

News release



2010-09-29

Nexam Chemical introduces the unique product **Neximid PETA**, which enables heat activated ethynyl crosslinking of Polyimides at lower temperatures than previously possible

- **Neximid PETA** is based on a unique and novel technology, enabling ethynyl crosslinking of Polyimide films, adhesives and coatings at temperatures as low as 70 °C. Application areas include Electronics, Electrical and Aerospace.
- **Neximid PETA** is a purely heat activated crosslinker which can be catalyzed, thus enabling the crosslinking temperature to be lowered and set at the desired level.
- Polyimide films crosslinked with **Neximid PETA** will get increased heat resistance, dimensional stability, as well as a lowered CTE value.
- **Neximid PETA** is the third product in the Neximid range of crosslinkers to Polyimides; the other two being **Neximid PEPA** (for higher crosslinking temperatures) and **Neximid EPA** (for medium crosslinking temperatures).

As explained by Jan-Erik Rosenberg, Technical Director at Nexam Chemical: “We are very satisfied to be the first in the world to introduce this product, which addresses an urgent request expressed by customers in the Polyimide segment. This request can be summarized as being able to crosslink Polyimides at much lower curing temperatures, but retaining the same crosslinking mechanisms and stable end structures as is achieved with PEPA.”

News release



Background and development

Nexam has received many requests from customers for a new product for crosslinking Polyimides at lower temperatures whilst, still having the good stability of **Neximid PEPA**.

The prerequisites in order to meet the demands from customers on this new product:

- Use the same crosslinking mechanisms as with **Neximid PEPA** in for instance PETI resins, PMR replacement resins and Ultra High Temperature Polyimide Resins.
- The crosslinker should enable dramatically lowered curing temperatures and with the possibility to set the curing temperature at a desired level.
- The crosslinker should have the same stability as **Neximid PEPA**.

This resulted in the development of the **Neximid PETA** molecule:

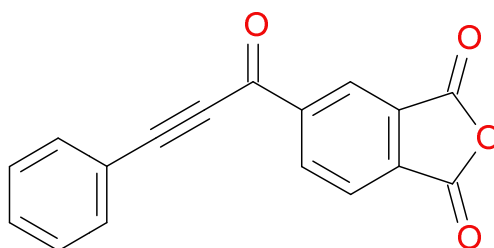


Figure 1: Neximid PETA molecule (Phenyl Ethynyl Trimellitic Anhydride)

The **Neximid PETA** crosslinker has a time-dependant heat activated curing temperature interval of 240-290 °C depending on the mobility of the backbone it is co-reacted with. When **Neximid PETA** is catalysed the crosslinking temperature can be decreased down to 70 °C depending on the catalytic system used. Nexam also provides these catalysts (**NexKat 330, 331 and 332**) and co-catalysts (**NexKat 310, 311, 312 and 314**). Nexam is also developing new catalytic systems. Application areas for **Neximid PETA** include: Electronics, Electrical, Adhesives, Aerospace and Coatings.

News release



Comparing Neximid PETA to Neximid PEPA and Neximid EPA

The other products from Nexam Chemical are **Neximid PEPA** (Figure 2) and **Neximid EPA** (Figure 3).

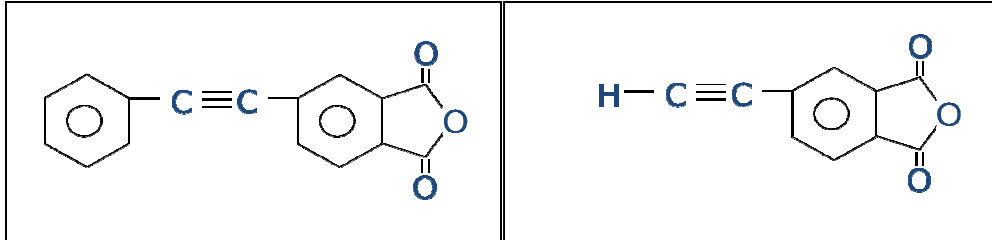


Figure 2: Neximid PEPA

Figure 3: Neximid EPA

The crosslinking temperature intervals differ between the three different Neximid products, as can be seen below in Figure 4.

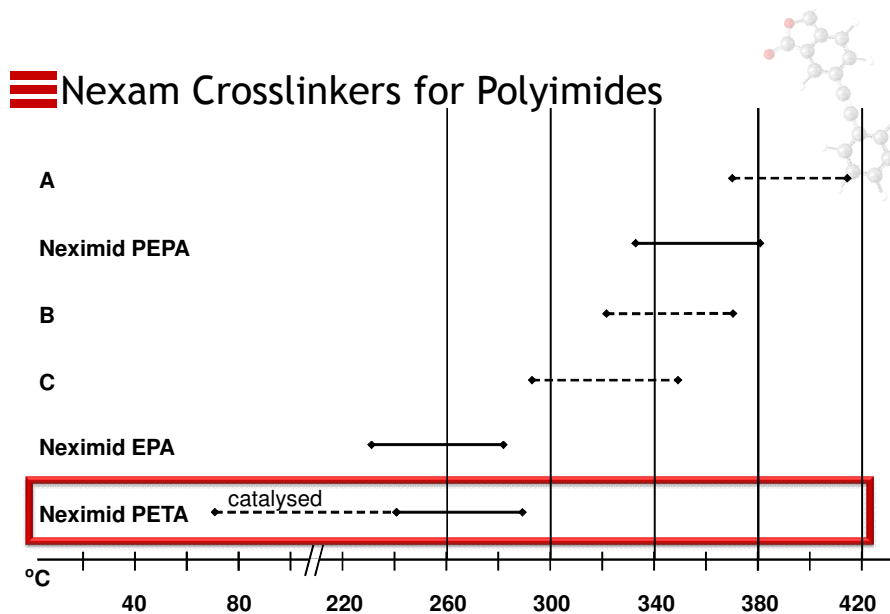


Figure 4: Crosslinking temperature intervals for different Neximid products.

(Products A, B and C are not yet commercially available).

News release



About Nexam Chemical - Your crosslinking partner!

Nexam focuses on developing, manufacturing and marketing unique crosslinking chemicals for the polymer industry to enable our customers to increase the performance of their polymers to the ultimate benefit of end-customers.

Typical application areas where Nexam crosslinkers can be used include: Automotive, Aerospace, Electronics, Electrical, Industrial, Medical and Sporting goods.

Nexam supplies crosslinkers for different processing requirements, whereby customers can utilize their existing equipment and current processes.

Nexam Chemical AB is a company incorporated in Sweden, with its registered office at: BMC D10, Klinikgatan 32, SE-221 84 Lund, Sweden. www.nexam.se

Contact:

Nexam Chemical

Richard Tooby

Sales Director

Mobile: +46 702 19 31 05

Email: richard.tooby(at)nexam.se