



AUDIT REPORT MANGO - DETOX PROJECT

Enterprise name:

SUPPLIER 1

SUPPLIER 2

Facility name:

Zhejiang Huafu Melange Yarn Co., Ltd.

Audit Data: 8 March, 2013

Auditor Equip:

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Report by Inma Montes (AITEK)



INDEX

1. PURPOSE OF THE REPORT

1.1. Relationship with MANGO

2. AUDIT PROCESS

2.1. Audit protocol

2.2. Measuring protocol

2.3. Audit and laboratory results

2.3.1. Suported documents

2.3.2. Recommendations

2.3.3. Facility sign-off

3. DECLARATION OF THIRD PARTY

Annex 1:

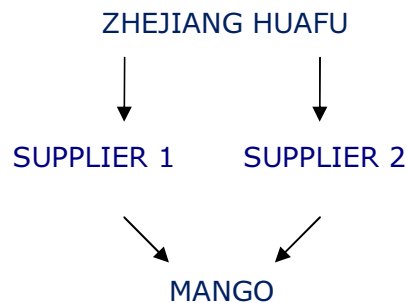
List of analytes (as per IPE Corporate Disclosure Data Form ENG FINAL Q1 0320)

Original Testing Report

1. PURPOSE OF THE REPORT

The purpose of this report is auditing, based on the Standard Oeko-tex® Standard 1000, by checking the use of chemicals products within the production process in the related factory and the release of any harmful chemicals after the wet processes performed.

1.1. Relationship with MANGO



Zhejiang Huanfu is the raw material supplier facility in the sourcing chain of two of the main suppliers of finished garments for MANGO. Zhejiang Haunfu provides dyed yarn (complete process in the same factory) for the production of knitting garments for the final buyer: MANGO.

2. AUDIT PROCESS

2.1. Audit protocol

The system used in the quality control audit is based on the audit procedure of the Oeko-Tex® Standard 1000, specific certification for textile companies that want to differentiate their good environmental performance and was carried out by the independent third party auditor Aitex (see section 3) accompanied by Mango staff, including the following steps:

- ✓ **Opening meeting:** explaining reason of the audit, explanation of the program, steps for future follow-up, affirmation of the confidentiality.
- ✓ **Documentary review and questionnaire** to be completed by Aitex as per the comments from the responsible staff of the facility and the main responsible person in charge of chemicals/environment area of the company. The questionnaire helps to determine the kind of production process carried out in the company, environment impact points as well as other general information about consumptions, list of chemicals, external certifications (ISO 14001, Oeko-Tex® Standard

100), third party inspections reports, internal reports of waste water, etc.

- ✓ **Inspection to the facility:** The different areas of production of the company are freely and properly checked to ensure all discharge pathways. Points of greater risk environment impact are identified (chemical room, drainage discharges, pipes, etc). After identifying the points of discharge, the sample is taken *in situ* from all points considering necessary (upstream and if possible, from any further treatment): one sample making up 2000 ml and not in alternative times. Pictures were taken for my records.
- ✓ **Closing meeting:** some remarks and comments after the visit are given and shared with the managing representatives of the company.

Notes: During the whole process, a Chinese interpreter joined us for the correct communication. Samples were properly sealed and identified and sent to the laboratory for the testing.

2.2. Measuring protocol

Zhejiang Huanfu is a company of spinning and yarn dyeing. The main environmental concern in this textile industry is about the amount of water discharged and the chemical load it carries.

To evaluate the environmental impact of waste water a representative sample of the pollutant concentration level was taken at the end of the wet production process which was assessed as the main discharge upstream of any treatment (ie before waste water treatment whether facility own treatment or collective/ publicly owned treatment).

Zhejiang Huafu Melange Yarn Co., Ltd.			
Name of sample	Day (Day/month/year)/ Time	Sampling point	Volum
080313AR1	08/03/2013 12:00	Discharge pipe coming out of the washing area and after all production process	2000 ml

The samples were always collected by the auditor during the on-site audit. As they were always taken at the same time, there are no alternative results.



The location of the facility where the sample 080313AR1 was taken is as follows:

1088 Renmin Middle Road
Economy Development Zone
312300 Shangyu (Zhejiang)
China

The management of sludge in this company is conducted through the Government. The Government is responsible for periodically remove sludge and uses them to generate electricity. Once the Government assesses its properties manages disposal and in this case intended it for combustion electric power generation plants.

In the Protocol of Oeko-Tex® Standard 1000 audit is established that if the company is not responsible for the management of sludge, we don't consider necessary to take sample, because the impact produced cannot be quantified.

In line with the Detox ambition and prevention at source, we understand that the sampling should however be done before any treatment of the waste water to ensure that no substances are being used in the process. In this perspective the sampling of sludge is not relevant for detecting use.

2.3. Audit and laboratory results

The laboratory performing the analyzes of samples taken in companies is:

Intertek Testing Services Ltd., Shanghai
www.intertek.com

For more than 100 years, Intertek has guided clients through the challenging certification process. Offering the broadest range of certification and accreditation marks accepted in markets around the world, Intertek can help clients to succeed in new and existing markets, meet evolving regulatory requirements and win new customers.

Intertek is a leading provider of independent analytical laboratory testing services, from advanced R&D research projects to routine quality tests. The analytical services laboratories are staffed by trained chemists, material scientists, technicians and laboratory management with years of industry knowledge and expertise.

Chemical Analysis - GLP Laboratories

- Structure elucidation, chemical identification, reformulation, reverse engineering
- Determination of impurities and contaminants: By-product profiling and identification, identification of unknown compounds
- Preparation and qualification of reference material



- Analytics in regulated areas: REACH, GLP/GMP, CoAs for registration
- Molecular weight distribution, In-situ reaction monitoring, reaction kinetics, color and white metrics
- Special library services: MS, IR, Raman, NMR
- Open access and express services: NMR, LC-MS, FTIR, GC-MS
- Failure analysis: Foreign particles, deposits, blooming, discoloration

Microscopy and Surface Analysis

- Surface sensitive analysis: Thin film analysis, depth profiling, penetration studies, cleanliness studies
- Surface properties: Topography, roughness, morphology, elasticity
- Particle properties: Size, shape, morphology
- Failure analysis: Elemental microanalysis, cross-section analysis
- Analytical imaging applications: EDX-mapping, STEM, SIMS-mapping, FTIR, Raman, polymorphism, uniformity, distribution, chemometry
- Open access and express services: SEM and AFM

Trace Analysis - GLP/GMP-Laboratories

- Extractables and leachables studies for all types of pharmaceutical container closure systems and in-process materials
- Impurity profiling: APIs and finished drug systems, screenings and failure investigations
- Method development & validation (GMP): QC methods and process validation methods
- Reference material qualification
- Classical trace analysis: PCDD/Fs, PCBs, PAHs, N-Nitrosamines, fluoro-organics, aromatic amines organo tin compounds
- VOCs: Volatile organic compounds, residual solvents & odor problems
- OECD-methods (GLP): Water solubility, Kow- and Koc-value, hydrolysis studies, soil sorption, etc.
- Migration studies according to EU and/or FDA guidelines

2.3.1. Supporting documents

In the audit, the audit team verified that Zhejiang Huafu Melange Yarn Co., Ltd. has the following certificates:

Document	Number	Comments
Certificate Oeko-Tex® Standard 100	BEYO 062509	Product Class I (90% total production certificate) Expiry date: 15/04/2013
Certificate Oeko-Tex® Standard 1000	OTS 065055	Top dyeing, spinning, twisting, finishing and packing Expiry date: 30/11/2015
Certificate Oeko-Tex® Standard 100 plus	BEYO 062509	Top dyed mélange yarns made of 100% CO, 100% Modal, 100% Tencel, 100% Rayon an their mixtures, as well as mixtures with viscose from bamboo fibre, cashmere, polyester, recycled

		polyester, nylon, acrylic, outlast (acrylic) and wool, linen & silk, raw, dyed and finished Expiry date: 15/04/2013
Environment licence	Yes	Expiry date: 30/12/2016
Quality Management System - ISO 9001:2008	FM 79935	Expiry date: 08/08/2015
Environmental Management System - ISO 14001:2004	EMS 539388	Expiry date: 18/07/2014

In this facility, the places where there is a greater risk of environmental impact are:

- Chemicals warehouse, which is equipped for this purpose and in accordance with standards ISO quality and environment certified externally and inventory of MSDS with environment criteria.
- Hazardous waste, which is properly paved and store under cover, with the appropriate retention basins and respecting the incompatibilities between chemicals.
- Waste water discharge point: coming out after the washing area discharge. Later, the water is treated in an own treatment plant with biological pools and daily control of the main parameters before final treatment in a government plant.
- The company has Oeko-tex® Standard 1000. OEKO-TEX® Standard 1000 is a testing, auditing and certification system for environmentally friendly operations along the textile chain. It includes all operationally relevant areas (management, production technologies, use of resources, quality assurance, safety precautions, social working conditions etc.) in its examination of sustainability.
- The company has Oeko-Tex® Standard 100. The OEKO-TEX® Standard 100 is an independent testing and certification system for textile raw materials, intermediate and end products at all stages of production. Examples for items eligible for certification: Raw and dyed/finished yarns, raw and dyed/finished fabrics and knits, ready-made articles (all types of clothing, domestic and household textiles, bed linen, terry cloth items, textile toys and more).
- The company has ISO 14000. This certificate is a family of standards related to environmental management that exists to help organizations minimize how their operations (processes etc.) negatively affect the environment (i.e. cause adverse changes to air, water, or land); comply with applicable laws, regulations, and other environmentally oriented requirements, and continually improve in the above.

The substances intended for analysis is listed in Annex 1 (List of Analytes) according to the IPE disclosure data form (v 0320). The original test report is also provided in Annex 1.

The results obtained are as follows:

	Concentration of pollutant release (mg/L)	Total pollutant discharge estimation (kg/year)
Total Copper (Cu)	0,073	84,753803
Total Nickel (Ni)	0,01	11,61011
Total Zinc (Zn)	0,546	633,912006

Measurement method used for calculating total Pollutant Discharge:	Self-monitored data
Source of Pollutant concentration data:	Self-monitored data

Total volume of discharged water during 2012: 1.161.011 m3/year.

The total pollutant discharge estimation has been calculated with the total waste water discharged during 2012 (one complete year) as per documentation collected during the audit.

It is worthy to remind the variability in the process discharges along the year and that this sample was taken at an specific moment. For better interpretation of results, it would be advisable periodical follow-up into the sample flow.

EVALUATION OF RESULTS

Heavy metals are present mainly in the dyes and pigments chemicals and solvents to be characteristic of certain colors.

Metals can be present in dyes for two reasons: firstly, metals are used as catalysts during the manufacture of some dyes and can be present as impurities. Secondly, in some dyes the metal is chelated with the dye molecule, forming an integral structural element.

Dye manufacturers are now putting more effort in reducing the amount of metals present as impurities. This can be done by selecting the starting products, removal of heavy metals and substitution of the solvent where the reaction takes place.



Examples of dyes containing bound metals are copper and nickel in phthalocyanine groups, copper in blue copper-azo-complex reactive dyes and chromium in metal-complex dyes used for wool silk and polyamide. The total amount of metallised dye used is decreasing, but there remain domains (certain shades such as greens, certain levels of fastness to light) where phthalocyanine dyes, for example, cannot be easily substituted.

The presence of the metal in these metallised dyes can be regarded as a less relevant problem compared to the presence of free metal impurities. Provided that high exhaustion and fixation levels are achieved and that measures are taken to minimise losses from handling, weighing, drum cleaning, etc., only a little unconsumed dye should end up in the waste water. Moreover, since the metal is an integral part of the dye molecule, which is itself non-biodegradable, there is very little potential for it to become bio-available.

It is also important to take into account that treatment methods such as filtration and adsorption on activated sludge, which remove the dye from the waste water, also reduce nearly proportionally the amount of bound metal in the final effluent. Conversely, other methods such as advanced oxidation, may free the metal.

ADDITIONAL COMMENTS

The main effects on the environment of these compounds are:

Copper: Environmental Effects

Deposited copper in soils is toxic to certain soil micro-organisms and can disrupt processes such as nutrient cycling or inhibit other processes such as the mineralisation of nitrogen and phosphorous. Accumulation in species varies significantly as does their ability to cope with a range of copper levels in their bodies. Toxic effects have been observed in some species of fish and in other aquatic organisms.

Nickel: Environmental Effects

Nickel is a dietary requirement for many organisms, but may be toxic in larger doses. Metallic nickel and some other nickel compounds are teratogenic and carcinogenic to mammals. Nickel concentrations in plants are usually 1 µg/g, and concentrations above 50 µg/g are toxic.

Zinc: Environmental Effects

Zinc was not attributed a water hazard class, because it is not considered a hazard. This however only concerns elementary zinc. Some zinc compounds, such as zinc arsenate and zinc cyanide, may be extremely hazardous. Zinc is a dietary mineral for humans and animals. Still, overdoses may negatively influence human and animal health and over a certain boundary concentration, zinc may even be toxic. Toxicity is low for humans and animals, but phytotoxicity may not be underestimated.



By comparing the results obtained and the regulations in force in China according to standard GB3838-2002, they do not exceed in any parameter, so the results comply with the legal standard of the region.

AITEX, as the laboratory in charge of monitoring the control of harmful substances on all MANGO goods, can confirm that these substances that may appear during the production process and waste water, are tested on the final product before selling to avoid any danger to human health following the most restrictive standards of all countries where their products are marketed.

2.3.2. RECOMMENDATIONS

To avoid the detection of these compounds in the wastewater is recommended to replace the pigments and dyes on metal base by others more correct environmentally.

2.3.3. FACILITY SIGN-OFF

The responsibility for the discharges data included in this report has been fully recognised and agreed for disclosure by the CEO/ General Manager of the facility with the accompanying additional information (see scan of original declaration below):



Corporate Disclosure Data Form

Enterprise Name (Chinese) : 浙江华孚色纺有限公司
Enterprise Name (English) : Zhejiang Huafu Melange Yarn Co., Ltd.
Facility Name / identity (if enterprise has several facilities): 浙江华孚色纺有限公司
Facility Address: 浙江省上虞市人民中路1088号
No. 1088 Remin Middle Road Shangyu Zhejiang

Type of industrial activity (sector, subsector¹):
Basketed-Pre-treatment-Dyeing-After-treatment-Dehydration-Drying
 装笼-前处理-染色-后处理-脱水-烘干
 混棉--清花--梳棉--并条---粗纱--细纱--络筒--包装

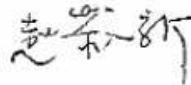
Reporting Year: 2013
Trimester period data applies to²: Jan 2013 to Mar 2013

Responsible person³

Name (please print): Hongwei Meng **Title:**
 孟红卫 **经理**
Phone number: 15968593967

Date submitted: 2013.04.02 **Signature:** 孟红卫

Signature of CEO or General Manager: 赵黎新





¹ Eg textile/apparel, dyeing
² Eg. 1 Jan 2013- 31 Mar 2013
³ Eg the person responsible for environmental management

Other Parameters, relevant pollutant discharge information and environment management status:

e.g. other pollutant concentration data (ETP outlet/discharges and sludge), leaks, accidents etc. that occurred that would explain discharge anomalies or extra auditing process information, progress information reports, actions taken to achieve results etc

自公司成立以来，始终将环境保护作为公司发展的重要前提之一。在此方面，以 ISO14000 为管理体系，将环境管理穿插于公司生产经营的各环节，以实现对环境因素的全过程控制。侧重运用以下措施，不断提高环境友好水平：

一、绿色采购

公司按照 Oeko-Tex100 等国际生态纺织品标准的要求，严格对原材料供应商进行绿色审核，以确保产品的生产与使用满足环保、健康的纺织品要求，并通过此种方式，积极打造绿色供应链。

二、环境管理规划

为使公司环境管理保持持续和有计划的创新，公司编制《环境保护工作五年规划》，对一定时期的内外部环境要求发展的需要进行预测，提出控制目标和措施，并加以落实。

三、清洁生产

公司通过持续进行清洁生产活动，不断降低生产的能源资源消耗，并以此减少污染物的排放。

四、污染防治

在工厂建设前，对项目进行环境的影响评价，识别主要污染物，并配置相应的污染防治设施。通过与生产订单联系，提前做好好污染物处理的计划安排，实现污染物防治的主动性。

五、环境应急

公司高度重视环境风险的防范，结合自身实际编制《环境突发事件应急预案》，并定期开展应急演练，时刻保持应急能力。

经过以上措施的实施，公司顺利通过了 ISO14000、Oeko-Tex100、Oeko-Tex1000 等一系列环境及生态纺织品认证，近几年污染物均做到达标排放，污染物总量持续下降，未发生任何重大环境事故和环境投诉。

END

3. DECLARATION OF THIRD PARTY



Alcoy, March 2013

To whom it may concern,

Vicente Blanes Julià, as General Manager of the Institution AITEX (Textile Research Institute) declares that:

AITEX is a private non-profit association that encompasses textile and textile-related companies. Its ultimate aim is to make this sector more competitive. To achieve this, the Institute promotes modernisation and the introduction of new and emerging technologies by developing R&D projects and, in general, any initiatives that will contribute to the industrial progress of the sector.

It is registered with the Register of Innovation and Technology Centres, registration number 36, as well as the Research Results Transfer Office (OTRI), registration number 115. It is also a member of the Spanish Federation of Innovation and Technology Centres (FEDIT) and the Region of Valencia's Network of Technology Institutes (REDIT) as well as a number of other national and international organisations.

AITEX has accredited the following standards for their organisation:

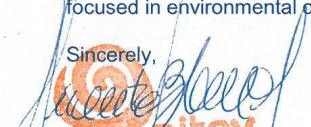
- It is a recognized testing laboratory that works according to a standardized and organized management system to ensure the uniformity of their work to their customers. AITEX laboratory services are accredited by ENAC according to the norm UNE - EN ISO IEC 17025:2005 ERRATUM:2006 "General requirements for the competence of laboratories testing and calibration" and document CGA - ENAC - LEC "general criteria for the accreditation of laboratories for testing and calibration according to standard UNE EN ISO IEC 17025".
- Also during 2012 the certification of the quality system of AITEX according to the reference standard UNE - EN - ISO 9001:2008 "quality management systems, requirements by AENOR has been remained.

In Spain, only AITEX is the institute authorized for auditing and certificate Oeko-Tex® Standard 100 (for product) and Oeko-Tex® Standard 1000 (for companies), under the supervision of the Secretariat, International Association for Research and Testing in the Field of Textile Ecology (OEKO-TEX®) in Zürich.

The auditors involved in the project MANGO - DETOX work with complete impartial criteria with audited companies.

The staffs involved have the appropriate training to be an evaluation body focused in environmental objectives.

Sincerely,



Vicente Blanes Julià
General Manager AITEX

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www.textil.org
info@aitex.es



Los ensayos acreditados por ENAC se encuentran disponibles en el departamento de calidad del Instituto
Asociación de Investigación de la Industria Textil - C.I.F.: G03182870

Annex 1

List of analytes

SUBSTANCE GROUP/COMMON NAME	CAS number	COMMENTS
<u>Heavy Metals</u>		
Total Hexavalent chromium	NA	SEE LAB REPORT ATTACHED
Mercury and its Compounds or Total Mercury	NA	SEE LAB REPORT ATTACHED
Lead and its Compounds or Total Lead	NA	SEE LAB REPORT ATTACHED
Cadmium and its Compounds or Total Cadmium	NA	SEE LAB REPORT ATTACHED
Total Chromium	NA	SEE LAB REPORT ATTACHED
Total Zinc	NA	SEE LAB REPORT ATTACHED
Total Manganese	NA	* NOT TESTED* (Missing substance as it is not regulated in China for textile wastewater.)
Total Cyanide	NA	* NOT TESTED* (Missing substance as it is not regulated in China for textile wastewater.)
Nickel	NA	SEE LAB REPORT ATTACHED
Total Copper	NA	SEE LAB REPORT ATTACHED
Other heavy metals ¹	NA	TOTAL ARSENIC (SEE ORIGINAL LAB REPORT)
<u>Alkylphenols</u>		
NP / 4-NP (branched)	25154-52-3 ² ALTERNATIVE 11066-49-2 ³ Or 90481-04-2 ⁴	SEE LAB REPORT ATTACHED
NPE	commonly used CAS number is 9016-45-9 ⁵	NPEO ⁽¹⁺²⁾ , NPEO ⁽³⁻¹⁸⁾ (SEE ORIGINAL LAB REPORT)
4-t-OP	140-66-9	SEE LAB REPORT ATTACHED (4-t-OP = OP)

¹ to be filled in by facility for any other relevant heavy metals that are listed

² Commonly used, cite from OSPAR

³ From Information from the Existing Substances Regulation: <http://echa.europa.eu/web/guest/information-on-chemicals/information-from-existing-substances-regulation>

⁴ From EU risk assessment: <http://echa.europa.eu/web/guest/information-on-chemicals/information-from-existing-substances-regulation>

⁵ From OSPAR

4-t-OPE	26636-32-8	* NOT TESTED*. MISSED
Other alkylphenols ⁶	NA	OPEO ₍₃₋₁₆₎ (SEE ORIGINAL LAB REPORT)
<u>Phthalates</u>		
DEHP,	117-81-7	SEE LAB REPORT ATTACHED
DBP,	84-74-2	SEE LAB REPORT ATTACHED
BBP	85-68-7	SEE LAB REPORT ATTACHED
DIBP,	84-69-5	SEE LAB REPORT ATTACHED
DNOP	117-84-0	SEE LAB REPORT ATTACHED
DIDP	26761-40-0 and 68515-49-1	SEE LAB REPORT ATTACHED
DINP	28553-12-0 and 68515-48-0	SEE LAB REPORT ATTACHED
Other phthalates ⁷		DnHP (SEE LAB REPORT ATTACHED)
<u>Brominated and Chlorinated flame retardants</u>		
HBCDD ,	25637-99-4, 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)	SEE LAB REPORT ATTACHED
Tris (2,3-dibromopropyl) phosphate	126-72-7	* NOT TESTED*. MISSED
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	* NOT TESTED*. MISSED
Tetra BDE	40088-47-9	SEE LAB REPORT ATTACHED
PentaBDE	32534-81-9	SEE LAB REPORT ATTACHED
HexaBDE,	36483-60-0	SEE LAB REPORT ATTACHED
HeptaBDE,	68928-80-3	* NOT TESTED*. MISSED
octaBDE,	32536-52-0	SEE LAB REPORT ATTACHED
NonaBDE	63936-56-1	* NOT TESTED*. MISSED
decaBDE,	1163-19-5	SEE LAB REPORT ATTACHED

⁶ to be filled in by facility for any other relevant alkylphenols that are identified eg on Material safety data sheets

⁷ to be filled in by facility for any other relevant phthalates that are identified eg on Material safety data sheets

Other brominated or chlorinated Flame retardants ⁸	59536-65-1 / 79-94-7	PBBs and TBBPA (SEE LAB REPORT ATTACHED)
Azodyes ⁹		TESTED: 22 AMINES as per REACH Regulation.
		* NOT TESTED*: 2,4-Xylidine / 2,6-Xylidine. From now on, Chinese GB18041 standard will be follow to include all 24 amines.
Organotin Compounds ¹⁰		
Tributyltin compounds(TBT)	56573-85-4	SEE LAB REPORT ATTACHED
Dibutyl tin compounds(DBT)	1002-53-5	SEE LAB REPORT ATTACHED
Mono butyltin compounds	78763-54-9	MBT (SEE LAB REPORT ATTACHED)
Octyl tin compounds (DOT)	15231-44-4	SEE LAB REPORT ATTACHED
Phenyltin compounds	668-34-8	TPT (SEE LAB REPORT ATTACHED)
Other organo tins ¹¹		TPhT (Triphenyltin), MOT (Monooctyltin), TphT (Diphenyltin), TeBT (Tetrabutyltin), TcYT (Tricyclohexyltin), TeET (Tetraethyltin) (SEE ORIGINAL LAB REPORT)
Perfluorinated Chemicals		
PFOS	307-35-7; ALTERNATIVE 1763-23-1.	SEE LAB REPORT ATTACHED
PFOA	335-67-1	SEE LAB REPORT ATTACHED
Other C8 PFCs ¹²	NA	NA
PFHXS	432-50-7	* NOT TESTED*
PFHXA	307-24-4	* NOT TESTED*
Other C6 PFCs ¹³	NA	NA
PFBS	375-73-5	* NOT TESTED*. MISSED
PFBA	375-22-4	* NOT TESTED*. MISSED
Other C4 PFCs ¹⁴	NA	NA

⁸ to be filled in by facility for any other relevant brominated or chlorinated flame retardants in this group that are identified eg on Material safety data sheets

⁹ Azodyes mentioned here refer to the 24 compounds banned by the National General Safety technical Code for textile products. (GB 18401-2010)

¹⁰ Part of the CAS code of Organotin Compounds are quoted from American Apparel & Footwear Association – Restriction Substance List (AAFA RSL, Oct, 2012).

¹¹ to be filled in by facility for any other relevant organotins in this group that are identified eg on Material safety data sheets

¹² to be filled in by facility for any other C8 PFCs in this group that are identified eg on Material safety data sheets

¹³ to be filled in by facility for any other C6 PFCs in this group that are identified eg on Material safety data sheets

¹⁴ to be filled in by facility for any other C4 PFCs in this group that are identified eg on Material safety data sheets



Other PFCs ¹⁵		N-Methyl-Perfluorooctanesulfonamide(N-ME-FOSA), N-Ethyl-Perfluorooctanesulfonamide(N-Et-FOSA), N-Methyl-Perfluorooctanesulfonamidoethanol(N-Et-FOSE alcohol), N-Ethyl-Perfluorooctanesulfonamidoethanol(N-Me-FOSE alcohol), Perfluorooctane Sulfonamide(PFOA) (SEE ORIGINAL LAB REPORT)
Chlorinated Chemicals: Chlorobenzenes, chlorinated solvents, chlorophenols and Short chained chlorinated parafins		
<u>Chlorobenzenes</u>		
monochlorobenzene	108-90-7	* NOT TESTED*. MISSED
dichlorobenzene	1,2-Dichlorobenzene 95-50-1 1,3-Dichlorobenzene 541-73-1 1,4-Dichlorobenzene 106-46-7	SEE LAB REPORT ATTACHED
trichlorobenzene	1,2,3-trichlorobenzene 87-61-6 1,2,4-trichlorobenzene 120-82-1 1,3,5-trichlorobenzene 108-70-3	SEE LAB REPORT ATTACHED
tetrachlorobenzene	1,2,3,4-Tetrachlorobenzene 634-66-2 1,2,3,5-Tetrachlorobenzene 634-90-2; 1,2,4,5-Tetrachlorobenzene : 95-94-3	* NOT TESTED*. MISSED
pentachlorobenzene	608-93-5	* NOT TESTED*. MISSED.
hexachlorobenzene	118-74-1	* NOT TESTED*. MISSED.
<u>Chlorinated solvents (chlorinated alkanes and alkenes)</u>		
Dichloromethane	75-09-2	* NOT TESTED*. MISSED
Trichloromethane (chloroform)	67-66-3	SEE LAB REPORT ATTACHED
Tetrachloromethane	56-23-5	* NOT TESTED*. MISSED
1,1,2-Trichloroethane	79-00-5	SEE LAB REPORT ATTACHED
1,1-dichloroethane	75-35-4	* NOT TESTED*. MISSED
1,2-dichloroethane (EDC)	107-06-2	* NOT TESTED*. MISSED
Trichloroethylene (TCE)	79-01-6.	SEE LAB REPORT ATTACHED
Perchloroethylene (PERC); also known as tetrachloroethylene	127-18-4	SEE LAB REPORT ATTACHED

¹⁵ to be filled in by facility for any other PFCs in this group that are identified eg on Material safety data sheets

Chlorophenols		
Penta chlorophenols (PCP)	87-86-5	SEE LAB REPORT ATTACHED
Tetrachlorophenols (PCP)	25167-83-3	* NOT TESTED*. MISSED
Tri chlorophenols (PCP)	2,4,6-Trichlorophenol; 88-06-2	SEE LAB REPORT ATTACHED
	2,4,5-Trichlorophenol; 95-95-4	* NOT TESTED*. MISSED
	2,3,4-Trichlorophenol; 15950-66-0	* NOT TESTED*. MISSED
	2,3,5-Trichlorophenol; 933-78-8	* NOT TESTED*. MISSED
	3,4,5-Trichlorophenol; 609-19-8	* NOT TESTED*. MISSED
Di chlorophenol (PCP)	2,4- dichlorophenol 120-83-2	SEE LAB REPORT ATTACHED
	2,6-Dichlorophenol 87-65-0	* NOT TESTED*. MISSED
	3,5- dichlorophenol. 591-35-5	* NOT TESTED*. MISSED
	2,3-Dichlorophenol; 576-24-9	* NOT TESTED*. MISSED
	3,4-Dichlorophenol; 95-77-2	* NOT TESTED*. MISSED
	2,5-Dichlorophenol; 583-78-8	SEE LAB REPORT ATTACHED
Mono chlorophenol (PCP)	95-57-8 2-chlorophenol;	* NOT TESTED*. MISSED
	108-43-0 3-chlorophenol;	* NOT TESTED*. MISSED
	106-48-9 4-chlorophenol	* NOT TESTED*. MISSED
Other chlorobenzenes, Chlorinated solvents and chlorophenols ¹⁶		1,1,1,2-Tetrachloroethane, 1,1,1-trichloroethane, Carbon Tetrachloride, Pentachloroethane, 1,1-Dichloroethylene (SEE ORIGINAL LAB REPORT)
Short chained chlorinated parafins		
SCCP chloro alkanes, C10-13	85535-84-8	SEE LAB REPORT ATTACHED
Other hazardous chemicals ¹⁷		

(*) All the substances indicated as *NOT TESTED/MISSED, Mango will progressively require testing in subsequent sampling.

REMARK: All detection limits of all analytes and in particular the APEOs, will be revised in line with best technically available detection levels.

Original Testing Report(s) (PDF(s) attached)

¹⁶ to be filled in by facility for any other relevant substances in this group that are identified eg on Material safety data sheets

¹⁷ to be filled in by facility for any other relevant chemical groups that are identified eg on Material safety data sheets



Test Report

Number: SHAH0036901403

Applicant: MANGO PUNTO FA, S.L.
C/ MERCADERS 9-11 P. I. RIERA DE CALDES PALAU-SOLITA
I PLEGAMANS, 08184 BARCELONA SPAIN
Attn: ALICE

Date: MAR 18, 2013

Sample Description:
One(1)Submitted Sample Said To Be :
Black Liquid (080313AR1).

Tests Conducted:
As Requested By The Applicant, For Details Refer To Attached Page(S).

To be continued

Authorized By:
For Intertek Testing Services Ltd., Shanghai

Jacob Lin
General Manager



Tests Conducted

1 Nonylphenol (NP),Octylphenol (OP), Nonylphenol Ethoxylates(NPEO)And Octylphenol Ethoxylates(OPEO)

By Liquid Chromatography – Mass Spectrometry (LC-MS) Analysis.

<u>Compound</u>	<u>Result (µg/L)</u>
OP	<100
NP	<100
NPEO (1+2)	<100
NPEO (3-18)	<100
NPEO (1+2)	<100
OPEO (3-16)	<100

Remark: Detection Limit = 100µg/L

2 Volatile Organic Compounds Content

By Headspace Gas Chromatography Mass Spectrometric (HS - GC/MS) Analysis.

<u>Compound</u>	<u>Result (mg/L)</u>
Trichloroethylene	ND
Tetrachloroethylene	ND
1,1,1-trichloroethane	ND
Carbon Tetrachloride	ND
1,1,1,2-Tetrachloroethane	ND
1,1,2,2-Tetrachloroethane	ND
1,1,2-Trichloroethane	ND
Pentachloroethane	ND
Trichloromethane	ND
1,1-Dichloroethylene	ND

Remark: Detection Limit = 5mg/L
ND = Not Detected

To be continued

Tests Conducted

3 Detection Of Amines Derived From Azocolourants And Azodyes

By Gas Chromatographic - Mass Spectrometric (GC-MS) And High Performance Liquid Chromatographic (HPLC) Analysis.

	<u>Forbidden</u>	<u>Cas No.</u>	<u>Result(mg/L)</u>
1.	4-Aminodiphenyl	92-67-1	ND
2.	Benzidine	92-87-5	ND
3.	4-Chloro-o-Toluidine	95-69-2	ND
4.	2-Naphthylamine	91-59-8	ND
5.	o-Aminoazotoluene	97-56-3	ND
6.	2-Amino-4-Nitrotoluene	99-55-8	ND
7.	p-Chloroaniline	106-47-8	ND
8.	2,4-Diaminoanisole	615-05-4	ND
9.	4,4'-Diaminodiphenylmethane	101-77-9	ND
10.	3,3'-Dichlorobenzidine	91-94-1	ND
11.	3,3'-Dimethoxybenzidine	119-90-4	ND
12.	3,3'-Dimethylbenzidine	119-93-7	ND
13.	3,3'-Dimethyl-4,4'diaminodiphenylmethane	838-88-0	ND
14.	p-Cresidine	120-71-8	ND
15.	4,4'-Methylene-Bis(2-Chloroaniline)	101-14-4	ND
16.	4,4'-Oxydianiline	101-80-4	ND
17.	4,4'-Thiodianiline	139-65-1	ND
18.	o-Toluidine	95-53-4	ND
19.	2,4-Toluylenediamine	95-80-7	ND
20.	2,4,5-Trimethylaniline	137-17-7	ND
21.	o-Anisidine	90-04-0	ND
22.	p-Aminoazobenzene	60-09-3	ND

Remark : Detection limit = 0.1mg/L
ND = Not Detected

To be continued



Test Report

Number: SHAH0036901403

Tests Conducted

4 Total (Heavy Metals) Content

As Per Client's Request, Acid Digestion Method Was Used And Total (Heavy Metal) Contents Were Determined By Inductively Coupled Argon Plasma Mass Spectrometry.

<u>Tested Element(S)</u>	<u>Result (mg/L)</u>
Total Cadmium(Cd)	<0.005
Total Arsenic(As)	<0.025
Total Lead(Pb)	<0.025
Total Chromium(Cr)	<0.025
Total Mercury(Hg)	<0.0002
Total Copper(Cu)	0.073
Total Nickel(Ni)	0.010
Total Zinc(Zn)	0.546
Total Hexavalent Chromium(Cr-VI)	<0.005

5 Phthalate Content Test

By Toluere Extraction And By Gas Chromatography-Mass Spectrometry (GC-MS) Analysis.

<u>Tested Compound</u>	<u>Result (µg/L)</u>
Di-Butyl Phthalate (DBP)	<50
Di(2-Ethyl Hexyl) Phthalate(DEHP)	<50
Benzyl Butyl Phthalate (BBP)	<50
Di-Iso-Nonyl Phthalate (DINP)	<50
Di-N-Octyl Phthalate (DNOP)	<50
Di-Iso-Decyl Phthalate (DIDP)	<50
Di-N-Hexyl Phthalate (DnHP)	<50
Di-Iso-Butyl Phthalate (DIBP)	<50

Remark: Detection Limit = 50µg/L

To be continued

Tests Conducted

6 Chlorophenols Content Test

With Reference To ISO 17070 : 2006.

<u>Tested Compound</u>	<u>Result (µg/L)</u>
2,4- & 2,5-Dichlorophenol,	<10
2,4,6-Trichlorophenol	<10
Pentachlorophenol	<10

Remark: Detection Limit = 10µg/L

7 Organic Tin Compounds Content

With Reference To DIN EN17353 By Gas Chromatography-Mass Spectrometry (GC-MS) Analysis.

<u>Tested Compound</u>	<u>Result (µg/L)</u>
MBT(Monobutyltin)	<5
DBT(Dibutyltin)	<5
TBT(Tributyltin)	<5
TPhT(Triphenyltin)	<5
DOT(Dioctyltin)	<5
MOT(Monooctyltin)	<5
TPhT(Diphenyltin)	<5
TeBT(Tetrabutyltin)	<5
TCyT(Tricyclohexyltin)	<5
TPT(Tripropyltin)	<5
TeET(Tetraethyltin)	<5

Remark: Detection Limit = 5µg/L

To be continued

Tests Conducted

8 Flame Retardants

By Toluene Extraction, Followed By Liquid Chromatography - Mass Spectrometry (LC-MS) And Gas Chromatography - Mass Spectrometry (GC-MS) Analysis.

<u>Compound</u>	<u>Result (µg/L)</u>
Polybromobiphenyls(PBBs)	<100
Tetrabromodiphenylether(Tetra BDE)	<100
Pentabromodiphenylether(Penta BDE)	<100
Hexabromodiphenylether(Hexa BDE)	<100
Octabromodiphenylether(OctaBDE)	<100
Decabromodiphenylether(DecaBDE)	<100
Hexabromocyclododecane(HBCDD)	<100
TBBPA: TETRABROMOBISPHENOL A(TBBPA)	<100

Remarks: Detection Limit = 100µg/L

9 Perfluorinated Chemicals Content

By Liquid Chromatography-Mass Spectrometry (LC-MS) Analysis.

<u>Compound</u>	<u>Result ((µg/L)</u>
Perfluorooctane Sulfonates(PFOS)	<0.5
Perfluorooctanoic Acid(PFOA)	<0.5
N-Methyl-Perfluorooctanesulfonamide(N-ME-FOSA)	<0.5
N-Ethyl-Perfluorooctanesulfonamide(N-Et-FOSA)	<0.5
N-Methyl-Perfluorooctanesulfonamidoethanol(N-Et-FOSE alcohol)	<0.5
N-Ethyl-Perfluorooctanesulfonamidoethanol(N-Me-FOSE alcohol)	<0.5
Perfluorooctane Sulfonamide(PFOSA)	<0.5

Remark: Detection Limit = 0.5µg/L

To be continued



Test Report

Number: SHAH0036901403

Tests Conducted

10 Chlorinated Paraffin (C10 -C13)

By Hexane Extraction And Gas Chromatography Analysis Using Electron Capture Detector.

Result (µg/L) : <1000

Remarks: Detection Limit = 1000 µg/L

11 Chlorinated Benzenes

By Liquid-Liquid Extraction With Dichloromethane And Gas Chromatographic Analysis Using Mass Spectrometric.

<u>Compound</u>	<u>Result(µg/L)</u>
1,4-Dichlorobenzene	<10
Dichlorobenzene	<10
trichlorobenzenes	<10

Remark: Detection Limit = 10 µg/L

Date Sample Received: Mar. 08, 2013
Testing Period: Mar. 08, 2013 To Mar. 16, 2013

End of report

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.