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Title: Diffusivity Analysis

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Diffusivity Analysis

Therese Lujan

Q-17: W88 Alteration and Refresh Programs

Michael Steinzig Q-18/ Dali Yang MST-7

Project Overview

Composites

Carbon Cyanate Ester (C-CE) Resin

Carbon Phenolic (C-Ph) Resin

Analytical Instrumentation & Data Collection

Mettler Toledo
model SPSx-1u
High Load

Instrumentation

System Settings

Data Collection

Data Analysis

Projected Outcome

Complete Experiment

Define Variables

Future Work

Complete Project & Data Collection

Concentration
(mg/gram)

$$D = \pi \left(\frac{\delta k_D}{4q_e} \right)^2 \Rightarrow q_t = q_e \frac{q_e k_2 t}{1 + q_e k_2 t}$$

Time (hours)

Improve Data Analysis

Summary

- The analytical instrumentation being used is a DVS system.
- The materials being tested are C-CE resin and C-Ph resin with carbon fiber content.
- The objective is to find and use the sorption kinetics to determine the diffusivity of the samples.

THANK YOU

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