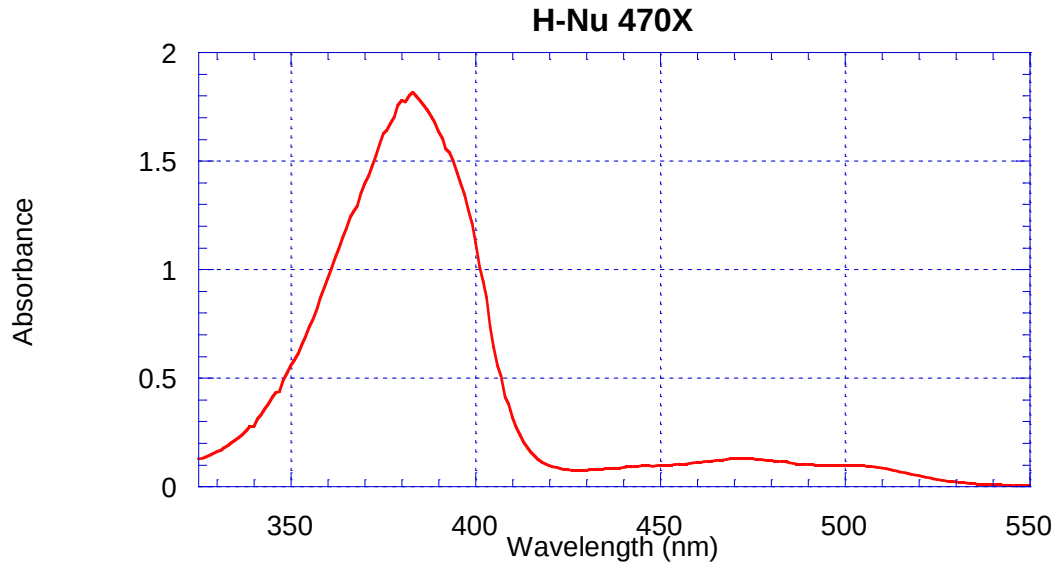
H-Nu 470X Powder Blend

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 (λmax=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

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Physical Properties

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

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.% **H-Nu 470X**	5-10 wt.% **AmineAcrylate**

- **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 photointiators are recommended to prevent unwanted pre-polymerization.

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

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- 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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