



Rhein Chemie Additives

A premium solutions provider

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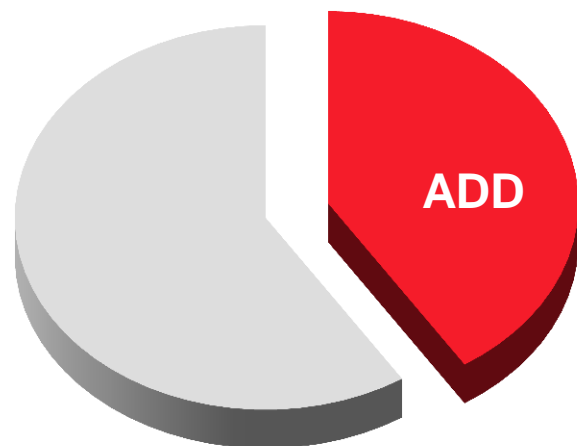
Düsseldorf, June 28, 2016



Rhein Chemie Additives at a glance

Performance Chemicals segment

Share of 2015 sales



Key figures

- Sites: 19
- Employees: ~1,600
- Customers: >5,000

Products & brands

- Products: >4,000
- Umbrella brand:

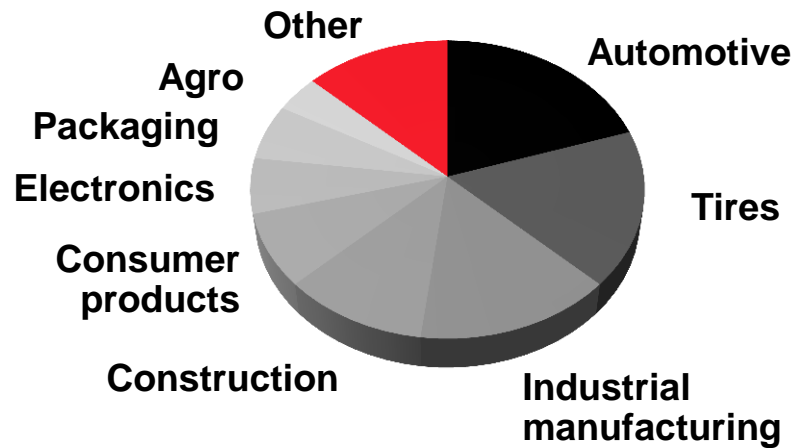


Markets & growth drivers

- Market share: Leading positions globally
- Main growth drivers: Urbanization, mobility

Broad portfolio, diversified markets, large customer base

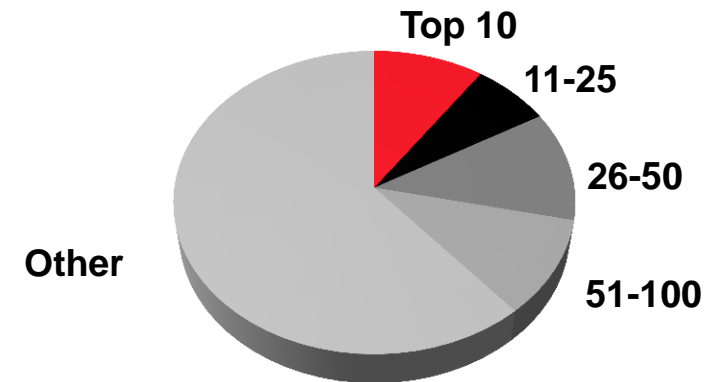
Sales by end market



Well-diversified end markets

- No end market >20%
- Well-established market positions

Sales by customer category*



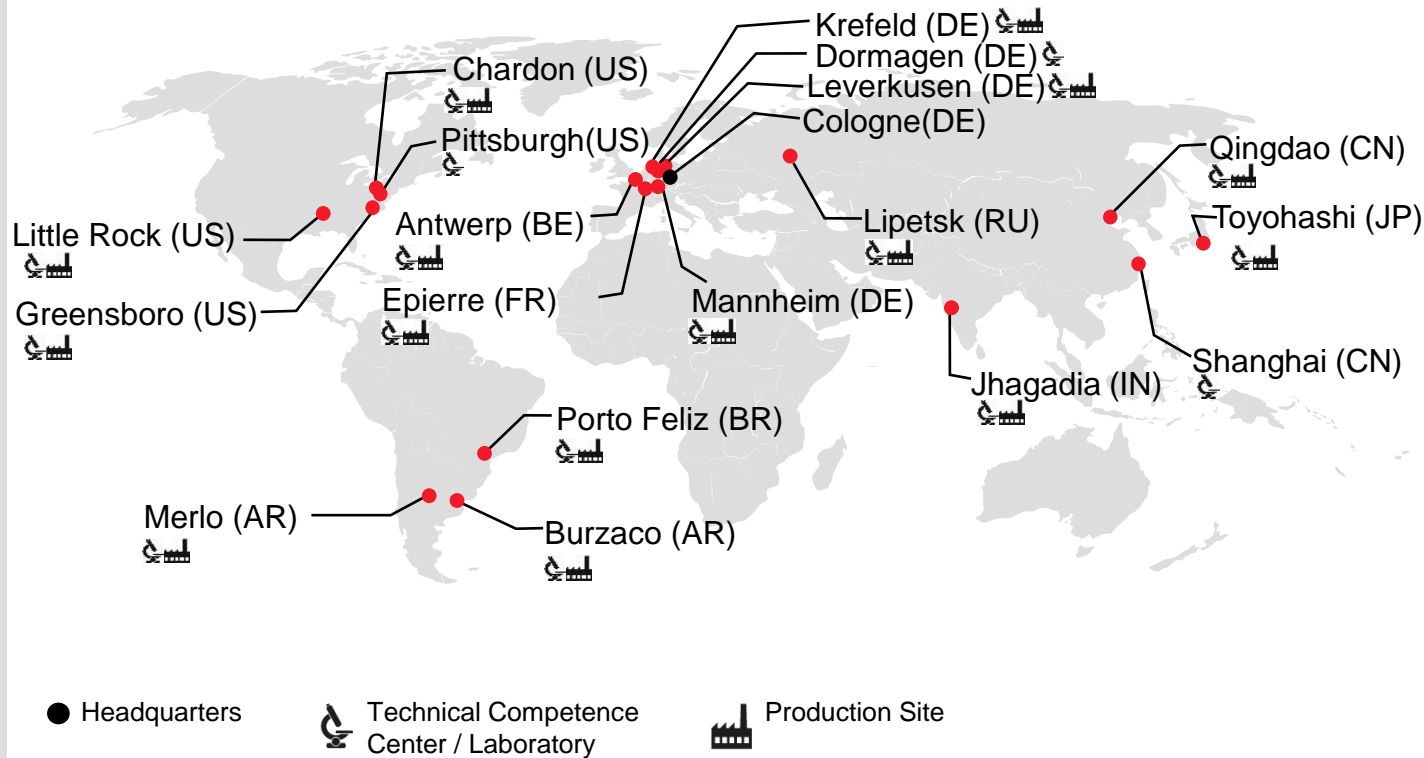
A fragmented customer landscape

- 10 biggest customers represent <10% of sales
- 10 biggest products account for ~20% of sales

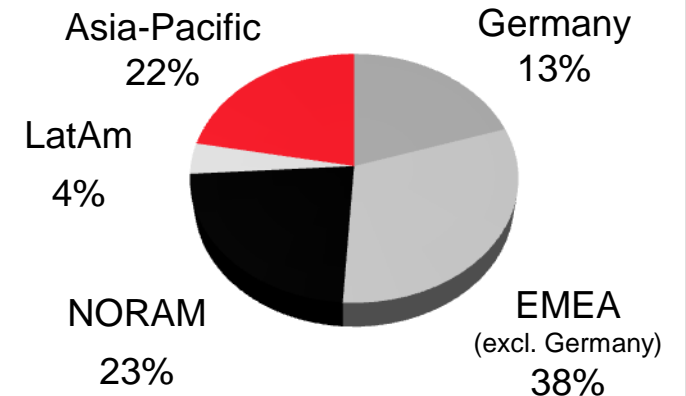
* Customers ranked in order of total sales.

Customized solutions made possible by a global network designed to serve our clients

Global network of production sites, labs & technical centers



Sales by region



Three business lines sharply focused on polymer markets

Plastic Additives

- Flame retardants (Disflamoll[®], Levagard[®])
- Hydrolysis protection (Stabaxol[®])
- Phthalate-free plasticizers (Mesamoll[®], Adimoll[®], Ultramoll[®])
- ...

used for

- PVC-P
- PU
- PET
- PA
- PF
- TPU
- Synth. rubber
- ...



Rubber Additives

- Polymer-bound additives (Rhenogran[®])
- Release agents (Rhenodiv[®])
- High-performance bladders (Rhenoshape[®])
- ...

used for

- EPDM
- SBR
- NR
- NBR
- CR
- BR
- ...



Colorant Additives

- Solvent dyes for the coloration of plastics (Macrolex[®])
- Pigments for plastics (Bayplast[®])
- Organic pigments for LCD color filters (Levascreen[®])
- ...

used for

- PS
- PC
- ABS
- PMMA
- PET
- PS
- PE-HD
- ...



Lubricant Additives

- Solutions for oil- and water-based lubricants (Additin[®])
 - Extreme pressure additives
 - Antiwear additives
 - Corrosion inhibitors
 - Sulfur linked polymers
 - Performance packages

used for

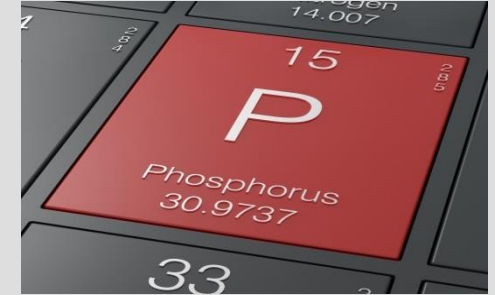
- Industrial lubricants and greases
- ...



Levagard® TP LXS 51114: Innovative flame retardant for PU foam and biopolymers

Product

- Innovative new flame retardant
- Halogen-free phosphorus compound
- Liquid



Flexible PU foam

- Suitable for polyether- and polyester-based flexible polyurethane foams
- Low emissions and fogging
- Low contribution to scorching
- Recommended for automotive applications



Biopolymers

- Suitable for biopolymers such as cellulose acetate
- Combines flame-retardant and plasticizing effects
- Suitable for E&E applications



Rhenowave[®]: Transition from laboratory to industrial testing

Rhenowave[®]

- Inline process control for the extrusion of rubber compounds
- Successfully launched in an industrial environment at two LANXESS sites



Features of Rhenowave[®]

- Volumetric, non-destructive, representative measurement
- Analysis of up to 100 percent of the compound
- Recognizes insufficient compound quality
- High quality, offering lower rejection rates and production costs



Features of iCOM[®]

- Combination of analytics with the use of marker substances in continuous mixing processes
- Various masterbatches to be compounded, extruded and analyzed in a single step
- Enables decentralized production; disclosure of proprietary formulations not required

Rhenowave[®]
+ Rhenogran[®] AP
+ Continuous mixing

Rhein Chemie Additives – a premium solutions provider

Best technological offerings



Customized products



Specialties



Tailored services



LANXESS

Energizing Chemistry