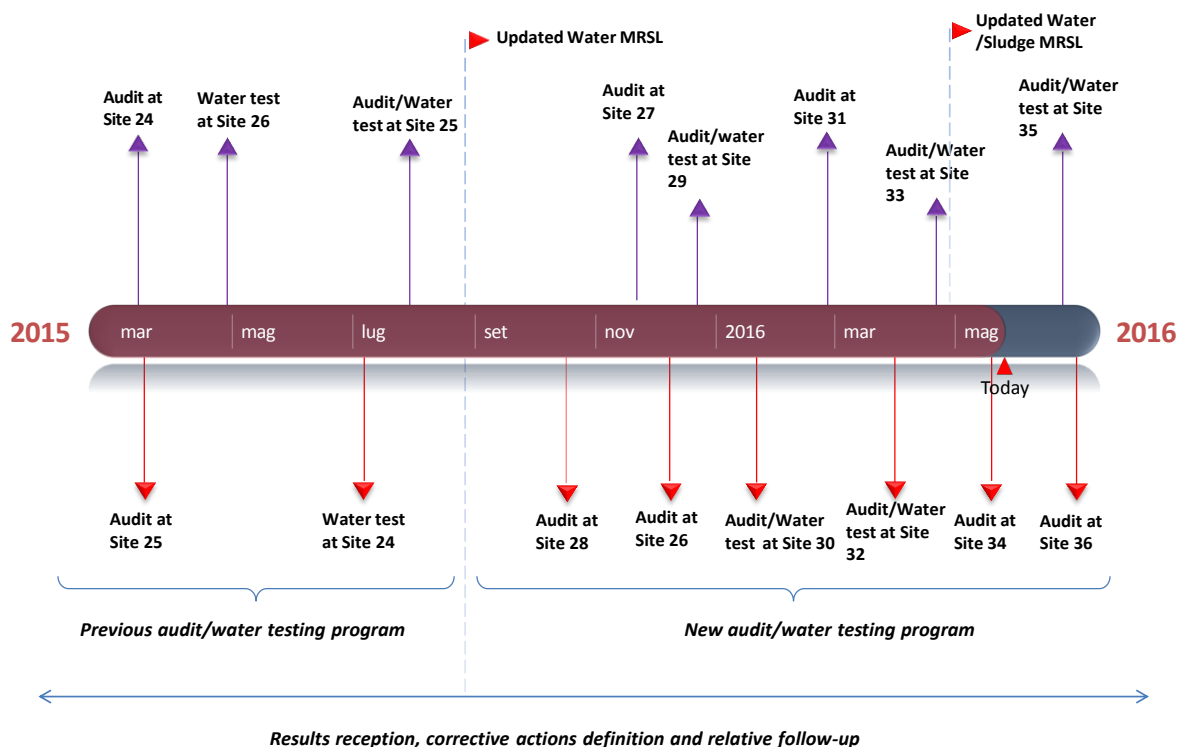
In April 2016 a deeper *Chemical formulations* screening has been performed and the results are available at: <http://www.valentino.com/experience/it/pages/corporate-information/>

Starting from 2013 until today the number of tests performed has increased by 70%:



3. AUDIT/WATER TESTING PROGRAMS

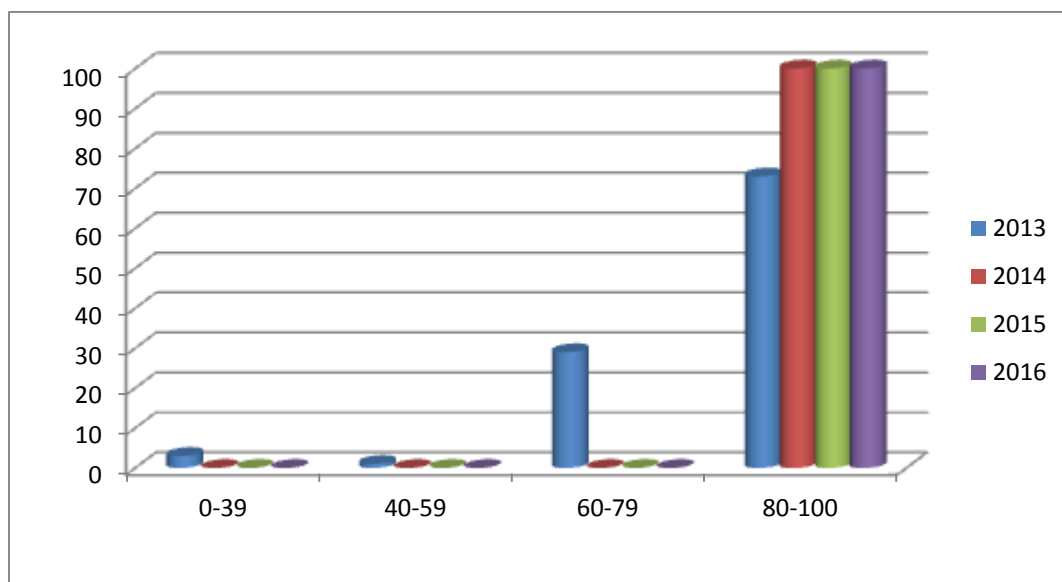
In 2016, in compliance with the Detox commitment, VSPA continued a program of factory audits and wastewater analysis at production sites where wet processes (dyeing, printing and tanning) are carried out.



Audits Overall Performances

32 sites have been audited since the beginning of the program of facility audits in 2013.

The following graph describes the overall performances of all the audited sites.



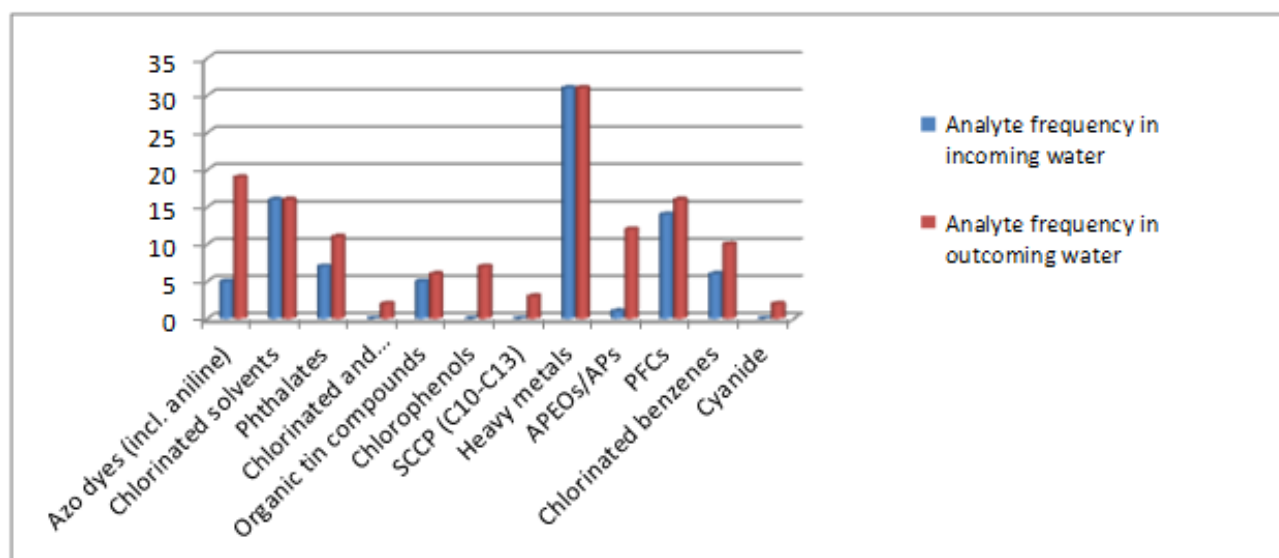
More than 85% of performed audits present a high performance rate (80-100%). All sites audited during 2014, 2015 and 2016 showed the highest scores, thanks also to the training and communication programs developed from 2013 onwards.

Water Testing

As of the end of March 2016, 31 wastewater samples analysis were performed monitoring incoming and untreated outgoing waters. All water samples were tested to check the presence of the 11 priority chemical groups and additional substances (please find all wastewater reports details at <http://www.valentino.com/experience/it/pages/corporate-information/>). This kind of screening process helps identifying the use of these chemicals in the manufacturing processes.

We continue to invite suppliers to upload their discharge data on the IPE website. At this moment in time, the 60% of Italian facilities that uploaded data on the IPE are also Valentino suppliers.

The following graph represents the frequency of the analyzed groups of substances in the incoming and outgoing untreated wastewater.



The results analysis shows that certain groups of substances are detected in incoming water as well as in outgoing wastewater. The groups involved are: Azo dyes, APEOs, Chlorinated solvents, Phthalates, Heavy metals, PFCs, Organic tin compounds and Chlorinated benzenes. Further research showed that some of these facilities reuse part of the treated wastewater, demonstrating that some of these substances accumulate in water.

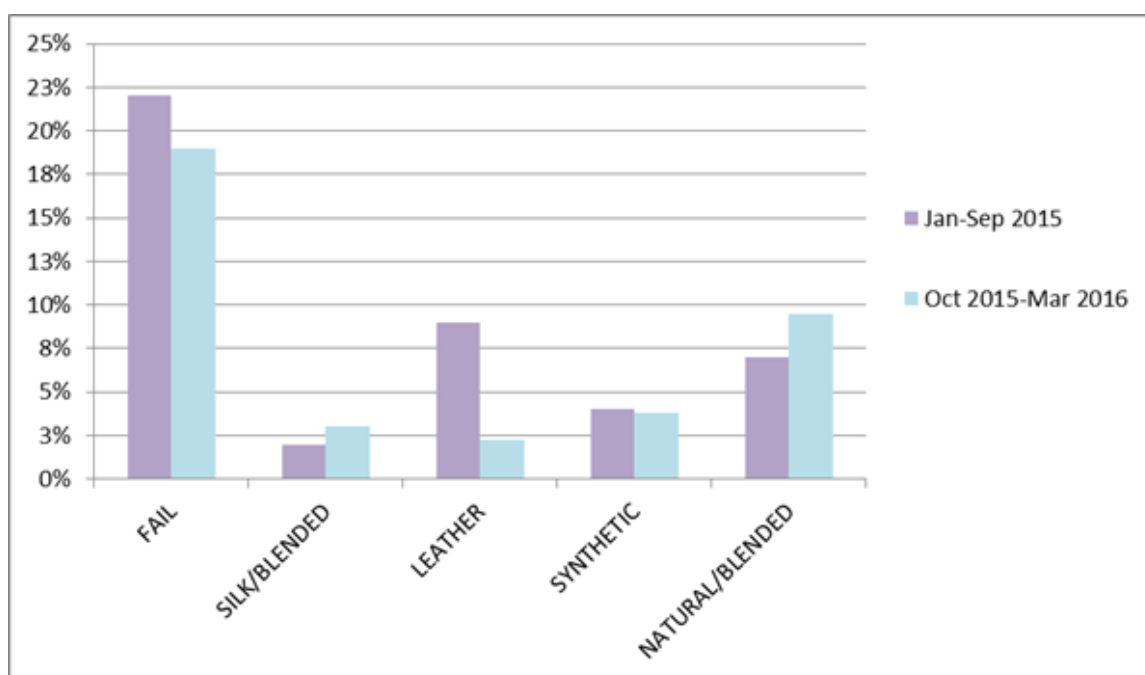
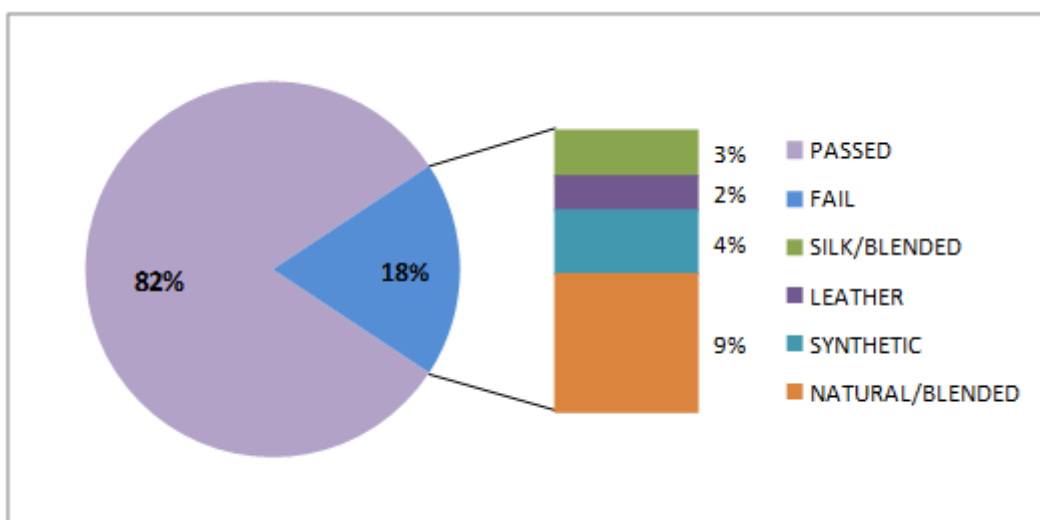
4. FOCUS ON APs/APEOs

APs/APEOs in materials

Oct 2015-Mar 2016 compared to July-September 2015 testing campaign

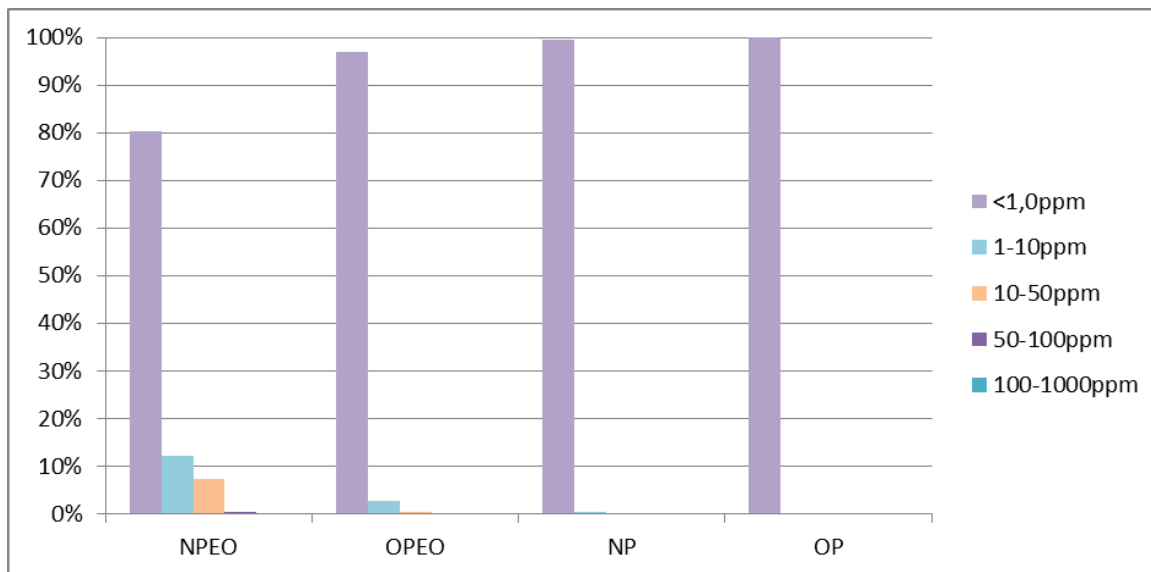
Testing period	Test N°	Fail N°	FAIL %
<i>Jul-Sep 2015</i>	406	90	22,17%
<i>Oct 2015-Mar 2016</i>	263	49	18,63%

From October 2015 to March 2016, 263 tests on raw materials and finished products were carried out. Testing activity revealed the presence of APs/APEOs in 18% of cases, almost 4% less than the previous testing campaign. A more detailed analysis per material composition is shown on the following graph.

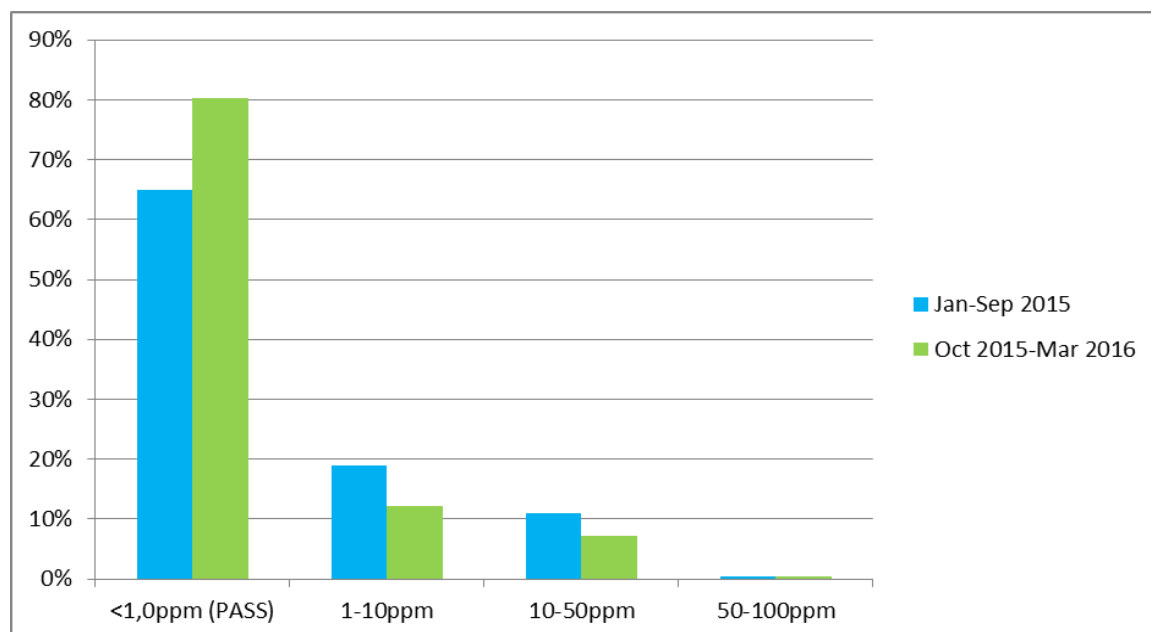


The graph above compares the last two testing campaigns showing that the overall Fail percentage decreased mainly thanks to the work of awareness done following the previous test campaigns indications.

In order to identify which of the tested APs/APEOs is the most present in materials, an analysis of incidence per concentration range was carried out.



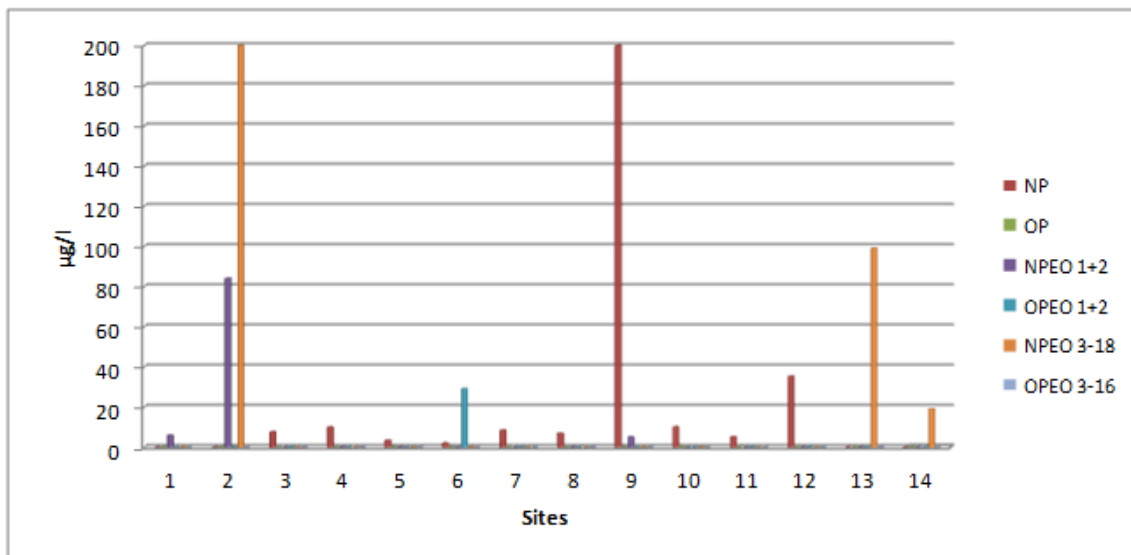
As in the previous testing campaign the graph above shows that NP and OP were never noticeable in materials (always below 1 mg/Kg (ppm)) and OPEO was only found in traces. NPEO is the most frequently revealed Ethoxylated Alkylphenol, however, its concentration is in 98% of the cases lower than 50 ppm.



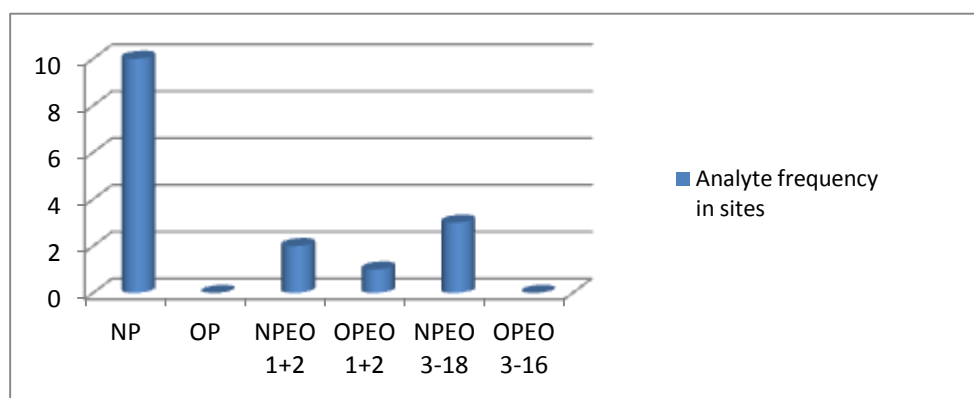
The graph above compares the last two testing campaigns showing a decrease in all the investigate APEOs concentration ranges.

APs/APEOs in wastewater

The analysis of the APs/APEOs was performed on 31 production sites. Fourteen of these facilities show the presence of alkylphenols in outgoing waters, only one of these facilities shows APEOs contamination of incoming waters.



As showed on the chart below, the more accurate analysis of the results highlights that NP is the most commonly detected analyte in wastewaters.



Conclusions on APs/APEOs

- When APEOs are found, all suppliers are always notified and supported in identifying possible sources;
- Thanks to the work of awareness done following the previous test campaigns indications, the APEOs finding percentage decreased (e.g. Leather & Fur)
- Test results also confirmed that:
 - Some chemicals contain undeclared APEOs, for this reason they can be unintentionally used (e.g. a tested dye powder containing high concentrations of NPEOs);
 - In washing mills/dye houses, materials coming from different countries (including those where APEOs are not regulated yet) are processed in the same machines, easily leading to cross-contamination;
 - Suppliers still have difficulties in involving their supply chain tiers;
 - Recycled materials used in production cause higher possibility to find APEOs.

5. FOCUS ON PFCs

PFCs in materials

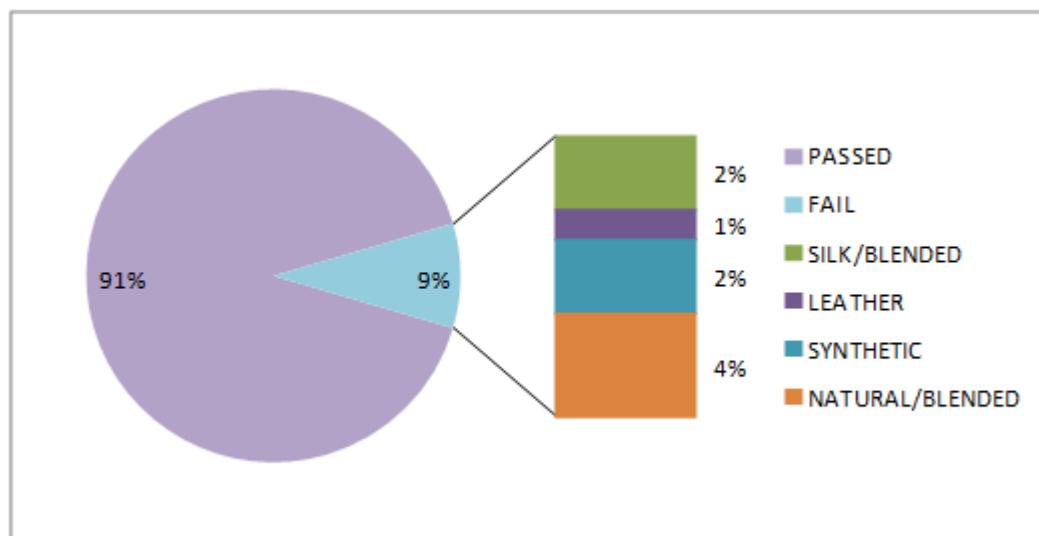
Oct 2015-Mar 2016 compared to July-September 2015 testing campaign

From October 2015 to March 2016, 298 tests on raw materials and finished products were carried out. Testing activity revealed the presence of PFCs in 9% of cases, 8% less than the previous testing campaign.

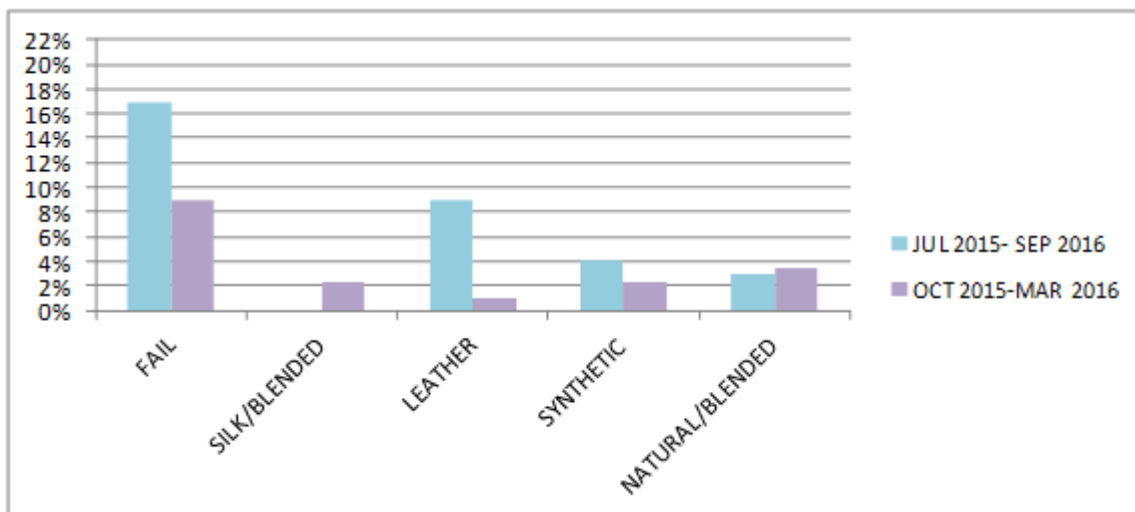
Testing period	Test N°	Fail N°	FAIL %
Jul-Sep 2015	70	12	17%
Oct 2015-Mar 2016	298	27	9%

Oct 2015-Mar 2016 Fail % per material composition

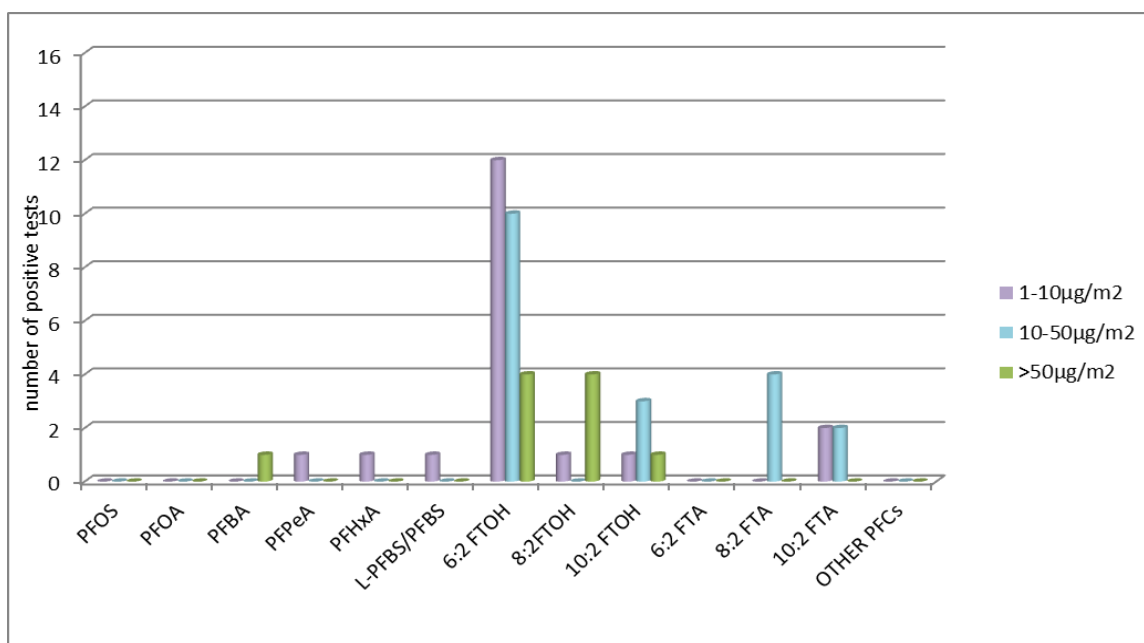
A more detailed analysis per material composition is shown on the following graph.



PFCs were mostly found in natural/blended fibers (4%), followed by Silk and synthetic fibers (2%) and Leather (1%). As seen on the following chart, comparing these results with those from the last testing campaign, we can see that the percentage of failed test for leather and synthetic materials has decreased thanks to the work of awareness and case studies done following the previous test campaigns indications.



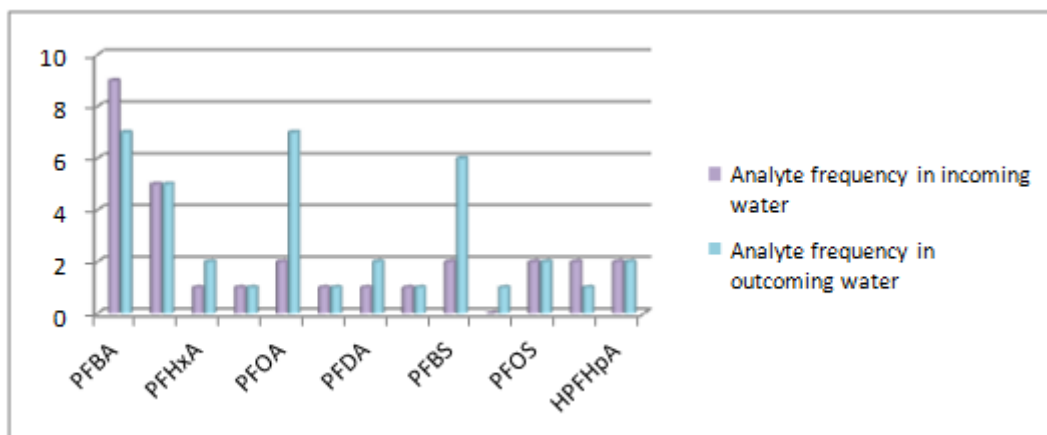
Of all PFCs tested, 9 were found in materials. In the chart below it is represented the analytes frequency per concentration range.



In the same article, multiple PFCs can be present. The higher number of fails is related to volatile PFCs (FTOHs, FTAs). The volatile 6:2FTOH is the most frequent substance.

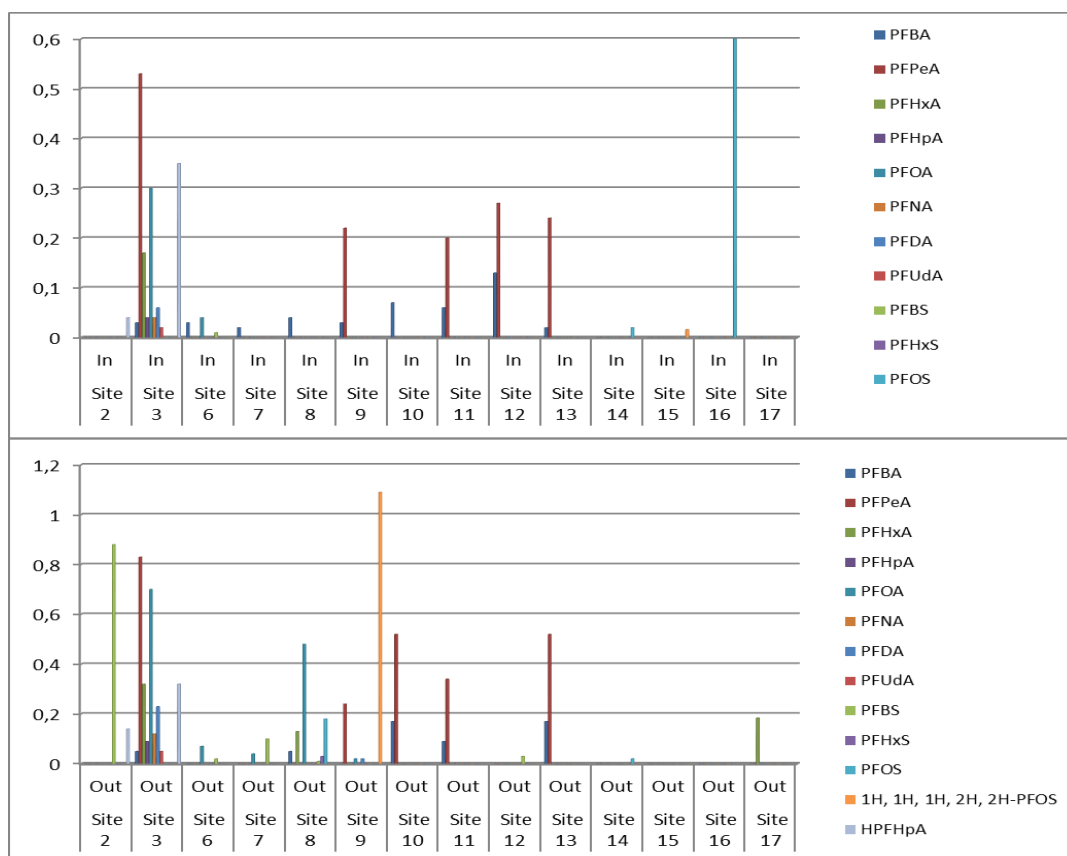
PFCs in wastewater

Water testing results show that effluents of 16 out of 31 Facilities contained PFCs in incoming as well as outgoing untreated waters. The most frequent PFCs were PFBA, PFOA, PFBS and PFPeA.



However, in more than 90% of the cases the concentrations of revealed substances were lower than 1 µg/L (ppb).

PFCs comparison in incoming and untreated outgoing waters



In some sites a direct relationship between PFCs present in incoming and untreated outgoing water can be noticed, the relationship is stronger for those facilities having a partial water recycle.

Conclusions on PFCs

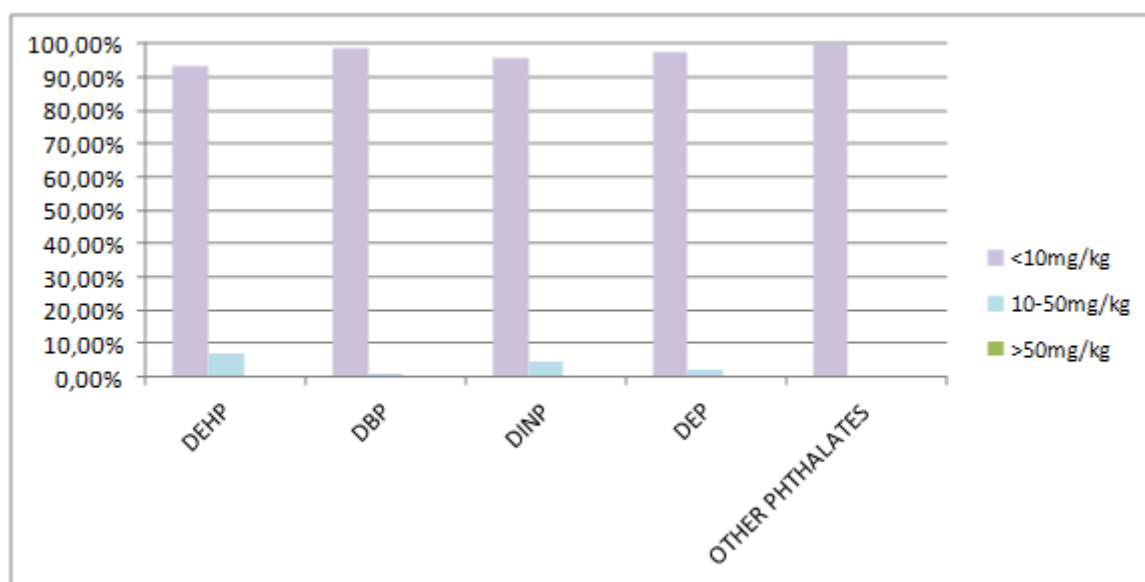
- A PFCs substitution case study on different Leather and Textile substrates finished with a PFC-free alternative product has been developed (see details at: <http://www.valentino.com/experience/it/pages/corporate-information/>);
- Thanks to the work of awareness and substitution done following the previous test campaign indications, the Fail percentage decreased (e.g. Leather & Fur);
- All suppliers replaced PFOS and PFOA in their recipes but some of them have been unintentionally using other PFCs. We keep working with them on finding possible sources and substitutes:
 - Some chemical products are sold as PFCs-Free but they only avoid the use of PFOS and PFOA;
 - The higher number of fails is related to volatile PFCs (FTOHs, FTAs) that also cause cross contaminations.

6. FOCUS on PHTHALATES

Phthalates in materials

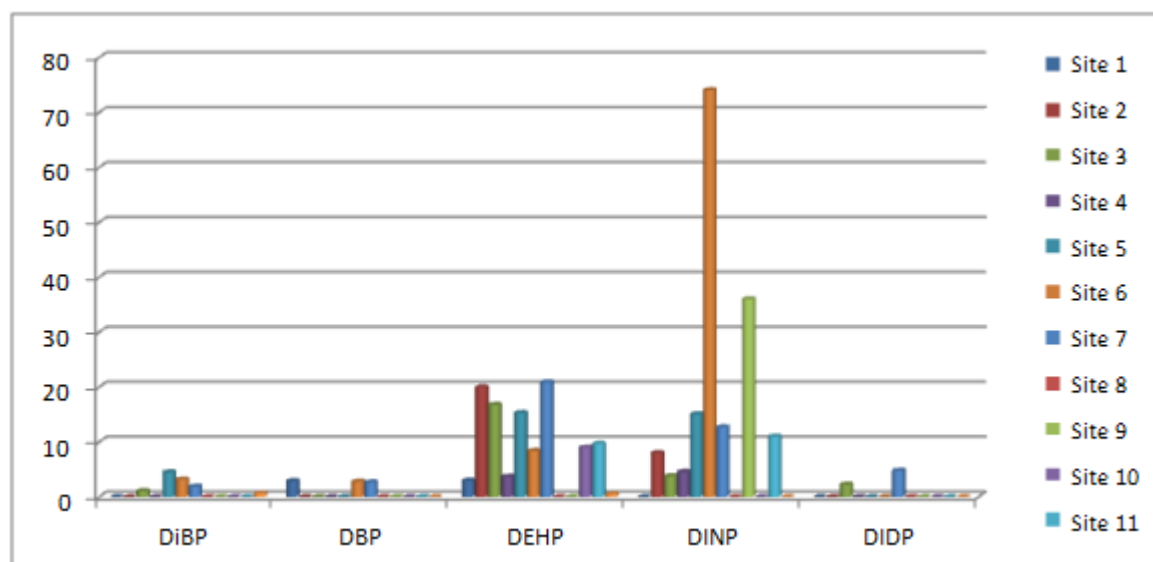
From October 2015 to March 2016, 90 tests on materials for up to 22 phthalates were performed, confirming that only contaminations below 50 mg/kg were found.

Out of 22 monitored phthalates, only DEHP, DBP, DEP and DINP were found. The following graph exhibits the analytes per concentration range.



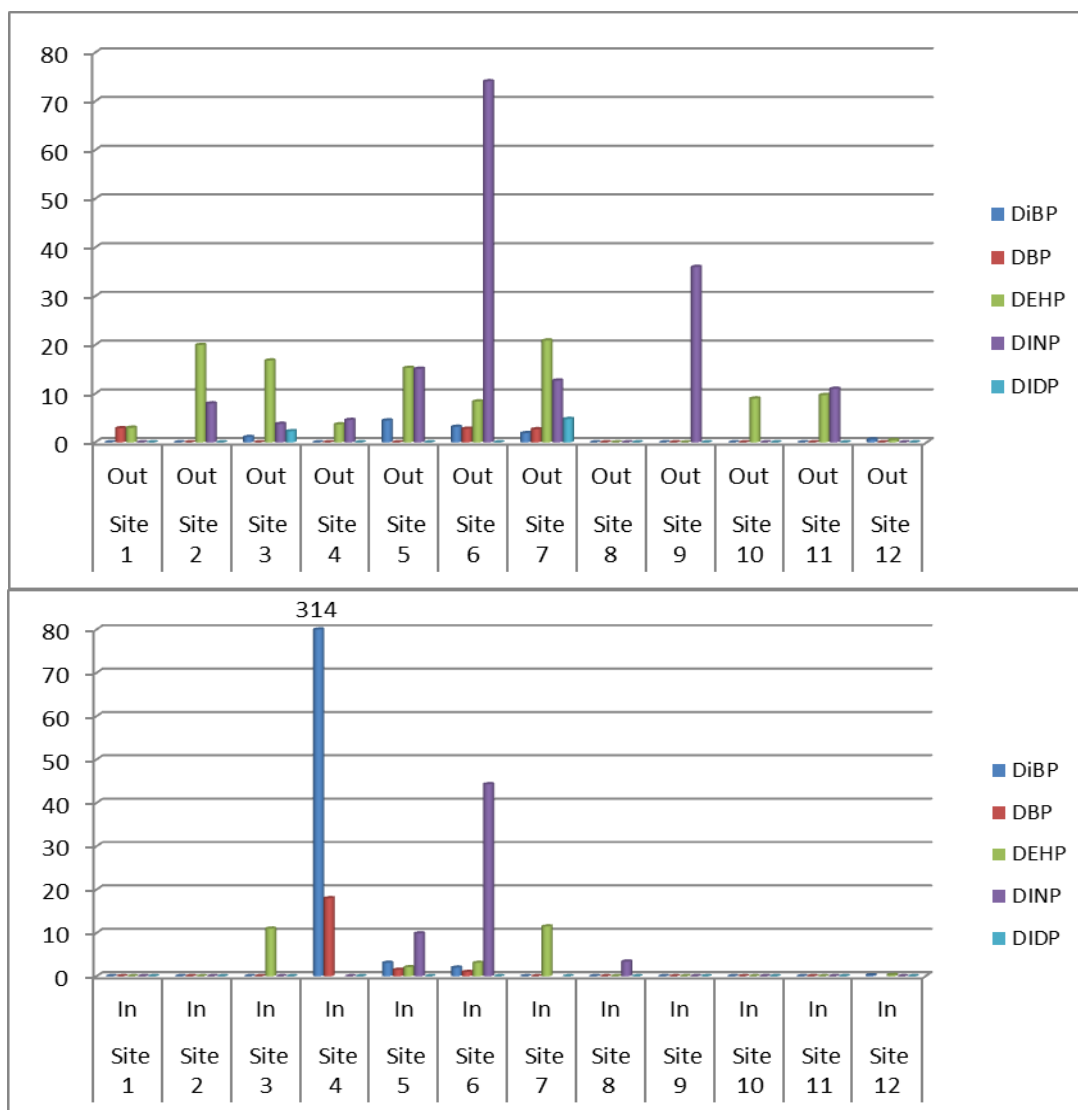
Phthalates in wastewater

In 12 of 31 tested sites, phthalates in outgoing untreated wastewater were found (see following graph).



Comparing the analysis of the materials and the wastewater analysis it can be deduced that mainly the same three phthalates found during materials testing have been detected also in waters: DEHP, DINP, DiBP.

Phthalates comparison in incoming and untreated outgoing waters



As seen in the charts above, just like for the PFCs, in some sites a direct relationship between phthalates present in incoming and untreated outgoing water can be noticed.

Conclusions on phthalates:

- Valentino SpA keeps on monitoring and preventing phthalates use;
- When Phthalates are found, all suppliers are always notified and supported in identifying possible sources and substitutes;
- Cross contamination from chemicals/environment easily occurs;
- Mostly the same phthalates found in products are detected in waters.