Nylon 6 10

The Effect of Microgravity on the Creation of Nylon 6 10

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Proposal Summary

Nylon 6 10 is used for most industrial processes and is stronger and more flexible than Nylon 6 6. It is basically liquid rope that dries into a strong plastic. When wet, it is very flexible and moldable. It can be used for repairs or manufacturing.

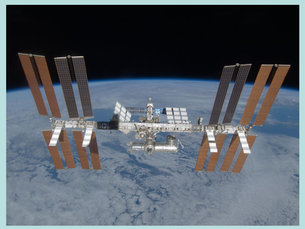
Nylon 6 10 is a very flexible fiber made with chemicals called Hexamine Diamine and Sobocle Chloride. The two chemicals fuze together- one side overlaps the other and it keeps repeating the process over and over again. It comes out as a liquid and then dries into plastic fibers. Nylon 6 10 is a very strong substance. There are many different types of nylons for different industrial uses such as manufacturing and repairing, but none are as flexible as 6 10, giving it endless uses.

Nylon 6 10 is a very common industrial chemical and a variety of products are created using Nylon 6 10, toothbrushes, paint brushes and even your underwear. It is a very common product in many of different industries and is a very useful product. It behaves like nylon fiber for thread or can be used for manufacturing different tools such as epoxy or fiberglass. The industrial ideas are very extensive and there are many suppliers.

Experiment Importance

Our team wanted to know, what effect does microgravity have on Nylon 6 10? How does it behave in Microgravity compared to when it arrives back on Earth?

If the molecular structure changes, the way it is manufactured will also change. This change of the molecular structure could help astronauts on the ISS make repairs or even be used to make flexible, more adaptable space suits.



The Reason

If nylon 6 10 changed in microgravity it would change the nylon manufacturing business. It also could be used for repairs for everyday items such as cars. If this experiment works then it can even be used for repairs on the ISS and earth.

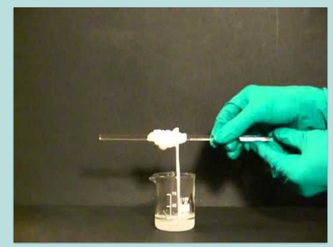
Special Handling Requirements During Transportation

Travel	Location and destination	Refrigeratiovn	Ambient Condition
PRE-FLIGHT	Shipping from your Community to NanoRacks in Houston	X	
	At NanoRacks until Handover to NASA	X	
FLIGHT	Handover to NASA Until Arrival at ISS	**X (required)**	
	Onboard ISS		**X (required)**
POST-FLIGHT	From ISS until Arrival at NanoRacks		**X (required)**
	At NanoRacks through Return Shipping to Community	X	

Proposed Results

Our group's hypothesis: Microgravity will change the molecular structure of the nylon 6 10 causing it to better adapted to gravity.

Support of our hypothesis: Microgravity causes muscle degeneration to humans therefore we believe that microgravity will change the molecular structure of the nylon 6 10 as well.



References

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