

WASTEWATER TREATMENT PLANTS

State-of-the-art wastewater treatment
at three sites



A Bayer and LANXESS
company

CLEAN THE EXTREME

CURRENTA Environment is an expert service provider that ensures seamless production processes in Germany's largest chemical park at its three sites in Leverkusen, Dormagen and Krefeld-Uerdingen.

CURRENTA offers its customers, both within and outside CHEMPARK, a customized portfolio of services in core fields such as training and further education, infrastructure, safety and security, utilities, waste management, technical services and analytics.

We have our own state-of-the-art waste management facilities, an excellent disposal network and skilled personnel from the chemical and pharmaceutical industry, all of which enable us to meet the disposal requirements of our customers efficiently and cost-effectively. We treat biodegradable wastewater, deal with the incineration and landfill disposal of hazardous waste, and clean tanks. We provide advice and support in the construction and operation of waste management facilities and in the collection and recycling of valuable materials. Our portfolio covers individual services and complete solutions that meet the statutory requirements pertaining to the safe disposal of waste and wastewater that is particularly difficult to treat.

LEVERKUSEN-BÜRRIG

Mechanical/biological plant for the treatment of wastewater containing organic loads and inorganic substances such as nitrogen, phosphorus and heavy metals.



Start-up

- 1971: Basin biology
- 1980: Tower Biology
- 2005 - 2010: New construction of basin biology (cascade biology)

Authorization status

- Individual permits must be obtained from the authorities for the disposal of external wastewater
- Responsible authority: District authorities of Cologne
- Monitoring authority: StUA (State Environmental Office) Cologne

Process stages

- Neutralization
- Pre-clarification
- 1st biological stage (Tower Biology), including nitrification/denitrification and phosphate precipitation
- Intermediate clarification
- 2nd biological stage (basin biology) with precipitation of residual phosphates
- Secondary clarification

Technical capacity

- Wastewater volume as per discharge permit: 264,000 m³/d
- COD treated: 130 t/d

Wastewater volumes

- av. 40,000 m³/d from the CHEMPARK and Bürrig

YOUR CONTACTS

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- Wupper water authority: av. 60,000 m³/d
Up to 195,000 m³/d in wet weather

Efficiency

- COD reduction > 90%

Nitrogen removal

- Since 1995, an additional 800 metric tons of nitrogen has been eliminated annually from the wastewater through nitrification and upstream denitrification. In addition, the discharge concentrations for organic nitrogen compounds will be reduced to < 19 mg/l in the new cascade biology (-40 %).

Phosphate degradation

- Simultaneous precipitation ensures discharge concentration < 0.6 mg/l

DORMAGEN

Mechanical/biological plant for the treatment of wastewater containing organic loads and inorganic substances such as nitrogen, phosphorus and heavy metals.



Start-up

- 1978: Single-stage biological treatment
- 1993: Two-stage biological treatment
- 2003: Downstream nitrification

Authorization status

- Individual permits must be obtained from the authorities for the disposal of external wastewater
- Responsible authority: District authorities of Cologne
- Plant approval: District authorities of Cologne
- Monitoring authority: StUA (State Environmental Office) Cologne

Process stages

- Neutralization
- Pre-clarification
- 1st sieving
- Denitrification and biological treatment
- Intermediate clarification
- Nitrification (denitrification in the downstream 2nd treatment plant operated by INEOS)
- Secondary clarification
- Flotation

Technical capacity

- Wastewater volume: 11,000 m³/d
- COD treated: 30 t/d

Efficiency

- COD reduction > 85 %

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Wastewater is constantly monitored as part of CURRENTA Environment's quality management systems.

KREFELD-UERDINGEN

Mechanical/biological plant for the treatment of wastewater containing organic loads and inorganic substances such as nitrogen, phosphorus and heavy metals.



Start-up

- 1975: 1st expansion stage
- 1980: 2nd expansion stage

Authorization status

- Individual permits must be obtained from the authorities for the disposal of external wastewater
- Responsible authority: District authorities of Dusseldorf
- Monitoring authority: StUA (State Environmental Office) Krefeld

Process stages

- Neutralization
- Pre-clarification
- 1st biological stage
- Intermediate clarification
- 2nd biological stage
- Secondary clarification
- Flotation

Technical capacity

- Wastewater volume: 29,000 m³/d
- COD treated: 30 t/d

Efficiency

- COD reduction > 90 %

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Part of the wastewater treatment plant in Krefeld – Uerdingen

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