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No toxicity in paints and dyes


MICUNA Spain

In partnership with:

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Introduction:

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The materials and fabrics present in the infantile furniture that are accessible to children must be completely secure. The most widespread finishes in infant furniture are the white lacquered and varnished wood. The most important to merchandise those products is to check the non-toxicity of the paint used. It is necessary to carry out the control of all the products included in the catalogue in order to demonstrate the complete safety of the furniture. Security involves checking that all the products for sale are not potentially hazardous to children.

Company´s Description:

MICUNA, S.L.

In 1973 birth of a new icon in the world of children. MICUNA Group was founded in 1973, located in the town of chair. Its main activity was the manufacture of wooden cribs. During 30 years of its existence has been a trendsetter in the baby furniture industry to bring to market wood cribs, when they were metal cots that dominated the market at the time.

In 1981 it consolidates a leader, and moved its facilities to Sollana, Valencia (Spain), next to the Albufera Natural Park. Now, a total of 35.000 m2, continues with making baby furniture that gave name to its origins, expanding its business with logistics, polishes, melamine manufacturing and management.

National market leader, and currently the fourth leading European company in the manufacture of cribs and furniture for children, is recognized as a company of high quality and safety in their products

MICUNA carries on business at any time contemplating his mission: the child protection. In line with this mission, in MICUNA have very important note values: solidarity, fair competition, safety and welfare of workers, respect for the environment, supporting mothers and working women, quality, safety and respect for the rights of children.

Sub-sectors affected:

X Furniture (2nd Transformation)

Costs	55.000,00 €
(and/or investment, return on investment, employment indicator...):	3 insulating closets for aqueous products and 3 application guns

Implementation Process:

Phases of the process:

1. To define the investment project
2. To realize the technical analysis.
3. To define the economical parameters
4. Providers' selection
5. Essays and adjustments with the chosen provider.
6. Installation plots in the plant.
7. Investigation of basic products waters down on surfaces

The company has to produce products that comply with minimum security criteria in the design, using only material not toxicants, supervising the coatings, etc.

The safety of the product implies that they are not potentially dangerous thanks to the systematic check of a multitude of aspects, among other things the distance between bars, the dimensions of the hollows, the radios, the cutting rims, the living edges, the different existing mechanisms. All the defects of design that could have a potential risk must be eliminated.

Safety also implies verifying that the present materials in this type of furniture are accessible to the baby and to the child. They must not overcome, for example, the limits established for the migration of heavy metals, in accordance with the norm IT JOINS IN 71-3.

With the objective of guaranteeing the entire safety of its products, the company began to use wooden recovering waters based, that do not contaminate and that fulfil all the quality standards and finishes, instead of the traditional paints, which bear an important toxicity level, being also flammable and imply explosion risk, emitting a high concentration of Volatile Organic compounds.

For it, the company had to realize those necessary changes in the equipment and in the conditioning of the facilities to be able to work with these products, for example regarding the systems of drying, which is necessary to propitiate specific conditions of temperature and relative moisture.

Initiated practices:

To reach this objective, it was necessary to consider the differences in the process and the result:

-Coating for wood products are composed of resins, loads additives, solvents and pigments frequently mixed with mineral elements. When it evaporates, the solvent forms a film or coating. In the case of traditional products, the solvent is a thinner type or adjuster; In the case of the aqueous solvent, it has a unique solvent, water, which makes these finishes more user friendly with the environment and the user.

-A volatile organic content minimum process is much more simple and clean than traditional processes.

-At the same time, they are products that do not have any pungent and aggressive smell, which opens a broader market application in workshops and woodwork with reduced ventilation.

-An obstacle is the cultural change that involves the passage of solvent products to water based products. This change requires all the actors involved in the processes of manufacturing, production, and sales, to know the truth about the new process.

-The water products base have a differential cost, which may vary between 20% and 40% depending on the manufacturer; However, the benefits that bring these coatings to medium-term make that they constitute profitable products for the entrepreneur.

-The use of these 'green' paints allow products access to international markets that demand processes and materials with a low environmental impact; for example, among other standards, base coatings water comply with the European law on safety in wooden toys, EN 71-3.

-Complying with the environmental standards not only opens the door to exports, it also avoids sanctions for companies on this issue.

-Commercially you should get a competitive advantage through the promotion and sale of 'green products', since this may constitute, in the eyes of demanding consumers, an important letter.

-Use water based paint can avoid having to licensed firms for the management and treatment of hazardous waste.

-It is necessary to resolve the doubts between the traditional coatings drying times the aqueous-based solvents. Aqueous systems have a unique priority solvent, water, so the final drying depends on the evaporation of the liquid, influencing two parameters: temperature and humidity of the environment.

Results:

The use of varnishes and lacquers water allow to reduce up to 90% the emission of solvents with respect to traditional varnishes, guaranteeing that the company's products meet the objective to be safe by having used non-toxic varnishes and paints.

In addition, the company is entering into new international markets thanks to this action and has a competitive advantage through the promotion and sale of 'green products', since this may constitute, in the eyes of demanding consumers, an important letter

Recommendations:

Thanks to investment in drying technologies that decrease time and, partly the problem of fiber rising, the company achieved an increase in productivity as a result of the considerable reduction of drying times. The current time is ranging between 3 and 6 minutes for IR radiation or by selected microwave drying (evaporation of water), although the total drying or curing and subsequent cooling requires much more time.

It has also resolved the initial problems associated to this technology, because there are already products on the market offering technical performance similar to traditional solvent systems, reducing prices in recent years, and taking into account the savings for waste management, reduction of insurance premiums and higher transfer efficiency.

Conclusions:

The adoption of alternative technologies as systems based on water, have allowed in the company a great environmental advantage, in addition to complying with the objective of total safety of manufactured furniture, should not result in an increase in production costs.

The company has also obtained other benefits with the use of products base water:

- A lower CO₂'s emission to the atmosphere.
- An increase in the safety and health in the workplace.
- A decrease in the risk of fire during the application and storage, which means greater safety for workers and the consequent decrease in insurance premiums.
- Cleaning the machine with water.
- Significant savings in solvent.
- The absence of smell.

Keywords:

- X Processes
- X Marketing

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