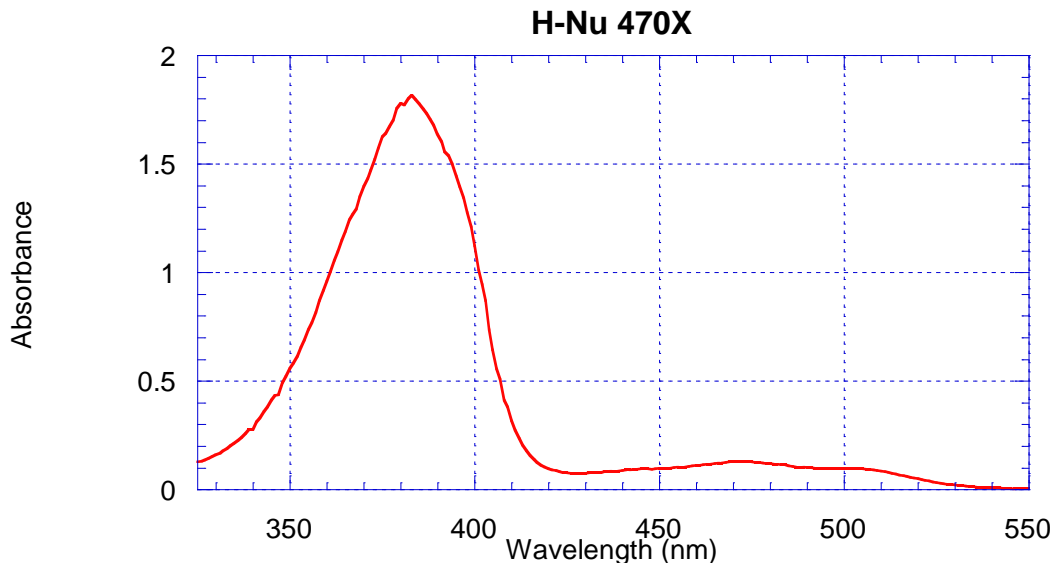


## H-Nu 470X Powder Blend

### Visible/UV-Visible Light Photoinitiator

#### General Information

- **H-Nu 470X** – broad wavelength use commercial photoinitiator, all ingredients of the blend are either on TSCA or have LVE exemption, broad absorbance range of 300 nm to 530 nm ( $\lambda_{max}$ =380 nm) across the mid-UV, UVA and near-UV visible portion of the light spectrum
- **H-Nu 470X** - capable of curing a wide range of resins:
  - Acrylates - free-radical mechanism
  - Epoxides - cationic mechanism



#### Benefits of Use

- Capable of significant depth of cure, > 1 inch
- Time and energy savings when one-pass thick cure can replace thin multi-layered coatings
- Cure through UV opaque, pigmented, or colored substrates (e.g. Kapton)
- Initiator bleaching: from bright orange to pale yellow/no residual color
- Bleaching/color change indicator of exposure/cure with UV/visible light

## Physical Properties

Appearance Orange Powder  
Molecular Weight Mixture (N/A)  
Absorbance Maximum 380 nm

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## Photoinitiator Usage Recommendations

- For **free-radical curing formulations** recommended starting concentration of **H-Nu 470X** is **0.5 - 2% by weight**. We recommend testing several concentrations in a “ladder” study between **0.5-5%** to achieve best results
- Coinitiators are required – amine acrylates (**AA**) at 5 - 10 wt.% are recommended and one is included with sample kits

0.5 – 2.0 wt.% <b>H-Nu 470X</b>	5-10 wt.% <b>AmineAcrylate</b>
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- **H-Nu 470X** dissolves into most resin systems with mixing/stirring for 4-6 hours -- for faster dissolution you may gently heat to 40C – 50C for 1 hour
- H-Nu photoinitiator systems and materials that contain them are light sensitive and should be kept in the dark or in light proof bottles when not in use.
- “Dimmed” light conditions or other form of light shielding for mixing and formulating when using H-Nu photoinitiators are recommended to prevent unwanted pre-polymerization.

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## Cationic Cure – Epoxides

- **H-Nu 470X** will activate onium salts to achieve cure in epoxide resins
- **Accelerator AN-910-E** can greatly enhance cure speed and sensitivity and is recommended
- **H-Nu 470X** concentration range spans from 0.5 to 2.0 wt.%, with a good starting point at 1.0 wt.% based on solids
- Recommended starting concentrations:  
**Standard:**  
1.0 wt.% H-Nu 470X + 2.5 wt.% H-Nu 254 Iodonium Salt  
**With Accelerator:**  
1.0 wt.% H-Nu 470X + 0.1-1 wt.% AN-910-E + 2.5-3 wt.% H-Nu 254 Iodonium Salt

**Technical Data Sheet H-Nu 470X Powder Blend Visible/UV-Visible Light Photoinitiator**

- Sulfonium salts may work with **H-Nu 470X** but iodonium salts (H-Nu 254) generally achieve better results
- Do not use **Amines** or **DMAA** solvent as they “poison” or quench the superacid formation, thus preventing cationic cure

**Product Safety and Handling**

Please read MSDS information before handling any products described in this brochure.

**Disclaimer**

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