ENABLING INNOVATION FOR SAFE & SUSTAINABLE SOLUTIONS

MARKET & PRODUCT OFFERINGS

nofia
THE WORLD'S ONLY POLYMERIC HALOGEN FREE FLAME RETARDANT

FRX POLYMERS
FIBERS & TEXTILE

APPLICATION
Home Textiles
Industrial Textiles
Synthetic Hair

BENEFITS
- Polymeric, halogen-free FR, Non-migrating
- Melt Processable; can be added downstream of PET reactor
- Flexibility to produce fibres with phosphor content up to 25000 ppm of P within one step process.
- Built-in P-monomers are limited to 6500 ppm of P
- Flexibility of base feedstock (e.g., use virgin PET, recycle PET or PTT, PLA)
- Higher mechanical performance; better downstream weaving process efficiency
- Improved whiteness of fiber

Standard Compliance
- NF P92-503 - SD, M1
- ASTM D4540 (Radiant Panel), Class I
- NFPA 701
- EN 1101, 1102, 13772, 13773 Class I
- EN997, part 1 and 2
- M1VSS 302
- RAR 25.653
- MSC.377 (88), Annex 1, Part 5 - 8
- ISO9410 / 6941

ELECTRICAL & ELECTRONICS

APPLICATION
Copper Clad Laminate
Connector and Electronic Housing
Medical Device
Wire and Cable
Insulation Film
Lighting Diffuser

BENEFITS
- Polymeric, halogen-free FR, Non-migrating
- Excellent electrical properties:
  - Low Dk (3.5) and Df (<0.007)
- Dimensional stability
- Increased thermal stability:
  - Td > 490°C
- Chemical resistance
- Proven reliability
- Maintain transparency in the film and sheet application

Standard Compliance
- UL 94 V-0
- VTM-0

LET'S WORK TOGETHER TO CREATE A SAFER & HEALTHIER FUTURE

At FRX Polymers, our drive for innovation, value creation, and sustainable solutions continues to move markets.

As the world's only polymeric, non-halogenated flame retardant provider, we manage our operations, products, and services with the highest standards. We lead by example and advocate industry and stakeholder groups to improve environmental quality and best practices.

We believe in collaborative partnerships and supporting our customers from beginning of the innovation to the end of market activations. Our teams understand the opportunity and challenge to bring new technologies to the market and work side by side with our customers to ensure business success and value creation.
# PRODUCT SELECTION GUIDE

## Transportation

<table>
<thead>
<tr>
<th>Market</th>
<th>Applications</th>
<th>PET</th>
<th>PBT</th>
<th>PA6</th>
<th>PC</th>
<th>Blends</th>
<th>Glass Filled PC</th>
<th>Glass Filled PET</th>
<th>Polyamide Cladeson</th>
<th>Thermoplastic Polyurethanes</th>
<th>Polyurethanes</th>
<th>Epoxy</th>
<th>Unmodified Polyesters</th>
<th>SVA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PA6 &amp; Turtles</strong></td>
<td>Synthetic flax</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Industrial flax</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Nofia® HM100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Glass Filled</strong></td>
<td>Glass flax</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Nofia® HM100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thermoplastics</strong></td>
<td>Thermoplastic</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Nofia® HM100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Polyamide</strong></td>
<td>Polyamide Cladeson</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Nofia® HM100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Polyurethanes</strong></td>
<td>Polyurethanes</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Nofia® HM100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Building & Construction

<table>
<thead>
<tr>
<th>Market</th>
<th>Applications</th>
<th>PET</th>
<th>PBT</th>
<th>PA6</th>
<th>PC</th>
<th>Blends</th>
<th>Glass Filled PC</th>
<th>Glass Filled PET</th>
<th>Polyamide Cladeson</th>
<th>Thermoplastic Polyurethanes</th>
<th>Polyurethanes</th>
<th>Epoxy</th>
<th>Unmodified Polyesters</th>
<th>SVA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insulation</strong></td>
<td>Insulation flax</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Nofia® HM100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lighting</strong></td>
<td>Lighting flax</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Nofia® HM100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Typical Product Properties

- **Polyamide Cladeson**:
  - **Product**: Nofia® HM100
  - **Glass Filled PET**: Nofia® HM100
  - **Glass Filled PC**: Nofia® HM100
  - **Polyamide Cladeson**: Nofia® HM100
  - **Thermoplastic Polyurethanes**: Nofia® HM100
  - **Polyurethanes**: Nofia® HM100
  - **Epoxy**: Nofia® HM100
  - **Unmodified Polyesters**: Nofia® HM100

- **Polyamide Cladeson**:
  - **Product**: Nofia® HM100
  - **Glass Filled PET**: Nofia® HM100
  - **Glass Filled PC**: Nofia® HM100
  - **Polyamide Cladeson**: Nofia® HM100
  - **Thermoplastic Polyurethanes**: Nofia® HM100
  - **Polyurethanes**: Nofia® HM100
  - **Epoxy**: Nofia® HM100
  - **Unmodified Polyesters**: Nofia® HM100

- **Polyamide Cladeson**:
  - **Product**: Nofia® HM100
  - **Glass Filled PET**: Nofia® HM100
  - **Glass Filled PC**: Nofia® HM100
  - **Polyamide Cladeson**: Nofia® HM100
  - **Thermoplastic Polyurethanes**: Nofia® HM100
  - **Polyurethanes**: Nofia® HM100
  - **Epoxy**: Nofia® HM100
  - **Unmodified Polyesters**: Nofia® HM100

- **Polyamide Cladeson**:
  - **Product**: Nofia® HM100
  - **Glass Filled PET**: Nofia® HM100
  - **Glass Filled PC**: Nofia® HM100
  - **Polyamide Cladeson**: Nofia® HM100
  - **Thermoplastic Polyurethanes**: Nofia® HM100
  - **Polyurethanes**: Nofia® HM100
  - **Epoxy**: Nofia® HM100
  - **Unmodified Polyesters**: Nofia® HM100

- **Polyamide Cladeson**:
  - **Product**: Nofia® HM100
  - **Glass Filled PET**: Nofia® HM100
  - **Glass Filled PC**: Nofia® HM100
  - **Polyamide Cladeson**: Nofia® HM100
  - **Thermoplastic Polyurethanes**: Nofia® HM100
  - **Polyurethanes**: Nofia® HM100
  - **Epoxy**: Nofia® HM100
  - **Unmodified Polyesters**: Nofia® HM100

## Oligomeric Flame Retardant

<table>
<thead>
<tr>
<th>Product</th>
<th>CL 400</th>
<th>CL 500</th>
<th>CL 600</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Properties</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Glass Filled</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Polyamide</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thermoplastic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Polyurethane</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Epoxy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unmodified</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## COPOLYMER FLAME RETARDANT

<table>
<thead>
<tr>
<th>Product</th>
<th>CO600</th>
<th>CO700</th>
<th>CO800</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Properties</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Glass Filled</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Polyamide</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thermoplastic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Polyurethane</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Epoxy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unmodified</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>