

Phosphazeny phosphines and their Metal-Complexes – new catalytically active superbasic Compounds

Superbases, basic catalysts, Polymerisation catalysts, halogen-free flame retardants

DESCRIPTION OF TECHNOLOGY

Schwesinger type phosphazene N-superbases are well known compounds which can be applied as polymerisation catalysts. In contrast to them the compounds presented herein exhibit even more basicity, so that these Phosphazenyphosphines may be much better catalysts for polymerisation reactions. Besides the basic compounds higher homologues are also available which may also serve as halogen-free flame retardants, due to their high content of nitrogen and phosphorous.



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APPLICATION FIELDS

Possible fields of application are primarily the vast field of base catalysed chemical synthesis, e.g. polymer-synthesis, and secondly (due to the high content of nitrogen and phosphorous) the usage as halogen-free flame retardants.

AT A GLANCE ...

Application Fields

- Polymer Industry
- Chemical Industry (Catalytic processes)

Business

- Polymer-Manufacturing
- Chemical catalytic processes

USP

- Highest known basicity so far for application in base-catalysed chemical processes
- Easy to be manufactured
- New class of compounds

Development Status

- Laboratory scale synthesis is established

Patent Status

Priority application filed on 29.04.2019 at the European Patent Office.

ADVANTAGES OVER THE PRIOR ART

The technology offer encompasses a very simple and effective synthetic route to this new class of Metal/Semimetal-Komplexes of PR_3 -derivatives (R = N-phosphazanyl radical) and their higher homologues, as well as the compounds themselves and their principal use as catalysts or as flame retardants.

STATE OF THE PRODUCT DEVELOPMENT

Currently the compounds are being synthesized on laboratory scale.

MARKET POTENTIAL

Already in 2015 Frost & Sullivan estimated the global market for industrial catalysts to be about 3.5 billion US-\$. Due to their possible application as catalysts or flame retardants, Phosphazanylphosphines may be attributed quite a good market potential.

COOPERATION OPPORTUNITIES

On behalf of its shareholder Philipps-Universität Marburg TransMIT GmbH is looking for licensees or cooperation partners for further development in the US, Asia or Europe.

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