

Environmental Product Declaration Sheet 2023



MILL LOCATION

Rosenthal am Rennsteig, Germany

PRODUCT PROFILE

360,000 ADMT/yr Northern Bleached Softwood kraft pulp

PROCESS DESCRIPTION

Mercer Rosenthal produces high-quality, bleached softwood kraft pulp using softwood chips purchased from sawmills and chips from roundwood. The bleach plant process is enhanced Elemental Chlorine Free (ECF) and Total Chlorine Free (TCF).

ECF BLEACHING SEQUENCE

OO-OP-D-PO

TCF BLEACHING SEQUENCE

OO-OP-Z-PO

SOFTWOOD SPECIES

- **Norway Spruce** - Picea abies
- **Scots Pine** - Pinus sylvestris
- **European Larch** - Larix decidua
- **Douglas fir** - Pseudotsuga menziesii

MODERN PULP PRODUCTION

Mercer Rosenthal GmbH processes approximately 1.8 million cubic meters of wood annually. Mercer's vision is to transform biomass into bioproducts for a more sustainable world. In addition to pulp production, the mill also produces bioenergy, biochemicals, and other bio-based products from wood, aiming to maximize the value of the biomass.

MAXIMIZING EFFICIENCY

Mercer Rosenthal uses renewable raw material wood as efficiently and sustainably as possible, implementing the principle of biorefineries: breaking wood down to its basic components and using them as extensively as technologically possible. In addition to cellulose fibers, the mill extracts various biochemicals, such as lignin in the black liquor from the wood, which can replace fossil-based raw materials.

The mill operates Germany's second-largest biomass power plant, generating energy from the remaining organic components after the material utilization of the biomass.

COMPLIANCE WITH INTERNATIONAL STANDARDS

Mercer Rosenthal pulp is fully compliant with the requirements of the US Lacey Act, the EU Timber Regulations, the EU Deforestation Regulation and the EU REACH Regulation.

CERTIFICATIONS

FIBER	CERTIFICATION NO.	EXPIRATION DATE
PEFC Chain of Custody	DC-COC-000827	30. June, 2029
FSC® Chain of Custody	TUVDC-COC-100827	30. June, 2029
FSC® Controlled Wood	TUVDC-CW-100827	30. June, 2029

QUALITY, ENVIRONMENT & ENERGY

STANDARD	CERTIFICATION NO.	EXPIRATION DATE
ISO 9001:2015	ID 15 100 11000	17. June, 2027
ISO 14001:2015	ID 15 104 4121	17. June, 2027
ISO 50001:2018	ID 15 275 12018	17. June, 2027
ISO 38200: 2018	10C0005	11. September, 2027

FOOD GRADE

STANDARD	CERTIFICATION NO.	EXPIRATION DATE
ISEGA	49257 U 19	25. May, 2025
US-FDA	21 CFR 176.170 and 176.180	25. May, 2025

COMPOSTING

ISEGA	EN 13432	Not applicable
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2023 ENVIRONMENTAL PARAMETERS

FOSSIL FUEL GREENHOUSE GAS EMISSIONS:	138 CO ₂ e/ADMT	
RENEWABLE ELECTRICITY:	100% of the electricity required for our pulp mill operation is biomass energy generated from the mill's biofuel.	
ENERGY EFFICIENCY:	45.53 GJ/ADMT, of which 94% is from renewable sources.	
WATER EMISSIONS:	BOD ₅ (kg/ADMT):	0.07
	AOX (kg/ADMT)	0.03
	Nitrogen (kg/ADMT)	0.07
	Phosphorous (kg/ADMT)	0.01
	Water usage (m ³ /ADMT)	30.25
	Total suspended solids (kg/ADMT)	0.17
AIR EMISSIONS:	SO ₂ (kg/ADMT)	0.04
	Particulate matter (kg/ADMT)	0.12
	NOX (kg/ADMT)	2.29
WASTE MANAGEMENT:	Solid waste landfilled (kg/ADMT):	15.34

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ROAD TO ZERO

The protection of human health and personal safety rank at the highest level of importance to Mercer's operations.

Mercer Rosenthal operates in a diligent and responsible manner to ensure ZERO HARM to their people through their Road to Zero safety program. Mercer Rosenthal is dedicated to continuously improving their processes, being individually accountable, and promoting comprehensive safety awareness.

Mill Safety Performance - Total Recordable Incident Rate (TRIR):

(Incidents /200,000 hrs)

2021: 2.14 | 2022: 1.43 | 2023: 1.79



QUALITY ASSURANCE

Refining is the key process required in papermaking to alter fiber characteristics. Mercer operates a state-of-the-art laboratory refiner simulating the industrial refining process to support Mercer customers, mill projects, and applied research.

RESPONSIBLE FIBRE SOURCING

Mercer is committed to sustainable forest management and wood sourcing. All Mercer Rosenthal's suppliers must comply with Mercer's [Environmental Policy](#) and [Wood and Fibre Procurement Policy](#), which mandate that fiber is sourced from sustainably managed forests. The approach is guided by the following principles:

- Legal and regulatory compliance in wood harvesting and purchasing
- Building long-term supplier relationships
- Respectful collaboration with small landowners and Indigenous Communities
- Prioritizing worker safety and minimizing our carbon footprint

Mercer Holz, Mercer Germany's wood procurement organization, harvests and transports wood fiber in an environmentally friendly and cost-efficient manner. All of Mercer Holz's wood comes from low-risk, controlled sources. This ensures that fiber is not sourced from:

- Illegally harvested wood
- Wood harvested in violation of traditional and human rights
- Wood from forests in which high conservation values are threatened by management activities
- Wood harvested in forests being converted to plantations or non-forest use
- Wood from forests in which genetically modified trees are planted

FOOD GRADE CERTIFICATIONS

Mercer Rosenthal's softwood pulp is manufactured and rigorously tested by independent labs to ensure it meets Food-Grade Standards, including US FDA and European Standards (ISEGA) EC No. 1935/2004.

ENVIRONMENTAL PERFORMANCE

Due to the immediate proximity to Germany's largest artificial water, the 'Bleilochtalsperre' (dam), and the exposed location of the company on the edge of the natural park 'Thüringer Schiefergebirge' (Thuringian Highland), Mercer Rosenthal aims to keep the environmental impact as low as possible. Mercer Rosenthal's state-of-the-art production facilities comply with the most stringent environmental protection requirements.

Technological improvements have led to increases in production over the last few years while simultaneously optimizing most environmental indicators. A worldwide comparison of sulfate pulp mills demonstrates that Mercer Rosenthal has a leading environmental performance. Whether energy or water consumption, solid waste volume, air or water emissions — the environmental performance indicators of Mercer Rosenthal are far below the limits imposed by the legislator in almost all areas. In the recent past, particularly significant improvements have been achieved in the reduction of odors. The environmental indicators are continuously monitored in Mercer's environmental laboratory.

MITIGATING CLIMATE CHANGE

Mercer is committed to reducing its GHG intensity through continuous investment in technologies to improve energy efficiency, increase the usage of renewable fuels, and ensure full fiber utilization. Mercer Rosenthal has made significant capital investments in renewable electricity generation.

In 2023, Mercer Rosenthal generated 408 GWh of renewable energy which is enough to power 131,000 homes in the Thuringia region.

As part of its commitment to sustainable operations and products, Mercer publishes an annual company-wide Sustainability Report that demonstrates progress and achievements toward sustainability goals. The full report is available at mercerint.com/sustainability/

SCIENCE BASED TARGETS INITIATIVE (SBTi)

Responding to the SBTi's urgent call for corporate climate action, Mercer International has set science-based GHG emissions reduction targets that the SBTi has validated.

