



## Environmental Product Declaration for Tork Xpressnap<sup>®</sup> Napkins

Produced under EPD Australasia in accordance with ISO 14025. EPD registration number: S-P-01541.

Version: 3.0

Publication Date: 2016-06-29

Version Date: 2023-06-21

Valid until: 2028-06-21

Geographical scope: Australia and New Zealand

*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)*

## Essity Australasia

Essity Australasia is a leader in Personal Care and Hygiene across Australasia, offering products that provide care, comfort and confidence every day.

The Company manufactures, markets, distributes and sells essential, everyday consumer products including tampons, pads and liners, nappies, toilet and facial tissue, paper towels and napkins. Our popular products are recognised household brands like Libra, TENA, Sorbent and Purex, Handee Ultra, Viti and Orchid.

Our professional hygiene products, which include hand towels, serviettes, toilet and facial tissue, soaps and other hygiene accessories, are sold under the Tork brand to the hospitality sector, schools, hospitals, shopping centres and industrial companies. Our TENA Incontinence Healthcare products and support services are provided to healthcare professionals in residential and community care facilities, retirement villages and hospitals.

Essity has 14 manufacturing and distribution facilities across Australia, New Zealand and the Pacific Islands. For more information, visit [www.essity.com](http://www.essity.com).



## Brands in this Environmental Product Declaration



Tork is the leading global brand in professional hygiene. From napkin dispensers in restaurant dining rooms to paper towels in hospital washrooms, Tork delivers a great experience for the user and a convenient experience for the buyer.

Tork is dedicated to serving your needs in a sustainable way – saving you time, money and effort, so you can focus on what matters most to your business.

Whenever you need to wipe, dry, clean or polish, we take care of it. Our range of dispensers, refills and services is designed to meet the specific needs of washrooms, industrial environments, kitchens and dining areas.

To learn more about Tork, please visit [www.tork.com.au](http://www.tork.com.au) or [www.tork.co.nz](http://www.tork.co.nz).

Tork is a registered trademark of Essity, licensed exclusively to Essity for use in Australia, New Zealand and a number of other countries in the Pacific region.



## Sustainability – a core part of how we do business

Sustainability is built into Tork Xpressnap® napkins from the start:

**We begin with 100% responsibly-sourced non-controversial pulp.** In particular, we are committed to purchase pulp and paper reels consistent with No Deforestation, No Peat, No Exploitation (NDPE) policies adopted by the forestry and palm oil industries. All the wood fiber we source and use must come from suppliers that are certified according to the Forest Stewardship Council® (FSC®) or Program for the Endorsement of Forest Certification (PEFC™). Our demand is that the fiber at a minimum will always meet the FSC Controlled Wood standard, which means that the origin of the fiber has been verified by an independent third party. 100% of the pulp that enters our Kawerau paper machines is from suppliers that are certified to FSC standards, with a minimum of 70% FSC Mix sourced fiber and a maximum of 30% FSC Controlled Wood sources. To learn more about FSC standards and labels, please visit: [www.fsc.org](http://www.fsc.org)

**We then manufacture paper locally, using a large share of renewable energy.** We are proud to manufacture the products in this Environmental Product Declaration in Kawerau, New Zealand. Our Kawerau operation is certified to ISO 9001, ISO 14001, AS/NZS 4801 and FSC chain of custody. In 2010, we replaced most of our natural gas consumption with geothermal steam in an ongoing partnership with Ngāti Tūwharetoa Geothermal Assets. In addition, our site's electricity comes from the New Zealand grid, comprising 84% renewable energy in 2018 (MBIE 2018). Consequently, since 2009 we have more than halved the greenhouse gas emissions generated from our Kawerau plant.

**We help our customers to reduce their environmental footprint** through their use of our unique consumption-reducing dispensers and recyclable packaging, both of which help to reduce waste. Our upgrade from bulky cardboard cartons with the Tork Carry Pack led to a six-fold reduction in packaging waste and six times less packaging to transport.

**We focus on continuous improvement** at Kawerau and in the past decade we have reduced water consumption by over 30%, reduced waste to landfill by a third and almost doubled our waste recycling rate.

This EPD helps to demonstrate Essity's commitment to sustainability and complements our work with eco-label and sustainability organisations such as FSC, Environmental Choice New Zealand, Sedex and the Dow Jones Sustainability Index.



Essity Paper Mill  
Kawerau, New Zealand

## Environmental Product Declaration (EPD)

An Environmental Product Declaration, or EPD, is a standardised and verified way of quantifying the environmental impacts of a product based on a consistent set of rules known as a PCR (Product Category Rules). Environmental Product Declarations within the same product category from different EPD programmes may not be comparable.

## Products covered by this EPD

This EPD covers the Tork Xpressnap® White Dispenser Napkin. When paired with a Tork Xpressnap® Tabletop Dispenser (not included in this EPD), which dispenses napkins one-at-a-time, napkin consumption can be reduced by up to 25% compared to traditional dispenser napkin systems. This combination is ideal for limited service restaurants that offer napkins at the table. Dispensers are available in a broad range of contemporary colours, making it easy to match your décor.



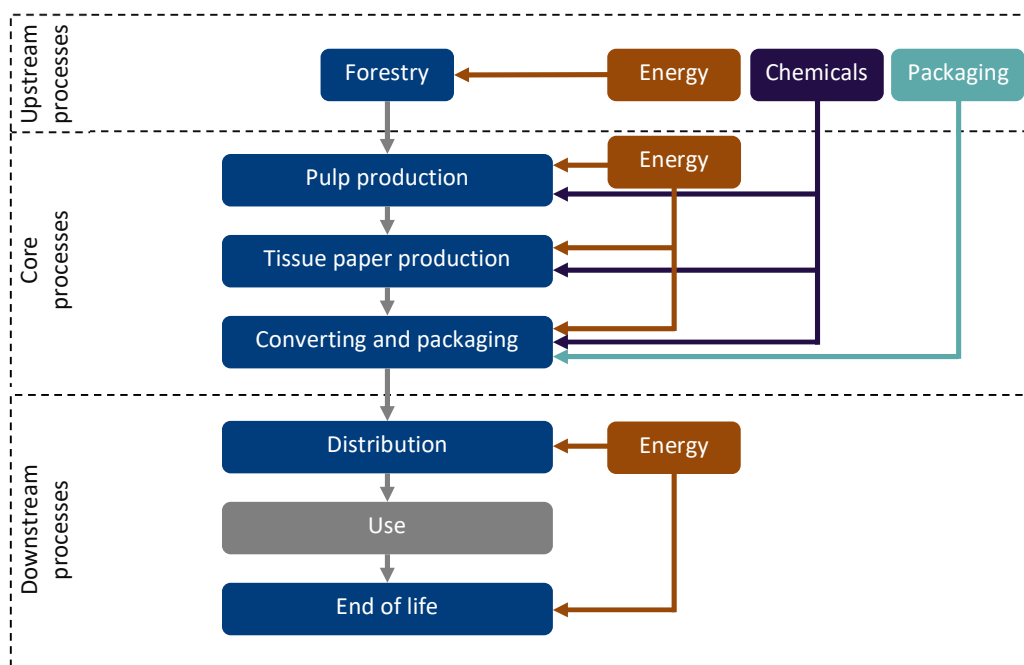
Tork Xpressnap® falls under the following industry classifications: ANZSIC v1.0 C152400 “Sanitary Paper Product Manufacturing” and UN CPC v2 32131 “Toilet or facial tissue stock, towel or napkin stock and similar paper, cellulose wadding and webs of cellulose fibres”.



### Tork Xpressnap® White Dispenser Napkin

- Single ply, white tissue paper
- FSC Mix 70% certified
- Unfolded sheet dimensions: 33.0 cm wide x 21.6 cm long
- Folded sheet dimensions: 16.2 cm wide x 11.2 cm long
- Net weight per pack of 500 napkins: 659 g
- **Article number: 2310917**

## Life cycle of Tork® paper products



This EPD covers the full life cycle of paper napkin products from cradle-to-grave.

The life cycle starts with (1) forestry to grow wood fibre, (2) production of the chemicals needed to make paper from wood fibre, (3) production of packaging materials, and (4) production of energy for these process steps. These are the **upstream processes**.

Wood chips/residues, chemicals and fuels are transported to pulp mills, where wood pulp is made from wood fibre. This pulp is then transported to Essity's paper mill where it is formed into paper, cut to size ('converted'), packaged and then warehoused. These steps also require energy to be produced, and for both solid waste and wastewater to be treated. These are the **core processes**.

Finally, finished paper napkin products are transported to customers. As the use of a paper napkin has no direct environmental impacts, use is not included in this EPD. The final step is end-of-life, where the paper napkin and its packaging are disposed. These are the **downstream processes**.

## Key parameters and assumptions for the LCA

- **Declared unit:** 1 tonne (1000 kg) of tissue paper, plus packaging.
- **Manufacturing site:** Kawerau, New Zealand.
- **Distribution to customer:** Distribution from the manufacturing plant to customer via Essity's warehouses is based on a sales-weighted average of the distances travelled in each transport mode (truck and container ship).
- **End of life:** Two options are provided for end-of-life: landfill and composting. Results are declared separately for each option in the results tables that follow.

77% of paper packaging is assumed to be recycled, with the remainder landfilled. This is based on the Australian average for 2013-14 (APC 2014). The recycling rate in New Zealand is likely to be similar but is not available due to uncertainties in waste statistics (PCNZ 2015).

All waste treatment assumes truck transport of 50 km outbound with an empty backhaul.

No credits are applied for recycling paper in line with the PCR 2011:05 (IEPDS 2022).

- **Biogenic carbon emissions from landfill:** From every kilogram of paper, 22% of the mass is biogenic carbon that is converted to landfill gas. From every kilogram of carbon converted to landfill gas, 71.2% is released as carbon dioxide and 28.8% is released as methane.

These percentages are representative of Australian conditions where data quality is best.

They have been derived as follows:

- 0.45 kg/kg = degradable organic carbon in paper at 10% water content (ECN 2012)
- 0.49 kg/kg = fraction of carbon that degrades (Australian Government 2018)
- Of the landfill gas formed, 50% is CO<sub>2</sub> and 50% is CH<sub>4</sub> (ibid)
- 36% of the CH<sub>4</sub> is captured, of which 75% is used for energy recovery and 25% is flared (Carre 2011, based on Hyder Consulting 2007)
- 64% of the CH<sub>4</sub> is not captured, of which 90% is released to the atmosphere as CH<sub>4</sub> and 10% is oxidised to CO<sub>2</sub> in the landfill's surface (Australian Government 2018)

- **Biogenic carbon emissions from composting:** This EPD presents emissions from windrow composting – one of the most common types of industrial composting. Operational inputs are from UNSW (2003). 92% of the carbon in the paper is assumed to break down following Venelampi et al. (2003), with 9 kg methane released per tonne of paper (IPCC 2006).
- **Data for core processes:** Primary (specific) data were collected from Essity and our pulp suppliers as per the PCR 2011:05 (IEPDS 2022). Data are an annual average for the 2018 calendar year. Mono-nitrogen oxides (NO<sub>x</sub>) have been modelled as nitrogen dioxide (NO<sub>2</sub>) and Total Reduced Sulfur (TRS) has been modelled as hydrogen sulfide (H<sub>2</sub>S).
- **Data for upstream and downstream processes:** Secondary (generic) data were used for forestry, chemical production, packaging materials and electricity, as allowed under the PCR 2011:05 (IEPDS 2022). All data are from the GaBi Life Cycle Inventory Database 2022 and are typically representative of the years 2018 to 2021, depending on the dataset (Sphera 2022).
- **Electricity mixes:** All electricity is based on New Zealand's national electricity production mix for 2018 from the GaBi Life Cycle Inventory Database 2022 (Sphera 2022).
- **Allocation:** Where required, co-product allocation using the most relevant physical quantity (mass, energy or exergy) was applied for core processes. Allocation rules for secondary data (upstream/downstream processes) are documented on the GaBi website (Sphera 2022). Recycling allocation follows the polluter pays principle in line with IEPDS (2017).
- **Cut-off criteria:** Environmental impacts relating to personnel, infrastructure, and production equipment not directly consumed in the process are excluded from the system boundary as per the PCR 2011:05 (IEPDS 2022). All other reported data were incorporated and modelled using the best available life cycle inventory data.

## Environmental indicators

Indicator	Description
<b>Climate change</b> Total (GWP-total) Fossil (GWP-fossil) Biogenic (GWP-biogenic) Land use and Land use change (GWP-luluc)	A measure of greenhouse gas emissions, such as CO <sub>2</sub> and methane. These emissions are causing an increase in the absorption of radiation emitted by the earth, increasing the natural greenhouse effect. This may in turn have adverse impacts on ecosystem health, human health and material welfare
<b>Ozone Depletion</b> (ODP)	A measure of air emissions that contribute to the depletion of the stratospheric ozone layer. Depletion of the ozone leads to higher levels of UVB ultraviolet rays reaching the earth's surface with detrimental effects on humans and plants
<b>Acidification Potential</b> (AP)	The potential of emissions to cause acidifying effects in the environment, typically due to acid rain. Potential downstream effects include fish mortality, forest decline and the deterioration of building materials.
<b>Eutrophication</b> Freshwater (EP-fw) Aquatic marine (EP-fm) Terrestrial (EP-tr)	Eutrophication covers all potential impacts of excessively high levels of macronutrients, the most important of which nitrogen (N) and phosphorus (P). Nutrient enrichment may cause an undesirable shift in species composition and elevated biomass production in both aquatic and terrestrial ecosystems. In aquatic ecosystems increased biomass production may lead to depressed oxygen levels, because of the additional consumption of oxygen in biomass decomposition.
<b>Photochemical Ozone Creation Potential</b> (POCP)	A measure of emissions of precursors that contribute to ground-level smog formation (mainly ozone, O <sub>3</sub> ). Ground-level ozone can be harmful to human and ecosystem health and can also damage crops.
<b>Depletion of abiotic resources – minerals and metals</b> (ADP-mm)	The consumption of non-renewable resources leads to a decrease in the future availability of the functions supplied by these resources. Depletion of mineral resources is assessed based on ultimate reserves
<b>Depletion of abiotic resources</b> (ADP-fossil)	The consumption of non-renewable resources leads to a decrease in the future availability of the functions supplied by these resources.
<b>Water use</b> (WDP)	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)



## Tork Xpressnap® White Dispenser Napkin

**Article number(s): 2310917**

1,000 kg air-dry tissue + 86 kg paper packaging + 23 kg plastic packaging = 1,109 kg total.

Content declaration: Paper >99% virgin kraft pulp. Bleaching agent: chlorine dioxide (elemental chlorine free).

### Potential Environmental Impacts

Indicator	Unit	Manufacture			Transport + Landfill		Transport + Compost		
		Upstream	Core	To Gate	Downstream	Total	Downstream	Total	Reduction
Climate change, total	kg CO <sub>2</sub> -eq.	-3,310	2,950	-363	4,010	3,650	2,030	1,670	-54%
Climate change, fossil	kg CO <sub>2</sub> -eq.	296	1,040	1,340	157	1,490	114	1,450	-3%
Climate change, biogenic	kg CO <sub>2</sub> -eq.	-3,610	1,900	-1,700	3,860	2,150	1,920	214	-90%
Climate change, land use and land use change	kg CO <sub>2</sub> -eq.	0.316	3.69	4.00	0.0129	4.02	9.14E-04	4.00	0%
Ozone depletion	kg CFC11-eq.	4.56E-09	6.01E-10	5.16E-09	1.09E-10	5.27E-09	9.54E-12	5.17E-09	-2%
Acidification	Mole of H <sup>+</sup> eq.	1.82	9.04	10.9	2.95	13.8	2.48	13.3	-4%
Eutrophication, freshwater	kg P eq.	0.00910	0.0404	0.0495	3.58E-04	0.0499	1.78E-05	0.0496	-1%
Eutrophication, marine	kg N eq.	0.644	2.73	3.37	0.966	4.34	0.678	4.05	-7%
Eutrophication, terrestrial	Mole of N eq.	6.91	31.2	38.1	9.46	47.6	7.42	45.5	-4%
Photochemical ozone formation, human health	kg NMVOC eq.	1.82	7.42	9.24	3.20	12.4	1.91	11.1	-10%
Resource use, mineral and metals	kg Sb-eq.	6.02E-05	6.90E-05	1.29E-04	6.43E-06	1.36E-04	1.54E-06	1.31E-04	-4%
Resource use, fossils	MJ	4,850	10,900	15,800	2,000	17,800	1,350	17,100	-4%
Water use	m <sup>3</sup> world equiv.	100	402	502	13.7	516	0.746	503	-3%

Primary Energy Demand (PED)		Manufacture			Transport + Landfill		Transport + Compost		
Indicator	Unit	Upstream	Core	To Gate	Downstream	Total	Downstream	Total	Reduction
Use of renewable primary energy	MJ	43,300	20,700	78.0	78.0	64,100	5.85	64,100	0%
Primary energy resources used as raw materials	MJ	15.2	0	0	0	15.2	0	15.2	0%
Total use of renewable primary energy resources	MJ	43,300	20,700	78.0	78.0	64,100	5.85	64,100	0%
Use of non-renewable primary energy	MJ	4,880	10,900	2,000	2,000	15,800	1,350	17,200	-4%
Non-renewable primary energy resources used as raw materials	MJ	0.863	0	0	0	0.863	0	0.863	0%
Total use of non-renewable primary energy resources	MJ	4,880	10,900	2,000	2,000	15,800	1,350	17,200	-4%
Input of secondary material	kg	0	0	0	0	0	0	0	0%
Use of renewable secondary fuels	MJ	0	0	0	0	0	0	0	0%
Use of non renewable secondary fuels	MJ	0	0	0	0	0	0	0	0%
Use of net fresh water	m <sup>3</sup>	8.10	36.0	0.345	0.345	44.1	0.0131	44.1	-1%
Total use of non-renewable & renewable primary energy resources	MJ	48,200	31,600	79,900	2,080	82,000	0	0	-1%
% Total use of renewable primary energy resources	MJ	89.9%	65.5%	80.2%	3.7%	78.3%	0	0	

# Waste indicators

Indicator	Unit
Hazardous waste disposed	kg
Non-hazardous waste disposed	kg
Radioactive waste disposed	kg
Components for re-use	kg
Materials for recycling	kg
Material for energy recovery	kg
Exported electrical energy	MJ
Exported thermal energy	MJ

# Manufacture

Upstream	Core	To Gate
1.99E-05	1.24E-06	5.42E-08
7.24	38.1	242
0.130	0.0470	0.00485
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

# Transport + Landfill

Downstream	Total
5.42E-08	2.12E-05
242	45.4
0.00485	0.177
0	0
0	0
0	0
0	0
0	0

# Transport + Compost

Downstream	Total	Reduction
1.87E-09	2.12E-05	0%
0.0261	45.4	-84%
1.36E-04	0.177	-3%
0	0	0%
0	0	0%
0	0	0%
0	0	0%
0	0	0%

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## EPD registration and verification

### Declaration owner:



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### Product Category Rules (PCR):

### PCR 2011:05 Tissue Products, Version 3.0.1, 2022-04-20

ANZSIC v1.0 classification:

C152400: "Sanitary Paper Product Manufacturing"

UN CPC v2 classification:

32131: "Toilet or facial tissue stock, towel or napkin stock and similar paper, cellulose wadding and webs of cellulose fibres"

PCR review was conducted by:

The Technical Committee of the International EPD® System.  
Chair: Massimo Marino. Contact via [info@environdec.com](mailto:info@environdec.com).

Independent verification of the declaration and data, according to ISO 14025:2006:

- ☐ EPD process certification (Internal)  
☒ EPD verification (External)

### Third party verifier:



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Approved by:

EPD Australasia Ltd

Procedure for follow-up of data during EPD validity involves third party verifier:

- ☒ Yes ☐ No



#### **Version history**

v1.0 Initial release  
v1.1 Correction to POCP results  
v1.2 Addition of Tork Soft Mini Jumbo Toilet Roll T2 Advanced  
v1.3 Addition of Sorbent Hypo-Allergenic 12-Pack and Purex Mega 6-Pack  
v2.0 Revision of all data. Addition of new products across all categories.  
V3.0 Revision of all data from 2018 to 2022. Revision of impact indicators in line with EN15804+ A2.

The EPD owner has the sole ownership, liability and responsibility for the EPD.