Instituto tecnologico suprior de zapopan

Quimica

RESINA CRISTAL

Nombre de los integrantes:

Eduardo leonel de la Cruz Gutierrez.

David de Jesus Crabajal Almaraz.

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Introducción.

**La resina polimérica es un material ideal para trabajar en el taller**. Se trata de un compuesto formado por dos ingredientes, **resina y catalizador**, que se venden en conjunto.

**La resina polimérica es un líquido pre-acelerado** que, al ser mezclado con un líquido llamado "catalizador", sufre una reacción química que activa un proceso llamado "polimerización". Esto significa, en simples palabras, que se convierte en un polímero, **como si se tratase de un plástico**, con una textura lisa y pareja y una claridad sólo comparables a los de un vidrio.

La resina, al activarse, produce una reacción exotérmica, es decir, que emite calor. Por ello, los moldes que utilicemos, así como los materiales y las inclusiones que queramos colocar dentro de la resina, no han de ser demasiado sensibles al calor, como las crayolas (crayones), las velas, o cualquier tipo de cera, así como otros elementos.

Marco teorico.

**RESIN**.

Resin can be considered those organic substances secreted by many plants , especially trees conifer type , suffering a polymerization process or drying resulting solids first liquid being in place . Thus, also they considered some synthetic resins like substances with natural resins properties.

**Properties**

Excellent chemical resistance, good adhesion properties , excellent electrical properties, good heat resistance

applications

laminates

Adhesives

Floors

linings

propellers

Surface Coatings

**Definiciones**

There is no agreement in the name of the resin and its derivatives. In this article the accepted will be used by the Academy of Language When Española.1 could give rise to confusion Synonyms include those most frequently used.

Resin: Is Substance Solid or pasty consistency, insoluble in water, soluble in alcohol and essential oils, and can burn in contact with air, obtained naturally as product flowing from various plants.

Turpentine: juice is almost liquid, sticky, fragrant and spicy flavor, Flowing pines, firs, larches and turpentine. Mainly it is used as a solvent in paints and varnishes industry.

It is also known as balsam and sometimes as resin.

Turpentine: volatile turpentine oil, mainly used as a solvent for paints and varnishes.

he is also known as turpentine or turpentine.

Rosin: Solid Resin, a product of the distillation of turpentine, used in Pharmacy and para Other uses.

Sometimes the term resin paragraph name this Product Solid SE USING.

Fish (female): resinous substance, Solid, shiny, brittle and yellowish brown color, obtained bathroom Cold Water pouring the residue Leaves Turpentine TO THE END get turpentine.

It is a more or less unpurified rosin.

The term also includes Synthetic substances with properties similar to natural resins. Esta so Resins are divided into natural resins and synthetic resins.

**natural resins**

    Amber

    true resin

    gum

    oleoresins

    balms

    Lactorresinas

**synthetic resins**

    Polyester

    Polyurethane

    Epoxy resin

    acrylics

    Vinylester

Composites

Composition

The resin is a complex mixture of terpenes , resin acids , fatty acids and other complex components : alcohols, esters ... The ratio of each component is depending on the tree species and geographical origin . Typical values ​​are :

    60-75 % of resin acids .

    10-15% of terpenes .

5-10% of various substances and water.

By distillation at ambient pressure , it is possible to separate two fractions :

    60-75 % Rosin .

    15 to 25 % of turpentine and water.

**Resinero**

The office of resinero was very common among mountain villages for much of the last century. The extensive pine resin that was sold at a good price in the market was quarried, since their use in industry was varied. The new production techniques and new materials have been relegated to oblivion this office.

The province of Segovia, being framed within the region Tierra de Pinares, was the largest resin producer in Spain, 2 highlighting the town of Cuéllar, which allowed high production supply of Castilla y Andalucía.3 addition, in 1958, the image of the Virgin of Hayfield, patroness of the Community of Villa and Tierra de Cuellar was proclaimed patron saint of tappers of Spain by the Supreme pontiff Pius XII: 4 Another important focus of production in the province was the villa Coca, and both returned to restore the industry in the area in the 6th century XXI.5

Molinicos (Albacete) extracting the resin industry large quantities of this material extensive pine forests in the municipality. Even today we can see the footprint of this industry in the trunks of pines.

Catalyst

A catalyst is something that allows you to develop a transformation process of catalytic type . To understand the concept , therefore , we must know what is catalysis. This derives from the Greek word that refers to chemical changes occurring because of substances that do not vary over the course of a reaction.

For chemical , therefore , a catalyst is a kind of substance which, during catalysis , altering development of a reaction . Catalysts increase the reaction rate are called positive catalyst , while those that cause a decrease in speed are classified as negative catalysts .

Catalyst , moreover , is the name given catalytic converters that are found in certain combustion engines . These elements are designed to control the emission of gases from a combustion engine .

The catalyst usually consists of a ceramic piece composed of channels that are coated with rhodium or other material. In automobiles, the catalyst is located in the tailpipe . Thanks to the catalyst , can be reduced by more than seventy percent emission harmful gases such as carbon monoxide .

How does she make that benefit the catalyst ? Mainly because what it does is converted by a chemical reaction , which are hydrocarbons into water and carbon monoxide into carbon dioxide. All this is due to the high temperatures at which the gases are exposed in said element that concerns us .

The heat shield , the cushion , the structure of ceramic or stainless housing are key parts of the catalyst which sometimes can suffer damage or be broken , bringing the corresponding problems for the car.

In the event of doubt that that may not be in top condition you have, what you should do is check whether these situations make clear that requires repair or replacement take place:

• Near which is the output of exhaust gases, heavy smoke occurs.

• The odor coming from the vehicle said tube smells very strange.

• metallic noises are heard in kind under the car.

• The engine does not perform properly and gives failures, both in the process of acceleration and when idle.

• There is a notable lack of power.

• Very repeatedly, the car engine stalls.

All these situations come to make clear that the catalyst is clogged, which is not in good condition or that there has been a breakdown of what your ceramic part. Hence it has to resort to the workshop for a thorough analysis.

The use of catalysts is also present in other sectors beyond vehicles. Currently research in the field of agriculture, the food industry and the production of leather goods are made to transform carbon dioxide into organic compounds that can be exploited in various production processes.

Reactividad de los elementos.

Resina:

La resina es una mezcla compleja de terpenos, ácidos resínicos, ácidos grasos y otros componentes complejos: alcoholes, ésteres... La proporción de cada componente es función de la especie arbórea y el origen geográfico. Los valores típicos son:

60-75 % de ácidos resínicos.

10-15 % de terpenos.

5-10 % de sustancias varias y agua.

Por destilación a presión ambiente, es posible separar dos fracciones:

60 - 75 % de Colofonia.

15 - 25 % de aguarrás y agua.

Catalizador:

**Catalizadores positivos**: son aquellos que incrementan la velocidad de la reacción. Son quizás los que mayor interés presentan debido a su gran uso.

**Catalizadores negativos**: también llamados inhibidores, son aquellos que hacen disminuir la velocidad de reacción. Poseen un interés especial para la industria de los alimentos, donde suelen venir utilizados como aditivos, con la finalidad de impedir el deterioro precoz o que las reacciones alteren el producto alimentario.

**K= Ae –Ea/RT**

Al Ea ( energía de activación) disminuir → Ea/RT disminuye también, pero – Ea/RT aumentará; e-Ea/RT aumenta, por lo tanto aumenta también la K , lo que implica que la velocidad de la reacción crece.

La contante de velocidad **Kc**, se conoce como constante de velocidad catalítica. El catalizador no varía las variables termodinámicas de la reacción, como pueden ser ΔHº o ΔGº; tan sólo decrece el valor de la energía de activación, Ea. Como consecuencia de esto, al verse aumentado el número de moléculas con una energía cinética superior o idéntica a Ea, se verá aumentada la velocidad de reacción.

Objetivo.

Una reacción exotérmica

Una polimerización

Experimentación.

Materiales:

Resina

Catalizador

Guantes

Un palo de madera

Un molde para la figura

Un molde para contener la resina

**Para medir la cantidad de resina a utilizar**, prepara el molde y complétalo con agua. Luego, vierte esta agua en una jarra medidora, y así sabrás cuánta resina has de preparar, sin desperdicios. Seca bien el molde antes de continuar.

**Para asegurar una polimerización perfecta**, sigue estas recomendaciones:

- Hasta ½ Kg de resina: en una temperatura de trabajo de menos de 20°C, utiliza 2% de catalizador; si en el taller de trabajo hace más de 20°C, utiliza 1,5% de catalizador (siempre respecto de la cantidad de resina a utilizar, claro).

- De ½ hasta 1 ½ Kg de resina: utiliza 0,3% de catalizador.

- Más de 1 ½ kg de resina: utiliza 0,1% de catalizador.

**La limpieza de las superficies de trabajo** debe hacerse casi inmediatamente, y puedes utilizar acetona o solvente para hacerlo. Siempre utiliza guantes y protección al trabajar con resina, con el catalizador, o con los solventes de limpieza. Luego, **para facilitar el desmoldado** y también para proteger alguna superficie, podrás utilizar simplemente vaselina líquida o en crema.

**Para practicar perforaciones en las formas creadas con resina**, puedes colocar un palo o algún tubo con desmoldante, previo a su secado, o también perforarla con taladro y mechas (brocas) comunes.

Resultados.

**La resina polimérica es un líquido pre-acelerado** que, al ser mezclado con un líquido llamado "catalizador", sufre una reacción química que activa un proceso llamado "polimerización". La resina, al activarse, produce una reacción exotérmica, es decir, que emite calor. Lo que produce que e calor expulse las burbujas de aire, esto se logra entan

Solo uno minutos lo que provoca un estado de solidificación.

Concluciones.

Referencias.

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