Nylon Rope Trick

Summary

Nylon is formed at the interface between aqueous 1,6-diaminohexane layered with adipoyl chloride dissolved in cyclohexane. The nylon fiber is pulled from the interface and coiled around a test tube.

Hazards

- Adipoyl Chloride is corrosive and a lachrymator.
- Cyclohexane is flammable and malodorous.
- 1,6-diaminohexane is corrosive.

Chemicals and Solutions

- 5% 1,6-diaminohexane (aq)
- 5% adipoyl chloride in cyclohexane

Materials

- Nested crystallizing dishes
- Large test tube or paper roller
- Forceps
- Gloves
- Absorptive pad

Procedure

1. Add 25ml of the 5% 1,6-diaminohexane aq. to the inner crystallizing dish.
2. Carefully layer 25ml of the 5% adipoyl chloride in cyclohexane on top of the aqueous ammine. Do not allow solutions to mix.
3. Pluck the film from interface with forceps. Pull slowly and with and even and constant motion to form the nylon polymer. Lay the filament over a large test tube and roll to form a continuous thread of polymer.

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