



Cotonificio Olcese Spa

APEOs Elimination Investigation Report

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Cotonificio Olcese Spa

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The APEOs Elimination Investigation Report is in fulfillment of the [Cotonificio Olcese Spa](#) commitment to the DETOX solution which were made public on 15th March, 2016

Cotonificio Olcese Spa supports the Detox solution to ban hazardous chemicals from fashion



This report was prepared on behalf of Cotonificio Olcese Spa by Blumine Srl, an independent consulting company specialized in supporting textile and fashion companies in sustainability projects.



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1 APEOs in textile processes

Alkylphenol ethoxylates (APEOs) are a group of nonionic surfactants, the most commonly used being nonylphenol ethoxylates (NPEOs) and octylphenol ethoxylates (OPEOs).

The chemical structure of these molecules has led to a widespread use in textile processes, especially in wet processes, owing to their dispersant, detergent and emulsifying action.

APEOs are hazardous for the environment and for aquatic organisms. Recent research confirms that APEOs are potential endocrine disruptors, as well as being highly bio-accumulative and persistent. APEOs contamination has been detected in riverbeds, water tables and even in the human food chain.

APEOs are already subject to restrictions in Europe since 2005. The EU 2003/53/EG directive has prohibited the use of the main group of APEOs, the NPEOs, in concentrations greater than 0.1% in chemical intermediates. The presence of this group of substances in the processes of European companies and the final products can however be induced by semi-finished and chemicals produced in countries where the use of APEOs is allowed.

Cotonificio Olcese Spa understands that there are multiple supply-chain pathways for potential APEO contamination, including chemical formulations, and is committed to enhancing both training and auditing of its supply chain to ensure that suppliers have the latest information on APEOs, highlighting where there is a risk that APEOs may enter in the undocumented contamination of chemical supplier formulations.

To safeguard the health and safety of consumers, producers and local communities, **Cotonificio Olcese Spa** starting from **March 2016** has introduced the ban on APEOs in the Manufacture Restricted Substances List (M-RSL) that suppliers are required to comply with.

2 Overview of Cotonificio Olcese Spa processes

Cotonificio Olcese Spa is specialized since 1904 in cotton yarn spinning: pure and blended cotton combed yarns, twisted and gassed or twisted, gassed and mercerized, in solid and mélange colors.

Together with another Detox committed Company, Filmar Spa, **Cotonificio Olcese Spa** owns the [Filoscozia®](#) registered brand, which products are made exclusively from noble varieties of durable and naturally shiny extra-long staple cotton.

Cotonificio Olcese Spa inner manufacturing processes, all dry operations: bale opening, mixing and cleaning, carding, drawing, combing, roving, ring spinning and winding, take place in the historical spinning facility in Piancogno (BS, Italy) Risk of APEOs use in the Cotonificio Olcese Spa processes

No wet process take place inside **Cotonificio Olcese Spa** premises. Thus, none of the auxiliaries where APEOs could potentially be used to improve the functional performances, are directly used in **Cotonificio Olcese Spa** own processes. The only chemical product used inside the company are wax rolls (Paraffin), to reduce hairiness and friction of yarn.

3 Risk of APEOs use in the Cotonificio Olcese Spa supply chain

Possible ways APEOs can find their way into **Cotonificio Olcese Spa's** products are chemical auxiliaries such as: lubricants, antistatic agents, dispersants, emulsifiers, silicon based softeners, leveling agents, surfactants, and other auxiliaries with high content of dispersants or emulsifiers that can be used by suppliers of grey or dyed yarns and fabrics and of dyeing, printing and finishing services. especially in those sourced in Countries where the use of APEOs is allowed¹.

APEOs can also be found on fibers sourced in Countries where the use of APEOs is allowed, as they can be found in cotton growing chemicals (foliar feeding and fertilization). **Cotonificio Olcese Spa** purchases cotton fibers from European merchants who procure them from Central Asia and Egypt. Because of their very strong bargaining power, merchants and their associations worldwide keep an attitude of tough closure toward the market need of transparency and responsible sourcing, that can be perfectly summarized by the Bremen Cotton Exchange statement: "Sustainability Cannot be Measured"².

Compliance with the APEO ban requirement is a key criterion currently adopted by **Cotonificio Olcese Spa** to select raw materials and ennobling services suppliers.

¹ In Europe, the use of NPEO has been banned or voluntarily restricted since 1986. Since 1998, the use of APEO in detergents has been forbidden in Germany – and since [month] 2005 the EU directive 2003/53/ EG has forbidden the use of NPEO in higher concentrations than 0.1% in product formulations.

See: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:178:0024:0027:en:PDF> (last seen Nov. 2016)

² In clear opposition to the famous management scholar Peter Drucker's said "What gets measured gets managed". Source: Sustainability area of the Bremen Cotton Exchange website (last seen Dec. 2016) <https://baumwollboerse.de/en/informationen/sustainability/>.

Constant monitoring and cooperation with suppliers must however complement the supplier declarations.

Cotonificio Olcese Spa has chosen to purchase a large share of its raw materials and dyeing and finishing services from Detox committed suppliers, namely **Filmar Spa**, **Filmar Nile Textile S.A.E.** and **Fellicolor Spa**.

4 The investigation plan

Consistent with the Detox commitment signed in **March 2016**, and as part of a program of work to eliminate APEOs and all hazardous chemicals, **the company** carried out a fact-finding investigation about APEOs use in the supply chain.

No process takes place inside the company's premises with a risk of direct APEOs use, thus no investigation was necessary on chemicals used by the company.

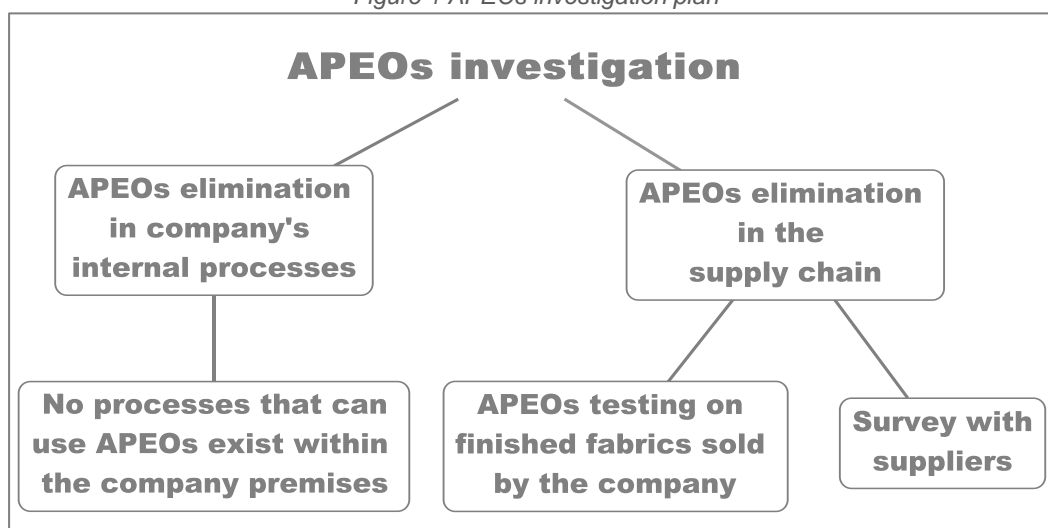
APEOs can enter the supply chain through both the raw materials and the fabrics finishing the best check-point is thus the finished fabric sold by the company.

A further component of the investigation was a questionnaire based survey about the suppliers' awareness of the APEOs toxic features, the risk of APEOs.

The survey played also the role to inform the suppliers about the health risks relevant to APEOs and to reinforce information about the company's APEOs ban policy.

The survey was undertaken at an individual supplier level, and was based on suppliers' self-declaration and self-assessment. All the measures were taken to incentivize the supplier to provide an open and honest evaluation. It is however important to note that the self-assessment nature of the survey brings some limitations to survey results and ensuing conclusions.

Figure 1 APEOs investigation plan



5 APEOs elimination in Cotonificio Olcese Spa supply chain

✓ Testing

AN APEOs testing campaign has been implemented in **February 2016** on a sample of **Cotonificio Olcese Spa** finished yarns. Three samples were chosen representing different supply chains as per the below table:

Table 1 – Tested products

Test Code	Sample	Raw material origin	Dyeing supplier origin
16RA01831	BLU RT P 326575 Yarn, dyed with reactive dyes	China	Italy
16RA01832	BLU RT P 6182 Yarn, dyed with reactive dyes	Turkey	Turkey
16RA01834	BLU RT P 326575 Yarn, dyed with reactive dyes, Sulphur and indanthrene	Egypt	Italy

✓ Pass / Fail threshold

The sampled items cover 80% of our production in 2016 and 80% of our suppliers.

A test is considered “Pass” if the substance is “not detectable” at the specific method LOD. Best testing methods available at independent certified laboratories were used. The LOD is set at 0,7 mg/kg for NPEOs and OPEOs and at 01, mg/kg for NPs and OPs. LODs of the other 10 priority groups can be found in the full test reports at [this link](#) in the **Cotonificio Olcese Spa** website.

✓ Results

Results of the APEOs testing are summarized in the table below.

Table 2 - Test results by product

Substance name	Sample	Cas n.	LOD	Pass/ Fail
NPEO (1-20)	All samples	various	0,7 mg/kg	Pass
OPEO (1-20)	All samples	various	0,7 mg/kg	Pass
Nonylphenol (NP)	16RA01831	various	1,0 mg/kg	Fail (3,2 mg/kg)
“	16RA01832	various	1,0 mg/kg	Fail (9,1 mg/kg)
“	16RA01834	various	1,0 mg/kg	Fail (9,1 mg/kg)
All other APEOs	All samples	various	1,0 mg/kg	Pass

Test were Pass for all APEOs except a multiple group of Nonylphenol - NP that were found with a concentration higher than the LOD (from 3,2 to 9,1 parts per million).

While the very low level of NPEOs and the absence of other APEOs found by the tests confirm that no systematic or intentional use of APEOs is carried out by the company, a supplement of investigation is due to spot the source of contamination.

5.1 Survey with Cotonificio Olcese Spa's suppliers

Cotonificio Olcese Spa recognizes that all suppliers must be involved in the process of the substitution of APEOs from the supply chain. Therefore, an investigation on the use of APEOs by suppliers was launched in October 2016.

5.1.1 Method: survey frame

In **October 2016**, **Cotonificio Olcese Spa** conducted a global survey with our suppliers to assess:

- the risk of APEOs (intentional) use
- the suppliers' awareness of APEOs impact on human health
- the cooperation of all suppliers, including chemicals', to investigate the presence of APEOs in the supply chain

A survey questionnaire was sent to 27 suppliers (23 purchased materials and 4 dyeing and finishing services) accounting for 85% of relevant **Cotonificio Olcese Spa's** suppliers, for 80% of purchased materials and for 95% of dyeing and finishing services.

16 of the involved suppliers participated: 2 respondents are from China, 1 from New Zealand, 2 from Turkey, 2 from Egypt, 2 from the UE and 7 from Italy. The survey redemption rate was around 60%, corresponding to over 50% of relevant **Cotonificio Olcese Spa's** purchases.

The survey was based on suppliers' self-declaration and self-assessment. All the measures were taken to incentivize the supplier to provide an open and honest evaluation. It is however important to note that the self-assessment nature of the survey brings some limitations to survey results and ensuing conclusions.

The answers helped in the assessment of suppliers' M-RSL non-compliance in APEO use risk assessment, including an assessment of the awareness and the monitoring capacity of the suppliers.

5.1.2 Risk of APEOs Intentional use by suppliers

The intentional use of APEOs by suppliers was investigated with a funnel questioning approach:

- Q7. Does Your Company use water in any manufacturing stage?
- Q8. (if yes to Q7) Does Your Company use cleansing detergents?
- Q9. (If yes to Q8) Does Your Company use surfactants?
- Q10. (If yes to Q9) Does Your Company use APEO based cleansing detergents?

The risk assessment model assumes that supplier not using water in the industrial processes makes the potential risk of intentional use of APEOs very low. The model

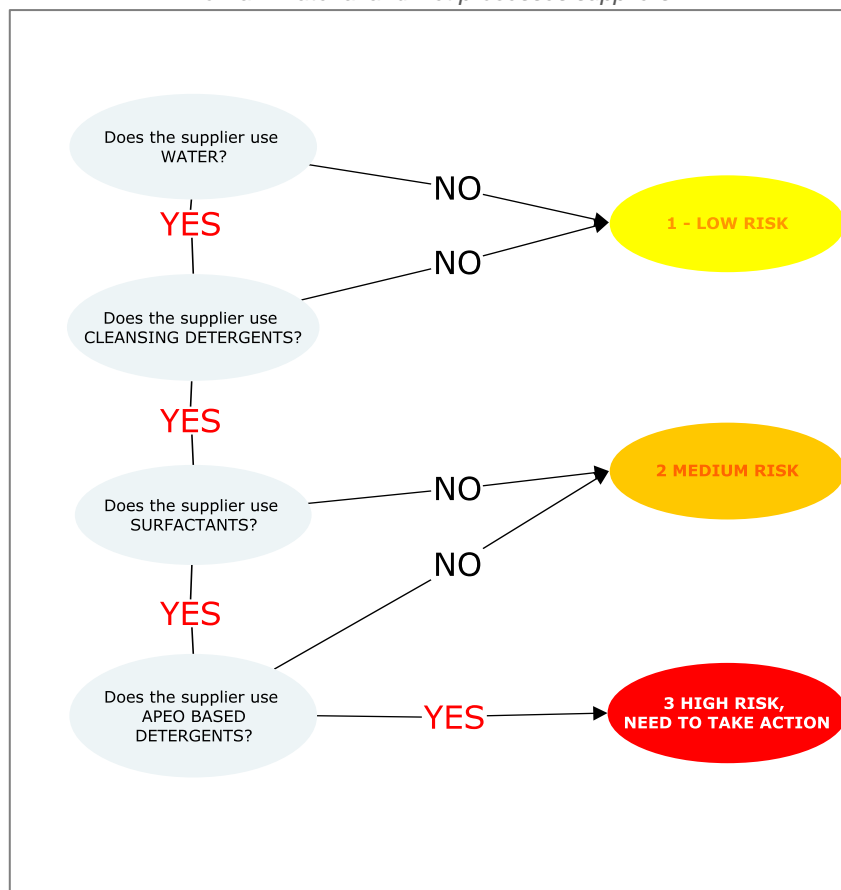
however suffers from a limitation: the supplier (1st tier) can be unaware of APEOs use by its own suppliers (2nd or 3^d tiers), short of information about suppliers' own supply chain the limitation cannot be overcome. The assessment model, shown in Low risk. Action: ask supplier to investigate its own wet processes suppliers

Medium risk. Action: check supplier APEOs awareness, set monitoring plan
High risk. Action: request the supplier to eliminate APEOs or change supplier

Figure 2, identifies three levels of risk and the relevant actions to implement:

- **Low risk.** Action: ask supplier to investigate its own wet processes suppliers
- **Medium risk.** Action: check supplier APEOs awareness, set monitoring plan
- **High risk.** Action: request the supplier to eliminate APEOs or change supplier

Figure 2 suppliers' APEOs intentional use risk assessment model for raw material and wet processes suppliers



✓ Results

- 3 suppliers, Filmar Spa and **Fellicolor Spa**, are Detox committed and classified NO RISK. APEOs were absent from last **Filmar Spa** and **Filmar Nile Textile S.A.E.** test reports available [here](#) and [here](#) respectively and from **Fellicolor Spa** test reports available [here](#).

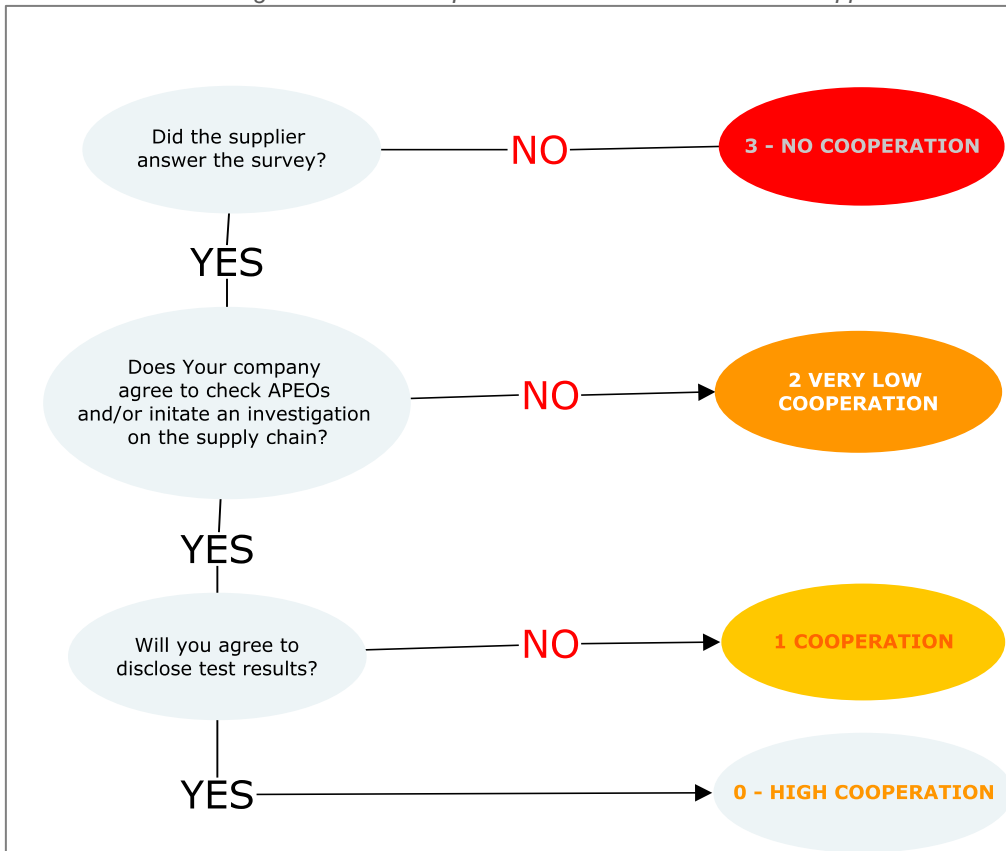
- 10 suppliers declared in the survey to use water but no cleansing detergents in their processes and were classified as LOW RISK, they will all be asked to investigate their wet processes suppliers.
- 3 suppliers were classified as MEDIUM RISK because one declared to use no surfactants and two no APEOs, they will all be monitored.

5.1.3 Cooperation in investigating APEOs in the supply chain

The suppliers' level of cooperation was surveyed with specific questions:

- Q22. (if presence already checked) Will You agree to disclose the test reports of your water/sludge lab analysis?
- Q23. (if presence not already checked) Will You agree to check for the presence of Alkylphenol, Nonylphenol or Octylphenol Ethoxylates (APEOs) in Your discharge waters/sludge through water/sludge lab analysis?
- Q24. Will You agree to disclose the lab analysis results on APEOs? ?
- Q26. Will You agree to initiate an investigation on the presence of APEOs in the cleansing detergents consumed by Your Company and/or by your suppliers?
- Q27. In case APEOs are detected on the products You sell to our company will You agree to initiate an investigation to eliminate them and to have APEOs based detergents substituted?

Figure 3 APEOs cooperation assessment model of all suppliers



✓ Results

- 11 suppliers involved in the survey did not participate and were classified NO COOPERATION
- 1 cotton fiber supplier did not agree to check APEOs presence in its products and is classified VERY LOW COOPERATION.
- 15 suppliers were classified HIGH COOPERATION: 10 do not use water and agreed to initiate an investigation for elimination and substitution with their suppliers in case APEOs were to be found in their products in the future; 5 use water, test their discharges and agreed to disclose or publicly share test results.

Overall, 15 suppliers were classified HIGH COOPERATION; 12 were classified VERY LOW/NO COOPERATION. An action aimed to improve cooperation of the latter will be set up in 2017 to foster risk prevention.

6 Conclusions from the investigation and Cotonificio Olcese Spa next steps

Cotonificio Olcese Spa understands that there are multiple supply-chain pathways for potential APEO contamination (including chemical formulations) and is committed to enhancing both training and auditing of the supply chain to ensure suppliers have the latest information on APEOs, highlighting where there is a risk that APEOs may enter the undocumented contamination of chemical supplier formulations.

The elimination of APEOs across the supply chain is a key success metric for the individual action plans of **Cotonificio Olcese Spa**.

Initiatives are already in progress or implemented to ensure no APEOs can enter **Cotonificio Olcese Spa** products at different stages in the supply chain:

- the public M-RSL bans the use of APEOs since **March 2016**
- Supply contracts are being reformulated to reinforce full supply chain compliance with **Cotonificio Olcese Spa** APEOs elimination commitment;
- An APEOs focused testing program was implemented in **February 2016** on a sample of products sold by the company;
- A questionnaire survey was delivered to relevant suppliers in October 2016, to investigate:
 - the risk of APEOs (intentional) use
 - the cooperation of all suppliers, including chemicals', to investigate the presence of APEOs in the supply chain

Main findings

- Fail – from 3,2 to 9,1 mg/kg on a multiple group of Nonylphenol - NP and “Non detectable” for all other APEOs in all samples.
- Traces of APEOs – from 3,2 to 9,1 mg/kg on a multiple group of Nonylphenol - NP - were found on **Cotonificio Olcese Spa** products. A very low result that does not depend on intentional use, as per the collected chemicals suppliers’ declarations.
- The supplier survey was answered by 16 of the 27 suppliers involved in the survey by **Cotonificio Olcese Spa** accounting for 60% of relevant suppliers and for 50% of purchases. 2 respondents are from China, 1 from New Zealand, 2 from Turkey, 2 from Egypt, 2 from the UE and 7 from Italy.
- The survey highlighted an overall low risk of APEOs intentional use in the supply chain, with 3 NO RISK/Detox committed suppliers (**Filmar Spa**, **Filmar Nile Textile S.A.E.** and **Fellicolor Spa**) and 10 LOW RISK suppliers that will be asked to investigate their own wet processes and chemicals suppliers, and 3 MEDIUM RISK suppliers, which will be monitored.
- The survey found that cooperation for APEOs elimination is barely satisfactory, with 15 suppliers classified HIGH COOPERATION, and 12 VERY LOW/NO COOPERATION. An action aimed to improve cooperation of the latter will be set up in 2017 to foster risk prevention.

Cotonificio Olcese Spa is working to achieve active involvement across the supply chain in order to:

- Disseminate information about APEOs substitutes;
- Identify chemical formulations containing APEOs still in use;
- Identify alternative formulations or substances that guarantee equivalent results in industrial processing;
- Undertake systematic substitution to achieve total elimination across the supply chain.

Cotonificio Olcese Spa, as part of the Italian DETOXLeader Group together with Canepa Spa, Miroglio Group, Italdenim Spa, Berbrand Srl, Tessitura Attilio Imperiali Spa, Zip Gfd Spa, Ditta Gaetano Lanfranchi Spa, Taroni Spa, Fellicolor Spa, Mabo Spa, Itaclab Srl, Alesilk Sas, Dienpi Srl, Filmar Spa, Filmar Nile Textile S.A.E., Imbotex Srl, Italtexsil Sarata Srl, Maglificio Ripa Spa, Monticolor Spa, Ongetta Srl, is fully aware that only with the active participation of the entire fashion industry it is possible to deliver the desired outcomes on a global scale.