

## Our Team

### Always There for You ...



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## Where We Operate

### Distribution Area Europe

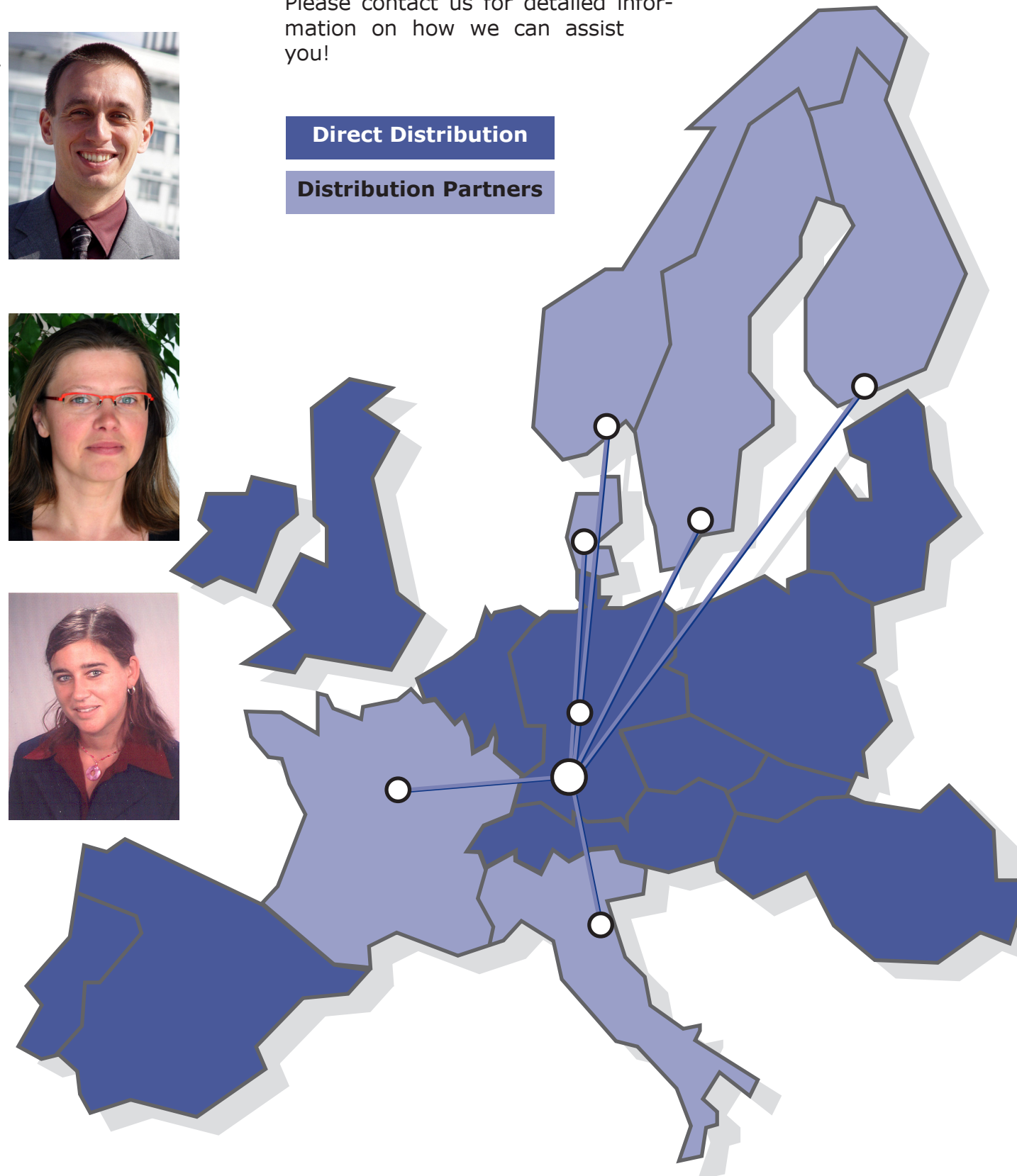
We supply our European customers either direct, or via distribution partners with a comprehensive range of products for lithography and microstructuring.

### Interested?

Please contact us for detailed information on how we can assist you!

Direct Distribution

Distribution Partners



## Who We Are



### Company

Founded in April 2001  
ISO 9001 certified in December 2001  
European distributor for AZ-EM® (former Clariant®)  
European distributor for Technic France

### Product Range

**Photoresists** (positive, negative, image reversal)  
**Developers** (metal ion free and metal ion containing)  
**Ancillaries** (adhesion promoters and remover)  
**Etchants** (acids and bases in VLSI and ULSI quality)  
**Etching mixtures** (ready-to-use for various materials)  
**Solvents** (VLSI and ULSI quality)

### Trading Area

Direct distribution in Germany, Switzerland, Benelux Nations, Austria, Eastern Europe, Portugal, Spain  
Distribution partners in France, Italy, Scandinavia

### What We Can Do For You

Supply you with also small sales volumes in short lead times  
Assist you with comprehensive technical support  
Help you to forge links in our 'technological network'

### Interested? Contact Us!

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## Our Photoresists

Sales Volumes : Units of 250 ml, 1 L, 2.5 L, 5 L

### Thin Positive (Thickness 0.5 ... 2.5 µm)

- AZ® 1512HS, 1514H → Improved adhesion, wet chemical etching
- AZ® 1505, 1518 → Improved adhesion, wet chemical etching
- AZ® 6612, 6624 → Thermally stable, dry chemical etching

### Medium Positive (Thickness 2.5 ... 5.0 µm)

- AZ® 4533 → Improved adhesion, wet chemical etching
- AZ® 6632 → Thermally stable, dry chemical etching

### Thick Positive (Thickness 5.0 ... 50 µm)

- AZ® 4562 → Improved adhesion, wet chemical etching
- AZ® 9260 → High resolution, high aspect ratios

### High-Resolution

- AZ® 701MiR → Dry chemical etching

### Image Reversal

- AZ® 5214E → High resolution, thickness 1 ... 2 µm
- TI 35ES → Thickness 3 ... 5 µm
- TI xLift → Thickness 5 ... 20 µm

### Negative (Cross-Linking)

- AZ® nLOF 2000 series → Thickness 2 ... 20 µm
- Very high thermal stability (> 250 °C)
- Aqueous alkaline developable
- Undercut for lift-off processes
- Wet chemical removable

### Special Application

- TI Spray → Spray coating resist
- AZ® 520D → Protective coating
- PL 177 → Printed circuit boards

## Our Etchants

Sales Volumes : Bottles of 2.5 or 5.0 L

### Ammonia Solution (29 %)

Ingredient of the RCA-1 solution

### Acetic Acid (99.8 %)

Thinner, wetting agent and chemical buffer in various etching solutions such as Al-etchants

### Hydrofluoric Acid (1 %, 10 %, 50 %)

Used for etching of SiO<sub>2</sub> and (together with HNO<sub>3</sub>) - etching of silicon.

### KOH Solution (50 %)

Also used for anisotropic etching of silicon

### Phosphoric Acid (85 %)

Ingredient of aluminium etchants, and etching solutions for Ga-containing III/V-semiconductors

### Nitric Acid (70 %)

Ingredient of the silicon etchant, and etching solutions for Ga-containing III/V-semiconductors.

### Hydrochloric Acid (37 %)

Ingredient of aqua regia and etching mixtures for various III/V-semiconductors such as InP

### Sulfuric Acid (96 %)

Ingredient of the piranha-etch as well as etching solutions for Ga-containing III/V-semiconductors

### Hydrogen Peroxide (30 %)

Ingredient of the piranha-etch, RCA-1 and RCA-2 etching solutions, as well as etching solutions for various III/V-semiconductors

## Our Solvents

Sales Volumes : Bottles of 2.5 or 5.0 L

### Acetone

- Substrate cleaning (organic impurities and particles)
- Second cleaning step (e. g. isopropyl alcohol) recommended

### Butyl Acetate

- Suited thinner for AZ® and TI photoresists

### Ethanol

- Substrate cleaning (organic impurities)
- Additive for HF-based anodic porous silicon etching.

### Ethyl Lactate

- Suited thinner for AZ® and TI photoresists

### Isopropyl Alcohol

- Substrate cleaning (rinsing contaminated acetone)
- Particle removal from surfaces
- Additive for anisotropic Si-etching.

### MEK (Methyl Ethyl Ketone)

- Low boiling point, high evaporation rate
- Additional thinner for spray coating resists

### Methanol

- Substrate cleaning (substitute for isopropyl alcohol)

### NMP (1-methyl-2-pyrrolidone)

- Powerful lift-off medium
- Very well-suited stripper for photoresists

### PGMEA (1-methoxy-2-propyl-acetate)

- Main thinner for AZ® and TI photoresists
- Edge bead removal

## Our Developers

Sales Volumes : 5.0 L Bottles

### AZ® 326 MIF (Metal Ion Free, Ready-To-Use)

- 2.38% TMAH (TetraMethylAmmoniumHydroxide)

### AZ® 726 MIF (Metal Ion Free, Ready-To-Use)

- 2.38% TMAH (TetraMethylAmmoniumHydroxide)
- Surfactant for fast, homogeneous wetting/development

### AZ® 826 MIF (Metal Ion Free, Ready-To-Use)

- 2.38% TMAH (TetraMethylAmmoniumHydroxide)
- Surfactant for fast, homogeneous wetting/development
- Scum-remover for resist residual removal

### AZ® 400K (KOH-Based Concentrate)

- Chemically buffered
- Optimized for AZ® 4533, 4562

### AZ® 351B (NaOH-Based Concentrate)

- Chemically buffered
- Optimized for the AZ® 1500 series

### AZ® Developer (Sodium Metasilicate)

- Minimized aluminium attack
- Slightly higher dark erosion for resists

## Our Etching Mixtures

Sales Volumes : Bottles of 2.5 or 5.0 L

### Aluminium Etchant (H<sub>3</sub>PO<sub>4</sub>/HNO<sub>3</sub>/CH<sub>3</sub>COOH)

Mixtures of nitric acid (→ Al oxidation to Al<sub>2</sub>O<sub>3</sub>), phosphoric acid (→ solving the Al<sub>2</sub>O<sub>3</sub> formed), and optionally acetic acid (→ wetting agent and buffer for HNO<sub>3</sub>)

### Chromium Etchant ((NH<sub>4</sub>)<sub>2</sub>[Ce(NO<sub>3</sub>)<sub>6</sub>]/HClO<sub>4</sub>)

Mixtures of perchloric acid and ceric ammonium nitrate

### Gold Etchant (HNO<sub>3</sub>/HCl)

Mixtures of nitric acid and hydrochloric acid - The very strong oxidative effect of this mixture stems from the formation of nitrosyl chloride (NOCl), while free Cl radicals formed in the solution keep the noble metal as a Cl-complex solved.

### Silicon Etchant (HF/HNO<sub>3</sub>)

Mixtures of nitric acid (→ oxidation of Si to SiO<sub>2</sub>), hydrofluoric acid (→ SiO<sub>2</sub> etching), and optional acetic acid (→ wetting agent and buffer for HNO<sub>3</sub>).

## Our Ancillaries

Sales Volumes : 1.0, 2.5 or/and 5.0 L

### HMDS Adhesion Promoter

HMDS should only be applied from the vapor phase onto heated substrates. Otherwise, water cannot sufficiently desorb from the wafer surface. Additionally, a HMDS film thickness being too high (caused by e. g. spincoating of HMDS) is able to crosslink substrate-near resist films during baking steps (e. g. softbake).

### TI PRIME Adhesion Promoter

TI PRIME adhesion promoter is optimized for being spin-coated. In contrast to HMDS it has to be mentioned that TI PRIME is NOT metal ion free.

### Remover

**AZ® 100 Remover** is a strongly alkaline remover for positive and negative tone AZ® and TI resists.

In case of alkaline unstable substrates, the organic solvent **NMP** with a pH-value of less than 11 might be a good alternative as stripper for positive and negative tone AZ® and TI resists.

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Your request for available sales volumes, quality (MOS, VLSI, ULSI) and pricing: [sales@microchemicals.com](mailto:sales@microchemicals.com)