Milan, 28.10.2026
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hubergroup chemicals

# Boosting performance of energy curing wood coatings with amino acrylates

## Introducing UHVPI-222200

# Agenda

.01 **Introduction**
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.02 **Amino acrylates**
Their role in energy curing systems

.03 **UHVPI-222200**
Amine-modified polyether acrylate

.04 **Hubergroup @ Eurosyn**
Booth 724

# hubergroup Chemicals

## About us

- Established in 2020 as a new business unit of hubergroup
- Specialized in raw materials development and production for
  - Printing inks
  - Coatings
  - Industrial applications
- Headquartered in Mumbai, India
- Sales office in North America and Europe
- Application Lab in Munich, Germany
- 2 manufacturing sites in India (Vapi & Daman)
  - >350,000 mt annual capacity
- Product Portfolio includes:
  - UV-Oligomers & UV-Monomers
  - Polyamides, Ketonic Resin, PVB Resins
  - Modified Rosin Resins
  - Pigments & Pigment Concentrates
  - Additives



# Amino Acrylates

## Their role in energy curing systems

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**Strong improvement of surface cure**

- The presence of oxygen at the surface of the coating inhibits polymerisation during curing process.
- This is an issue in thin films and pigmented systems
- Solutions:
  1. Exclude Oxygen from curing process (e.g. cure under inert atmosphere) ⊗
  2. Add more photoinitiator ⊗
  3. Use **amino acrylates** as oxygen scavenger to achieve **better cure** of your coating ✓

# Amino Acrylates

## Their role in energy curing systems

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### Enhancement of photoinitiator performance

- Amino acrylates can improve LED curing performance of the coating
- Amino acrylates are synergists for Type II photoinitiators
- Amino acrylates improve reactivity of coating with Type I photoinitiators
- Lower radiation dose is needed for curing

| | | UHVPI-222200 | reference |
|---|---|---|---|
| reactivity (tack-free surface, 15 µm, glass) | Curing conditions | 1 x 20 m/min | 3 x 10 m/min |
| | dose [J/cm²] | 0,8 | 4,8 |

| test formulation for wood substrates | | w-% | w-% |
|---|---|---|---|
| amino acrylate | UHVPI-222200 | 15 | 0 |
| polyester acrylate | UHVO-221025 | 81,5 | 81,5 |
| reactive diluent | UHVM-22710 (GPTA) | 0 | 15 |
| photoinitiator Type I | TPO-L/ PI 1173 (1:1) | 1,5 | 1,5 |
| photoinitiator Type II | PI DETX | 0,5 | 0,5 |

### Increase of cure speeds

→ faster cycle-times

→ lower energy consumption for curing

higher reactivity

# Amino Acrylates

## Their role in energy curing systems

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**better curing = better coating performance**

- Insufficiently cured films lead to reduced hardness, scratch- and chemical resistance
- Use amino acrylate to achieve

| amine acrylate in formulation | 0% | 5% | 10% | 15% |
|---|---|---|---|---|
| surface hardness of film (pencil hardness) | 5B | 2B | 2B | HB |

increasing surface hardness

**Higher scratch resistance**

**Better chemical resistance**

**Higher film hardness**

| | material | amount [w-%] |
|---|---|---|
| polyester acrylate | UHVO-221025 | 81,5 |
| amine acrylate | UHVO-222200 | 0 - 15 |
| reactive diluent | GPTA | 0 - 15 |
| photoinitiator Type I | TPO-L | 1,5 |
| photoinitiator Type I | PI 1173 | 1,5 |
| photoinitiator Type II | DETX | 0,5 |

| | material | with amino acrylate | reference |
|---|---|---|---|
| amino acrylate | UHVPI-222200 | 15 | 15 |
| polyester acrylate | UHVO-221024 | 72 | 57 |
| reactive diluent | DPGDA (UHVM-22704) | 25 | 25 |
| photoinitiator type I | PI 1173 | 0,5 | 0,5 |
| photoinitiator type II | DETX | 2,5 | 2,5 |
| | | | |
| **pendulum hardness** | 40 µm on glass, dose: 1,6 J/cm² | **156** | **122** |

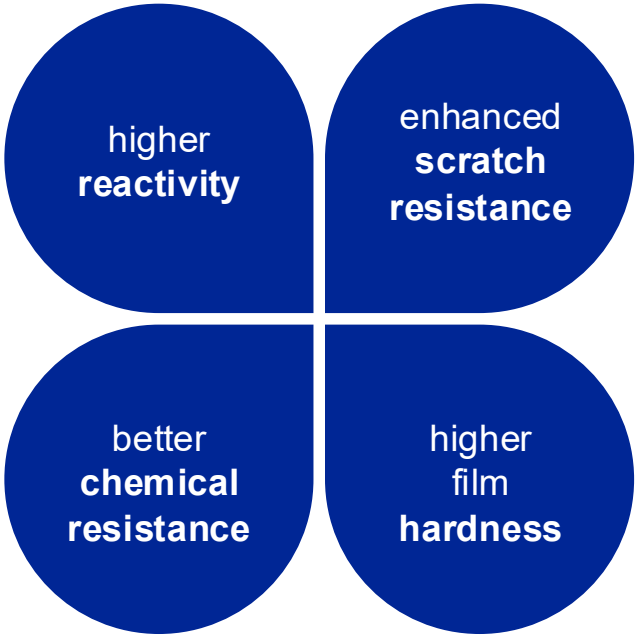
Enhanced film properties



Public

# Amino Acrylates

## Their role in energy curing systems



# UHVPI-222200

## Amine-modified Polyether Acrylate

### DUAL FUNCTION

Binder Function

- Structural contribution to polymer matrix
- Low viscosity (700–1000 mPas, 25°C)
- Low yellowing

→ excellent formulation flexibility
→ monomer reduction

Reactivity Booster

- PI reduction

→ PI reduction

### INCREASES CURING EFFICIENCY

• High reactivity at low addition levels

Benefits
• Higher process speed
• Less energy-intensive curing step

### IMPROVES SURFACE QUALITY

- Excellent surface cure in pigmented and unpigmented systems
- Enhanced gloss in high-gloss finishes

Exemplary Applications
- Topcoats
- Sanding sealers

### REGULATORY ADVANTAGES

• Non-CMR (TMPTA < 0.1%)
• Low migration

Supports
• Safer formulations
• Regulatory compliance

# Amino Acrylate UHVPI-222200

## Added value for your wood coatings

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## UHVPI-222200

**Accelerated Cure.**

**Integrated Functionality.**

**Formulation Freedom.**



# Come visit us at booth 724

## Hubergroup Chemicals @ Eurosyn

Eurosyn

Chemicals in motion

Hubergroup Chemicals´ sole distributor in Italy is Eurosyn

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# Thank you!

# Amino Acrylates

## Their role in energy curing systems

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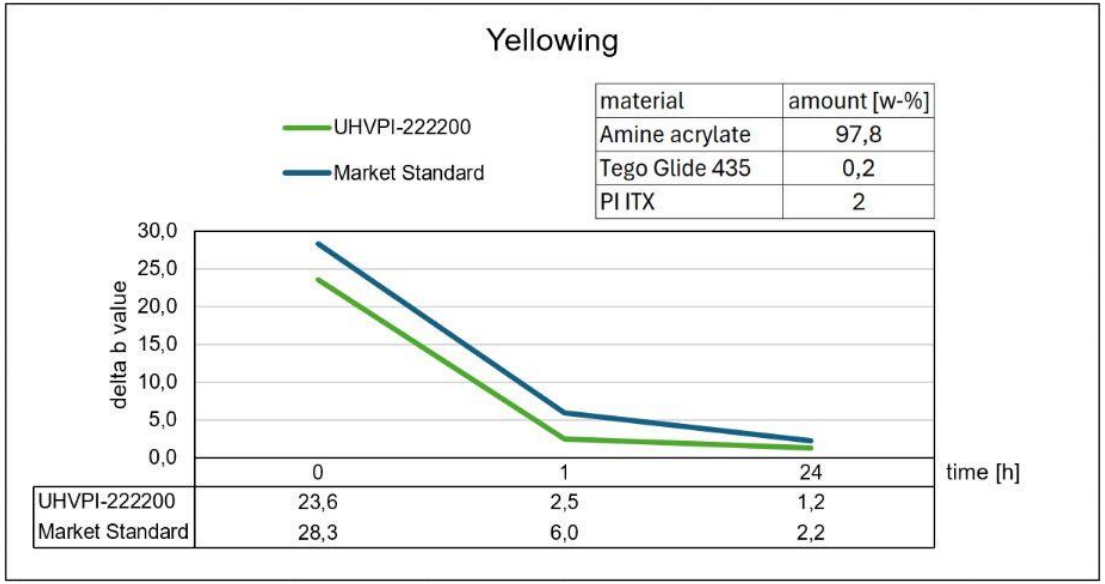
- Considerably lower yellowing than market standard after 1h and 24h




Low Yellowing