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AQUAFIL
synthetic fibres and polymers

ENVIRONMENTAL PRODUCT DECLARATION for ECONYL® NYLON TEXTILE FILAMENT YARNS

EPD®

CPC263&264-TEXTILE YARN AND THREAD OF NATURAL FIBERS, MAN-MADE FILAMENTS OR STAPLE FIBERS
PCR2013:12 VERS. 2.01

Publication date: 11. February 2015
Revision 3, 5. June 2018
Certification No.: S-P-00278
Valid until: 10. April 2020

COMPANY AND PRODUCT
Related information

Company and product Related information

1 THE COMPANY

Aquafil Group history began in 1969, when the Bonazzi family built the first manufacturing plant in Arco (Trentino Alto Adige region, Italy). In 1970, the Group began the polymerization and production of polyamide 6 at this facility, which started Aquafil's market share acquisition in the BCF yarn sector (polyamide yarn for textile flooring). During the '80s, significant investments allowed a consolidation and diversification of the Group's activities. The most significant diversification of the Group's operation occurred in 1995 when the Aquafil Group finalized the first privatization of a public company in the newly born Republic of Slovenia. This acquisition allowed Aquafil to start its Nylon Textile Filament (NTF) product area.

Meanwhile, the Group continued to widen its product offering by opening a number of production plants in Europe and entering (with its "Polyamide products priority focus" always in mind) the Engineering Plastics business to supply modified polyamide products to the automotive, electronics and construction industries with the 'polyamide products priority focus' always in mind. At the same time, the Group started its internationalization process with the creation of Aquafil USA, based in Cartersville, Georgia. (USA).

Between 2000 and 2010, the Group expanded its presence in all three key markets where it was operating (carpet yarn, textile yarn and engineering plastics), gradually becoming a global leader in the manufacturing of Polyamide 6 fibers. In 2013, the Group sold the Engineering Plastics division to DOMO and acquired DOMO's BCF business Xentrys.

The internationalization process continued by adding significant investments in the Asian market where, in 2005, a manufacturing facility was established in Thailand for processing and marketing BCF products for the carpet industry. In 2009, a new manufacturing facility was built in China to assist in the ever-growing Asian market.

From 2007-2011, Aquafil developed a visionary project aligned with its manufacturing and market growth focus. Driven by a genuine concern for the environment, resources and investments were dedicated to the design and construction of the **ECONYL® Regeneration System** (the recycling of pre- and post-consumer Polyamide 6 waste material), which launched in 2011.

As of 2014, the Group operates 15 manufacturing plants worldwide with more than 2,400 employees, in eight countries (Italy, Slovenia, Croatia, Germany, United Kingdom, USA, Thailand and China) on three continents (Europe, North America and Asia).

IT OPERATES 2 DIFFERENT PRODUCT AREAS:

- **BCF** *Carpet yarn for the flooring market*
- **NTF** *Special yarns for sportswear and fashion applications*

In 2008, during the engineering and design phase of Aquafil's **ECONYL® Regeneration System**, a product area unit was created - Energy & Recycling.

This Energy & Recycling product area is dedicated to the promotion of sustainability and environmental issues. It has a transverse nature in respect to the other product areas, providing solutions and innovative technologies in the area of energy, recycling and the promotion of the culture of sustainability.

2 SPECIFICATION OF MANUFACTURING COMPANY AND PRODUCT

2.1 SPECIFICATION OF MANUFACTURING COMPANY

- **Manufacturing Company:** Aquafil s.p.a. (Italy)
- **Production sites involved in EPD:**
  - **AquafilSLO d.o.o. - Ljubljana** (Letališka cesta 15, 1000 Ljubljana, Slovenia) > *process E, F, G & H*
  - **AquafilSLO d.o.o. - Ajdovščina** (Tovarniška cesta 15, 5270 Ajdovščina, Slovenia) > *process I*
  - **AquafilCRO d.o.o.** (Ul. Milana Prpića 114, 49243, Oroslavje, Croatia) > *process L*
  - **AquafilSLO d.o.o. - Senožeče** (Senožeče 151, 6224 Senožeče, Slovenia) > *process K*

- **Production country:** Slovenia, Croatia
- **Reference markets:** apparel industry

Production sites AquafilSLO - Ljubljana, AquafilSLO - Ajdovščina, AquafilSLO - Senožeče, AquafilCRO and Aquafil S.p.A are ISO 14001 certified.

2.2 SPECIFICATION OF THE PRODUCT

> This EPD refers to two types of Nylon Textile Filament yarns:

- ECONYL® FDY yarns on beam
- ECONYL® texturized yarns on cones

Both types of yarns are produced out of 100 % recycled PA6 polymer, with post-consumer and post-industrial recycled content certified by independent third party DNV 18590-2008-PC-ITA-DNV .

TECHNICAL SPECIFICATION	NAME	TEST METHOD
Commercial article description	ECONYL® FDY yarn on beams	-
Basic polymer; % of basic polymer / Generic name of synthetic fiber; % of synthetic fiber	100% Polyamide 6	EN ISO 1043-1:2011 ISO 2076: 2010
Type of yarn or fiber	Filament yarn	ISO 8159:1987
Type of processing	Fully Drawn Yarn	BISFA
Intended use	See section 2.1	-
Resulting linear density	17 dtex-78 dtex	ISO 2060-1994
Filament number	various	-

TECHNICAL SPECIFICATION	NAME	TEST METHOD
Commercial article description	ECONYL® textured yarn on cones	-
Basic polymer; % of basic polymer / Generic name of synthetic fiber; % of synthetic fiber	100% Polyamide 6	EN ISO 1043-1:2011 ISO 2076: 2010
Type of yarn or fiber	Textured Filament yarn	ISO 8159:1987
Type of processing	Partially Oriented Yarn / False Twist Texturizing	BISFA
Intended use	See section 2.1	-
Resulting linear density	17 dtex-120 dtex	ISO 2060-1994
Filament number	various	-

ECONYL® yarns do not contain any materials / substances hazardous to health and the environment (carcinogenic, mutagenic or toxic to reproduction, allergic, PBT, vPvB). All Nylon Textile Filament ECONYL® yarns are OEKOTEX® 100 class I certified.

3 DECLARED UNIT

Functional unit is 1 kg of yarn delivered.

4 CONTENT DECLARATION

All the yarns concerned in this declaration are made by polyamide 6, pigment (in most cases titanium) and spin finish. For its hydrophilic nature, polyamide yarn has a humidity content of about (3-4) %, depending on the environmental relative humidity. Its composition is:

A. ECONYL® FDY YARNS ON BEAM

TYPE OF PRODUCT/SERVICE	% OF MATERIAL BY WEIGHT	(OF WHICH) % RECYCLED
Polyamide 6	93-96	100%
Pigments	0-1,6	0%
Spin Finish	1,0-1,5	0%
Water	3-4	0%
TOTAL	100%	
Percent of which main materials, pigments and dye stuff, and other materials is bio-based	0%	
Of which post-consumer waste		50%
Of which pre-consumer waste		50%

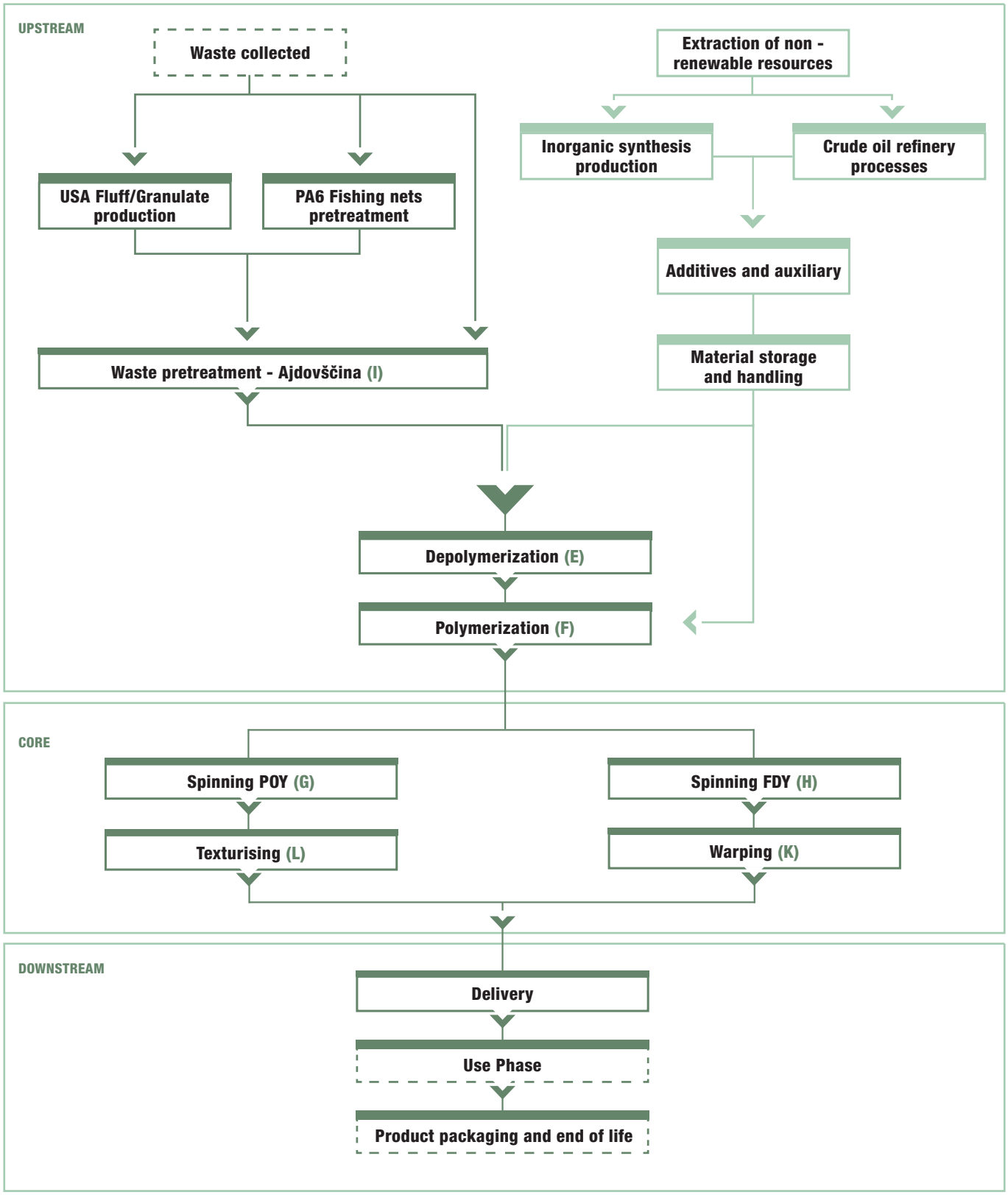
B. ECONYL® TEXTURIZED YARNS ON CONES

TYPE OF PRODUCT/SERVICE	% OF MATERIAL BY WEIGHT	(OF WHICH) % RECYCLED
Polyamide 6	93-96	100%
Pigments	0-1,4	0%
Spin Finish	1,5-2,0	0%
Water	3-4	0%
TOTAL	100%	
Percent of which main materials, pigments and dye stuff, and other materials is bio-based	0%	
Of which post-consumer waste		50%
Of which pre-consumer waste		50%

5 UNITS AND QUANTITIES

SI units are used.

6 GENERAL SYSTEM BOUNDARIES



In general, Life Cycle Inventory data for a minimum of 95% of total inflows (mass and energy) to the upstream and core module is included.
Auxiliary materials (such as absorption agent, adhesive…) for which good quality databases were not available, are not included in the study, however are not exceeding the threshold defined above.
All energy inflows are considered in the study.
Primary packaging material was considered:

- **polymerization process: tank truck**
- **spinning (POY & FDY) and texturizing: paper tubes**

Excluded secondary packaging materials: paper boxes & separators, wooden pallets, labels, plastic bags, extensible film & adhesive tape

6.1 UPSTREAM PROCESSES

Upstream processes include:

- **extraction of non-renewable resources**
- **additives and auxiliaries production**
- **all relevant transportation**
- **waste materials, that are entering into pretreatment plant and are constituted of three main types of waste:**
  - **A.** PA6 fishing nets collection: they are collected worldwide
  - **B.** PA6 carpets are collected and are shaved to obtain PA6 fluff or granules.
  - **C.** Oligomers and other plastics waste generated by polymer industries

Depending on the type and shape of waste, it can be cleaned, sorted, grinded, washed, granulated or pelletized.
All waste material is characterized with the specific feedstock energy entering the system and the processes are described by means of energy use and emissions.

- **ECONYL® plant operation**
  - **A.** washing (if and when necessary)
  - **B.** depolymerization (where specific mix of waste is transformed back into secondary raw material - caprolactam)
  - **C.** purification of caprolactam
- **polymer production**

All energetic input flows (electricity, heating fuels, steam…) and water consumption to the upstream processes are considered. All emissions to air, water and soil and treatment of waste and wastewater generated are considered as well.

6.2 CORE PROCESSES

Core Process takes into account:

- **spinning process (POY or FDY)**
- **post spinning processes; texturizing or warping**
- **transportation of materials into the core processes**

All energetic input flows (electricity, heating fuels, steam...) and water consumption to the upstream processes are considered. All emissions to air, water and soil and treatment of waste and wastewater generated are considered as well.

6.3 DOWNSTREAM PROCESSES

Downstream processes include transportation to average retailer / distribution platform:

- **300 km by truck**

Use phase and end of life of product is not included.

7 ENVIRONMENTAL PERFORMANCE RELATED INFORMATION

The environmental burden of the product has been calculated according to the general rules of the EPD (Environmental Product Declaration) international programme and PCR 263&264 (Textile yarn and thread of natural fibers, man-made filaments or staple fibers).

This declaration is based on the application of Life Cycle Assessment (LCA) methodology to the ECONYL® yarns life-cycle system. The LCA report constitutes the most important background document to support environmental communication about ECONYL® and its environmental life-cycle burden.

To assess the burden of ECONYL® yarn production at the plant level, detailed data and information were collected from several manufacturing facilities:

- **AquafilSLO - Ajdovščina**; Slovenia (for ECONYL® waste pretreatment)
- **AquafilSLO - Ljubljana**; Slovenia (for ECONYL® depolymerization, polymer manufacturing and spinning of yarns)
- **AquafilSLO - Senožeče**; Slovenia (for post spinning processing-warping)
- **AquafilCRO**; Croatia (for post spinning processing-texturizing)

Customized LCA questionnaires were used to gather in-depth information about all aspects of the production system (for example, raw materials specifications, pretreatments, process efficiencies, air emissions, waste management), ultimately providing a complete picture of the environmental burden of the system.

The use phase and end of life is not included in the study, while distribution scenario is set to 300 km via truck to distribution platform.

ECONYL® production process is continuously improved, and this analysis took into consideration the most representative and specific data available.

From a general point of view, all of the plants are described using primary data from January 2017-December 2017.

7.1 RESOURCES

RESULTS ABOUT THE USE OF RESOURCES ARE SPLIT INTO FOUR SECTIONS:

- Renewable resources - *Table 1*
- Non-renewable resources - *Table 2*
- Secondary resources - *Table 3*
- Direct electricity consumption - *Table 4*
- Water use - *Table 5*

>**TABLE 1.A.** TOTAL RENEWABLE RESOURCES FOR PRODUCTION OF 1 KG OF ECONYL® FDY yarn on beams-rounded values

		UPSTREAM & CORE	DOWNSTREAM	TOTAL
TOTAL RR MATERIAL RESOURCES (g)				
Energy resources for energy conversion purpose [MJ]	Solar	**7,73**	**0,01**	**7,75**
	Hydropower	**24,79**	**2,65E-04**	**24,79**
	Wind	**2,55**	**2,08E-04**	**2,55**
	Biomass	**0,08**	**0,00**	**0,08**
	Other	**0,02**	**1,12E-05**	**0,02**
TOTAL RR ENERGY RESOURCES (MJ)		**35,17**	**0,01**	**35,18**

Totals may not match, because of rounded data

>**TABLE 1.B.** TOTAL RENEWABLE RESOURCES FOR PRODUCTION OF 1 KG OF ECONYL® texturized yarn on cones-rounded values

		UPSTREAM & CORE	DOWNSTREAM	TOTAL
TOTAL RR MATERIAL RESOURCES (g)				
Energy resources for energy conversion purpose [MJ]	Solar	**9,12**	**0,01**	**9,14**
	Hydropower	**26,31**	**2,65E-04**	**26,31**
	Wind	**2,52**	**2,08E-04**	**2,52**
	Biomass	**0,12**	**0,00**	**0,12**
	Other	**0,02**	**1,12E-05**	**0,02**
TOTAL RR ENERGY RESOURCES (MJ)		**38,09**	**0,01**	**38,10**

Totals may not match, because of rounded data

>**TABLE 2.A.** TOTAL NONRENEWABLE RESOURCES FOR PRODUCTION OF 1 KG OF ECONYL® FDY yarn on beams - rounded values

	UPSTREAM & CORE	DOWNSTREAM	TOTAL
NR MATERIAL RESOURCES (g)			
Inert rock	**3,84E+03**	**0,97**	**3,84E+03**
Limestone ($CaCo_3$)	**100,86**	**0,05**	**100,91**
Sodium Chloride	**9,19**	**3,46E-03**	**9,20**
Soil	**350,26**	**0,01**	**350,27**
Natural aggregate	**204,10**	**4,17E-03**	**204,10**
Clay	**51,77**	**1,28E-03**	**51,77**
Others	**54,54**	**0,28**	**54,83**
TOTAL NR MATERIAL RESOURCES (g)	**4,61E+03**	**1,32**	**4,61E+03**
NR ENERGY RESOURCES - FOR ENERGY CONVERSION PURPOSE (g)			
Hard coal	**397,75**	**0,03**	**397,78**
Crude oil	**166,12**	**5,77**	**171,89**
Lignite	**34,62**	**0,03**	**34,66**
Natural gas	**111,44**	**0,43**	**111,87**
Uranium	**8,58E-04**	**1,66E-06**	**8,60E-04**
Other	**0,12**	**5,15E-04**	**0,12**
TOTAL NR ENERGY RESOURCES (g)	**710,07**	**6,25**	**716,32**

Totals may not match, because of rounded data

>**TABLE 2.B.** TOTAL NONRENEWABLE RESOURCES FOR PRODUCTION OF 1 KG OF ECONYL® texturized yarn on cones-rounded values

	UPSTREAM & CORE	DOWNSTREAM	TOTAL
NR MATERIAL RESOURCES (g)			
Inert rock	**3,83E+03**	**0,97**	**3,83E+03**
Limestone ($CaCo_3$)	**103,53**	**0,05**	**103,58**
Sodium Chloride	**11,66**	**3,46E-03**	**11,67**
Soil	**352,58**	**0,01**	**352,58**
Natural aggregate	**210,30**	**4,17E-03**	**210,30**
Clay	**51,24**	**1,28E-03**	**51,25**
Others	**79,58**	**0,28**	**79,86**
TOTAL NR MATERIAL RESOURCES (g)	**4,64E+03**	**1,32**	**4,64E+03**
NR ENERGY RESOURCES - FOR ENERGY CONVERSION PURPOSE (g)			
Hard coal	**388,23**	**0,03**	**388,26**
Crude oil	**155,22**	**5,77**	**160,99**
Lignite	**44,66**	**0,03**	**44,69**
Natural gas	**128,65**	**0,43**	**129,08**
Uranium	**1,17E-03**	**1,66E-06**	**1,18E-03**
Other	**0,11**	**5,15E-04**	**0,12**
TOTAL NR ENERGY RESOURCES (g)	**716,89**	**6,25**	**723,14**

Totals may not match, because of rounded data

>**TABLE 3.** TOTAL SECONDARY MATERIAL RESOURCES FOR PRODUCTION OF 1 KG OF ECONYL® yarn - RECYCLED WASTE

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
ECONYL® FDY yarn	g	**1,75E+03**	**0**	**1,75E+03**
ECONYL® texturized yarn	g	**1,73E+03**	**0**	**1,73E+03**

>**TABLE 4.** TOTAL DIRECT ELECTRICITY USED FOR PRODUCTION OF 1 KG OF ECONYL® yarn

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
ECONYL® FDY yarn	kWh	**5,51**	**0**	**5,51**
ECONYL® texturized yarn	kWh	**6,04**	**0**	**6,04**

>**TABLE 5.A.** TOTAL WATER USED FOR PRODUCTION OF 1 KG OF ECONYL® yarn

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
ECONYL® FDY yarn	liter	**28,37**	**0,03**	**28,40**
ECONYL® texturized yarn	liter	**36,17**	**0,03**	**36,20**

Totals may not match, because of rounded data

>**TABLE 5.B.** WATER USED IN CORE MODULE FOR PRODUCTION OF 1 KG OF ECONYL® yarn

	UNITS	CORE
ECONYL® FDY yarn	liter	**4,81**
ECONYL® texturized yarn	liter	**6,19**

Totals may not match, because of rounded data

7.2 POTENTIAL ENVIRONMENTAL IMPACT

>**TABLE 6.A.** TOTAL ENVIRONMENTAL IMPACT FOR PRODUCTION OF 1 KG OF ECONYL® FDY yarn on beams; CML2001, January 2016

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
Global Warming Potential (GWP) fossil *	g CO_2 eq	**1,99E+03**	**19,00**	**2,01E+03**
Global Warming Potential (GWP) biogenic *	g CO_2 eq	**-787,82**	**-1,18**	**-789,00**
Acidification Potentials	g SO_2 eq	**6,73**	**0,09**	**6,82**
Photochemical Ozone Creation P.	g Ethene eq	**0,55**	**0,01**	**0,55**
Eutrophication Potentials	g Phosphate eq	**2,81**	**0,02**	**2,83**

Totals may not match, because of rounded data
**emissions and removals are considered*

>**TABLE 6.B.** TOTAL ENVIRONMENTAL IMPACT FOR PRODUCTION OF 1 KG OF ECONYL® texturized yarn on cones; CML2001, January 2016

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
Global Warming Potential (GWP) fossil *	g CO_2 eq	**1,81E+03**	**19,00**	**1,83E+03**
Global Warming Potential (GWP) biogenic *	g CO_2 eq	**-9,99E+02**	**-1,18**	**-1,00E+03**
Acidification Potentials	g SO_2 eq	**7,22**	**0,09**	**7,31**
Photochemical Ozone Creation P.	g Ethene eq	**0,57**	**0,01**	**0,57**
Eutrophication Potentials	g Phosphate eq	**3,05**	**0,02**	**3,07**

Totals may not match, because of rounded data
**emissions and removals are considered*

Waste raw materials have very little influence on the indicators above. Depolymerization (with specific concern to coal-based steam production and thermal recovery from depolymerization waste) is the primary contributor to GWP. Polymerization, spinning, texturizing and warping are still important, but the contribution is of lower grade, mostly because of the renewable mix for specific direct electricity. In addition, use of auxiliary chemical used for depolymerization process is significantly contributing to Eutrophication Potential.

7.3 OTHER INDICATORS

>**TABLE 7.A.** RECYCLED MATERIAL CONTENT FOR PRODUCTION OF 1 KG OF ECONYL® FDY yarn on beams

	UNITS	UPSTREAM	CORE	DOWNSTREAM	TOTAL
POST CONSUMER	%	**-**	**min. 50**	**-**	**min. 50**
POST INDUSTRIAL	%	**-**	**max. 50**	**-**	**max. 50**

>**TABLE 7.B.** RECYCLED MATERIAL CONTENT FOR PRODUCTION OF 1 KG OF ECONYL® texturized yarn on cones

	UNITS	UPSTREAM	CORE	DOWNSTREAM	TOTAL
POST CONSUMER	%	-	**min. 50**	-	**min. 50**
POST INDUSTRIAL	%	-	**max. 50**	-	**max. 50**

>**TABLE 8.A.** WASTE AT PRODUCTION OF 1 KG OF ECONYL® FDY yarn on beams

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
Hazardous waste	g	**67,77**	**1,52E-05**	**67,77**
Non hazardous	g	**4,90E+03***	**0,95**	**4,91E+03**
Radioactive	g	**0,17**	**3,59E-04**	**0,17**

**more than 80% of the waste is generated by extraction of coal and lignite-stockpile goods deposited*

>**TABLE 8.B.** WASTE AT PRODUCTION OF 1 KG OF ECONYL® texturized yarn on cones

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
Hazardous waste	g	**67,51**	**1,52E-05**	**67,51**
Nonhazardous	g	**4,85E+03***	**0,95**	**4,85E+03**
Radioactive	g	**0,23**	**3,59E-04**	**0,23**

**more than 80% of the waste is generated by extraction of coal and lignite-stockpile goods deposited*

>**TABLE 9.A.** WASTE AT PRODUCTION OF 1 KG OF ECONYL® FDY yarn on beams - waste subject to recycling

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
Hazardous waste	g	**62,72**	**0,00**	**62,72**
Nonhazardous	g	**175,14**	**0,00**	**175,14**

>**TABLE 9.B.** WASTE AT PRODUCTION OF 1 KG OF ECONYL® texturized yarn on cones - waste subject to recycling

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
Hazardous waste	g	**61,78**	**0,00**	**61,78**
Nonhazardous	g	**134,24**	**0,00**	**134,24**

>**TABLE 10.** WASTE GENERATED IN THE CORE MODULE FOR PRODUCTION OF 1 KG OF ECONYL® yarn

	UNITS	HAZARDOUS WASTE	WASTE GOING TO RECYCLING	OTHER WASTE
ECONYL® FDY yarn	Kg	**1,00E-03**	**2,91E-03**	**0,15**
ECONYL® texturized yarn	Kg	**9,88E-04**	**2,87E-03**	**0,15**

The impacts related to the management of the waste all along the life cycle are included in the impact assessment reported in chapter 7.2.

>**TABLE 11.** FRESHWATER ECOTOXICITY FOR PRODUCTION OF 1 KG OF ECONYL® yarn

	UNITS	UPSTREAM & CORE	DOWNSTREAM	TOTAL
ECONYL® FDY yarn	Kg DCB eg.	**0,03**	**1,05E-04**	**0,03**
ECONYL® texturized yarn	Kg DCB eg.	**0,04**	**1,05E-04**	**0,04**

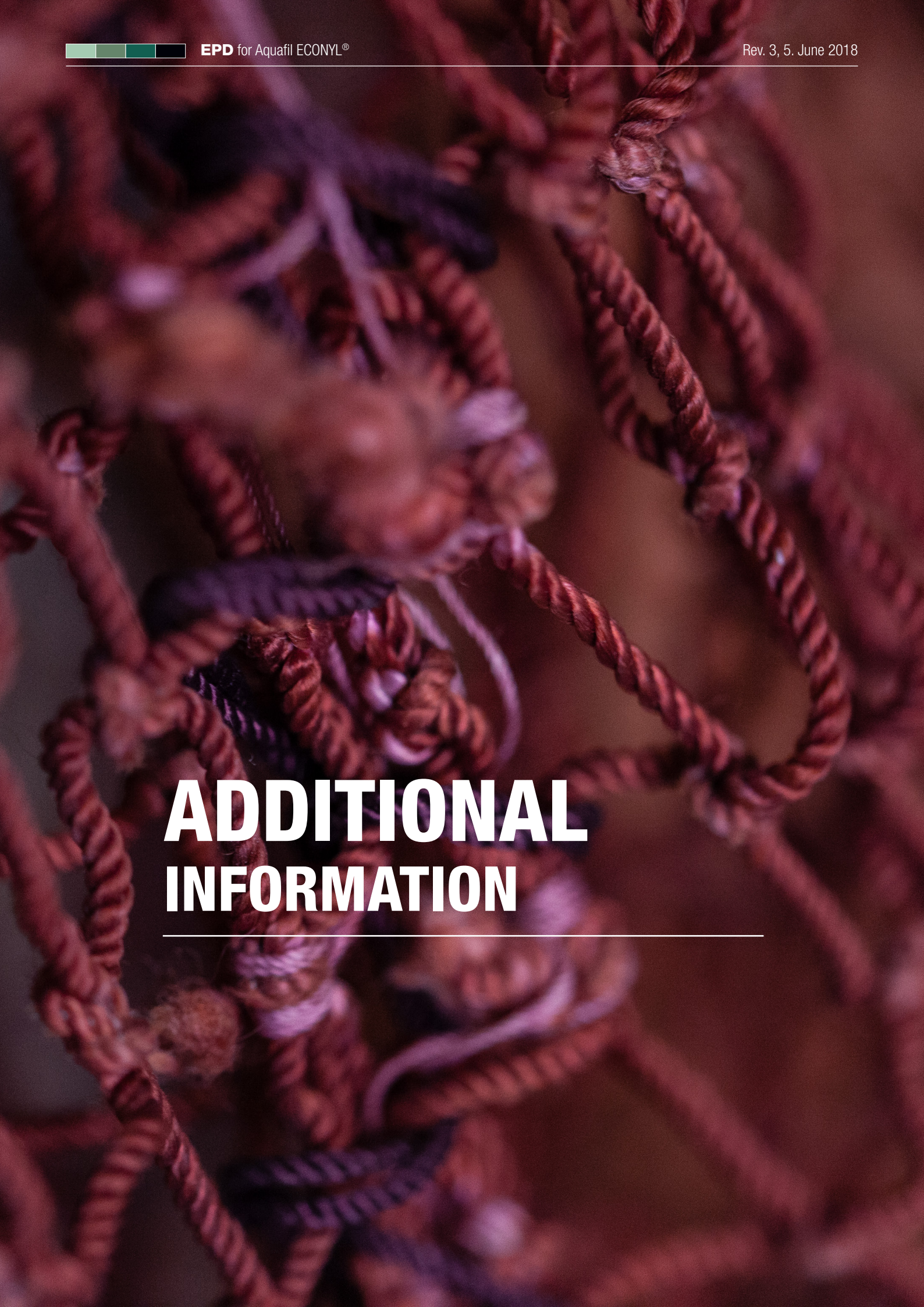
>**TABLE 12.** BY-PRODUCT GENERATED FOR PRODUCTION OF 1 KG OF ECONYL® yarn

	UNITS	QUANTITY	TYPOLOGY
ECONYL® FDY yarn	MJ	**2,14**	**THERMAL ENERGY**
ECONYL® texturized yarn	MJ	**2,11**	**THERMAL ENERGY**

Thermal energy is considered as by-product and carries 6% of the total environmental burdens in the stage of caprolactam production.

8 DIFFERENCES VERSUS PREVIOUS VERSION OF EPD

Main reduction of impact on GWP compared to previous version of EPD is due to the change of the AquafilSLO-Ljubljana supplied steam mix. In the previous version of EPD steam mix supplied was 10% biomass and 90% coal, and it is now a mix of 40% biomass and 60% of coal allocated to AquafilSLO Ljubljana plant. Moreover, energy efficiency projects were implemented in AquafilSLO and also better separation of input waste components, before being depolymerized in ECONYL® plant, was further developed. This consequently decreased the impacts of sludge waste management generated by depolymerization stage; thus, energy and material efficiency are increased in depolymerization stage.



ADDITIONAL INFORMATION

Additional information

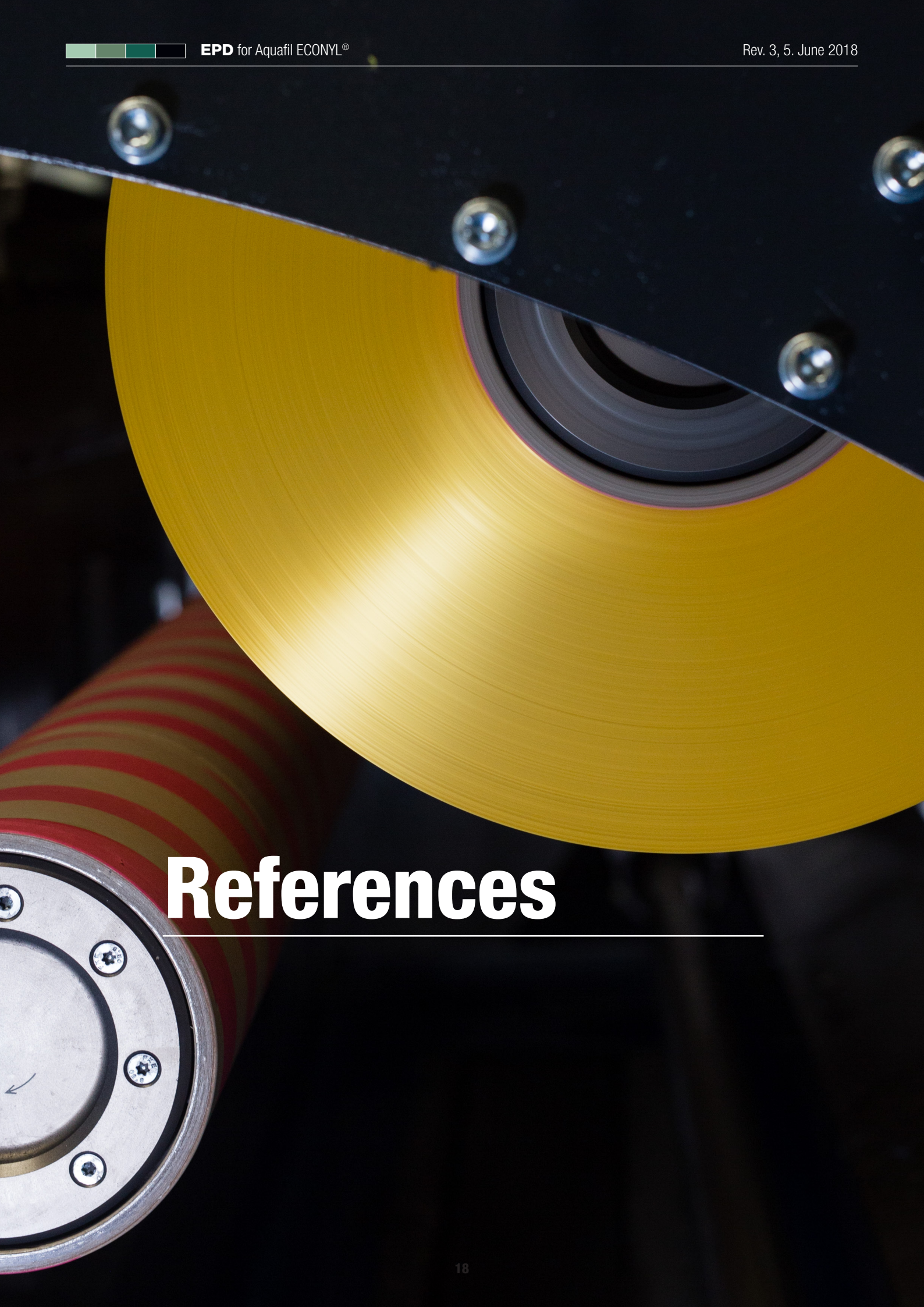
This chapter is intended to provide specific additional information about the ECONYL® Regeneration System as well as some comments of its environmental benefit.

In 2009 we set ourselves the challenge of collecting waste material all over the world and turning it into recycled polymers. It is possible to mention other environmental benefits, besides those appreciated from the impact categories investigated in the present study. In fact, part of virgin raw materials extraction and natural resources exploitation is prevented by the use of waste otherwise disposed of.

The European Commission has estimated that the EU discards 5.8 million tons of textiles and apparel every year, 75% of this is sent to landfill or incinerated, but the vast bulk is destined for landfill. The USA generates 12.7 million tons of textile waste; of this only 14.9% is recycled (US Environmental Protection Agency, 2009), which means more than 85% is waste, again largely being sent to landfill.

To put this number in context, in 2009 a total of 71.6 million tons of fiber was used around the world. This means that the EU and the USA in one year alone discarded 18.5 million tons which is equal to 26% of annual global fiber usage.

Another aspect not directly emerging from the present study, which is worth a mention, is the contribution to the prevention of oceans pollution from the collection of fishnets in their end-of-life.



References

References

This declaration and further information about it are available at www.environdec.com

> Specific requirements

The calculation of the environmental impact of the product was conducted according to the general EPD® requirements.

> Contacts

To get more information about this environmental declaration or about Aquafil activities please contact:

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> Independent verification

CPC263&264/PCR2013:12 vers. 2.01

Independent verification of the declaration and data, according to ISO 14025:

☐ INTERNAL X EXTERNAL

Third party verifier:
Bureau Veritas, accredited by SWEDAC
www.bureauveritas.com

Valid until: 10. April 2020