

Evaluation of the Effectiveness of Select Spill Control Products for Formalin Spills

Quinn Danyluk, MSc, CIH

Agenda

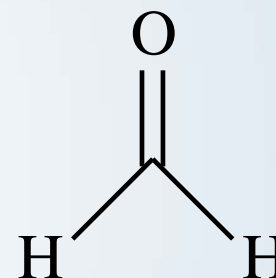
1. Background
2. Methodology & Products Evaluated
3. Results of Effectiveness on Simulated Spills

1. Background

1. Background

Use in Healthcare

- Formaldehyde:
 - ↳ MW: 30.03
 - ↳ Vapour Pressure: 1.3 mm Hg (@ 20°C)
 - ↳ Vapour Density: 1.08 (air = 1)
- Formalin is a methanol-stabilized water solution which can contain varying levels of formaldehyde
- Commonly 10% or 37% formaldehyde solutions



1. Background

Use in Healthcare

- In healthcare, generally used to fix tissue
- Found in:
 - ↳ Anatomical Pathology / Histology
 - ↳ Morgue
 - ↳ Operating Room



1. Background

Potential Health Effects

- Sensitizer
 - Carcinogen
 - ↳ ACGIH A2, Suspected Human Carcinogen
 - ↳ IARC Group 1, Confirmed Human Carcinogen
 - Eye and URT Irritant
 - ↳ 0.1 – 25 ppm
- ➔ ACGIH Ceiling Limit of 0.3 ppm



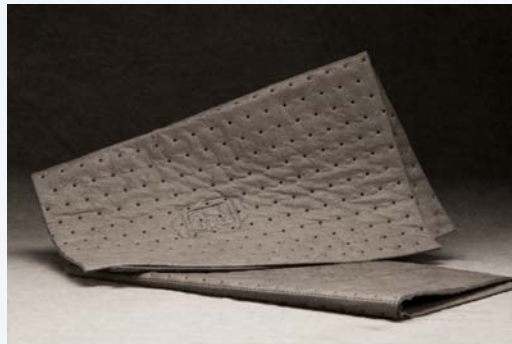
2. Methodology & Products Evaluated

2. Methodology & Products Evaluated

Products Evaluated



Fan Pads - Large



Pig Mats



Fan Pads - Small



Vytac



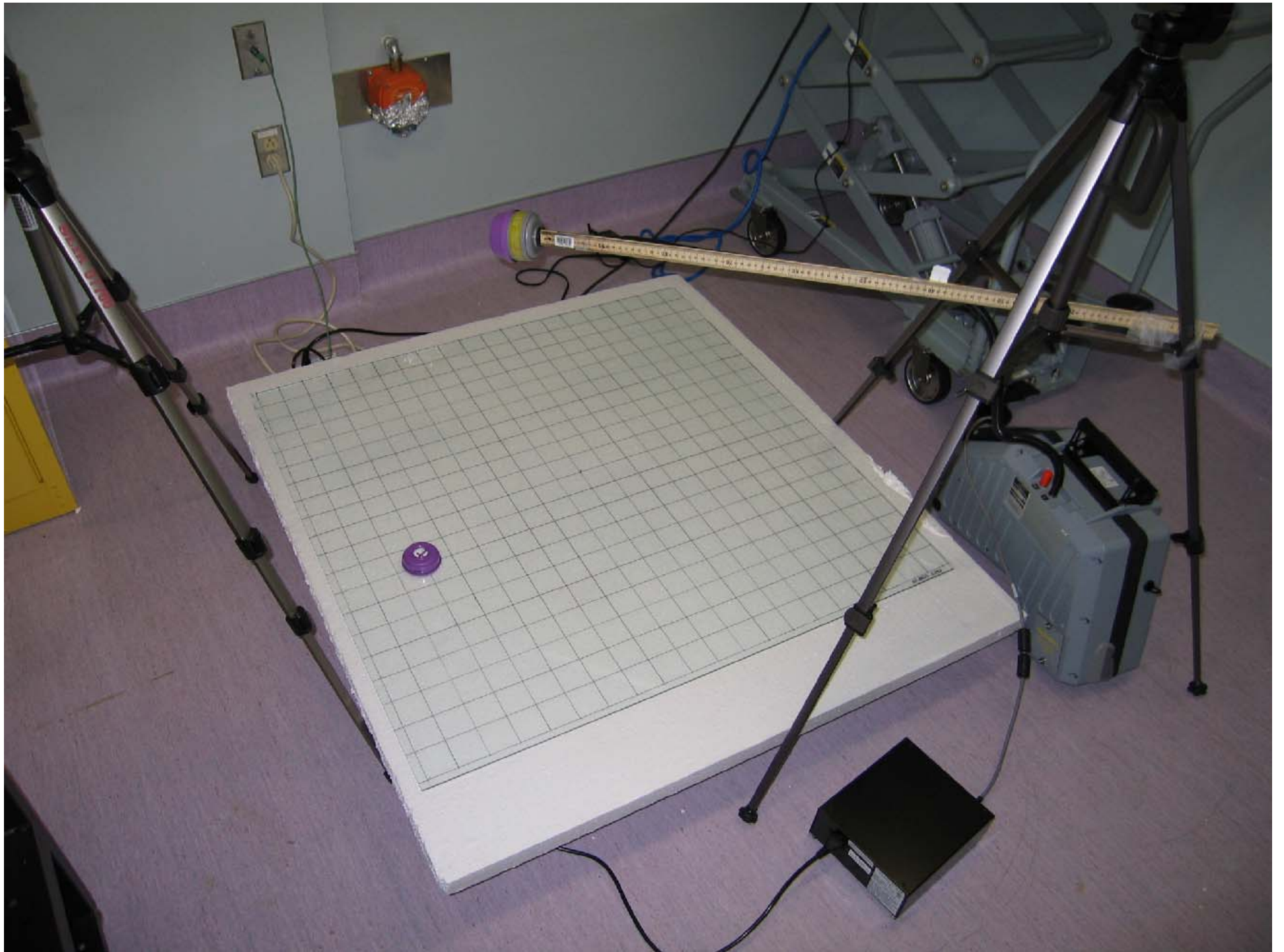
Polyform

2. Methodology & Products Evaluated

Quantitative Assessment

- Required:
 - Dedicated area to allow for multiple trials under set conditions
 - Segregated, negative pressure room
 - Environmental conditions approximating normal conditions



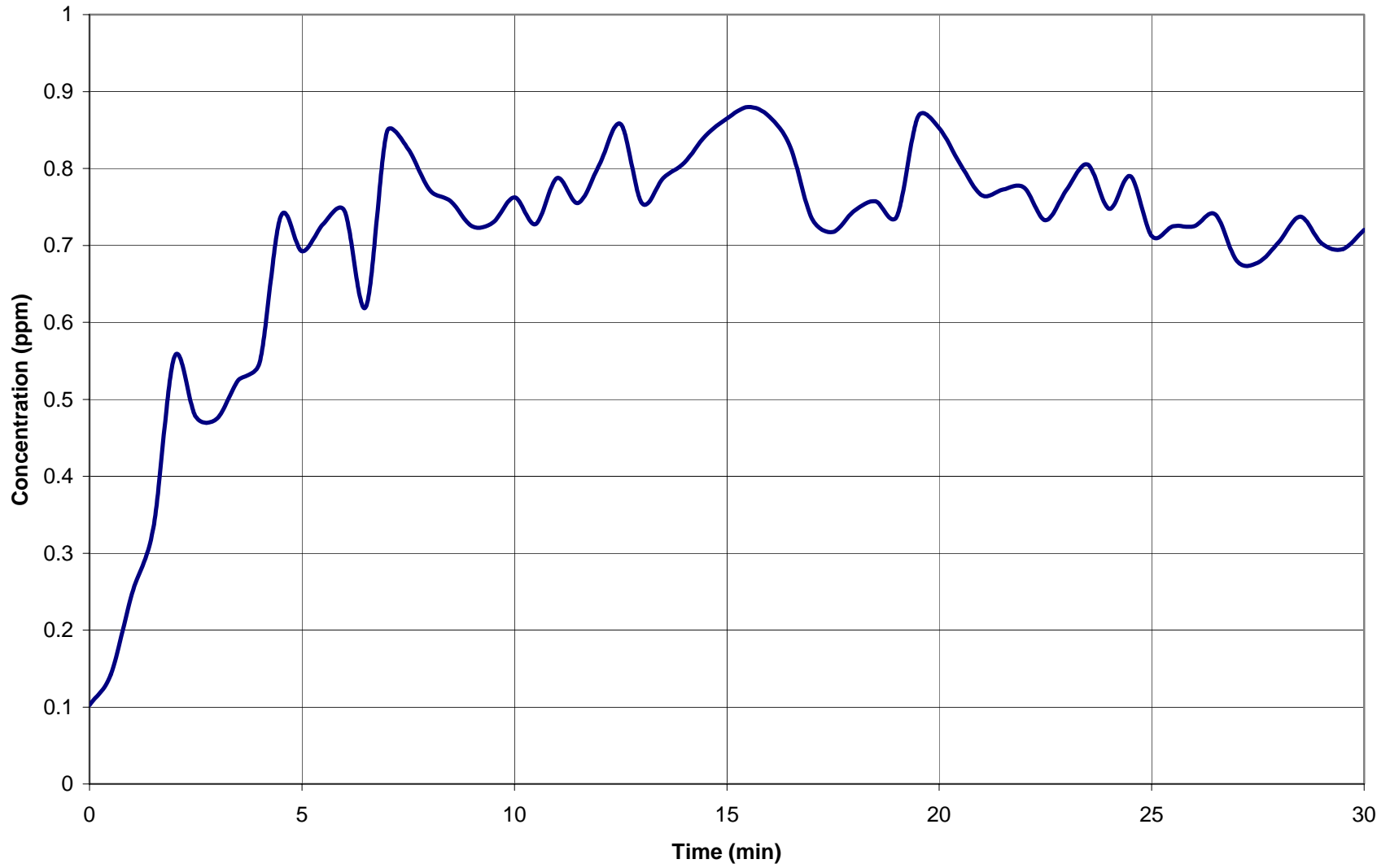




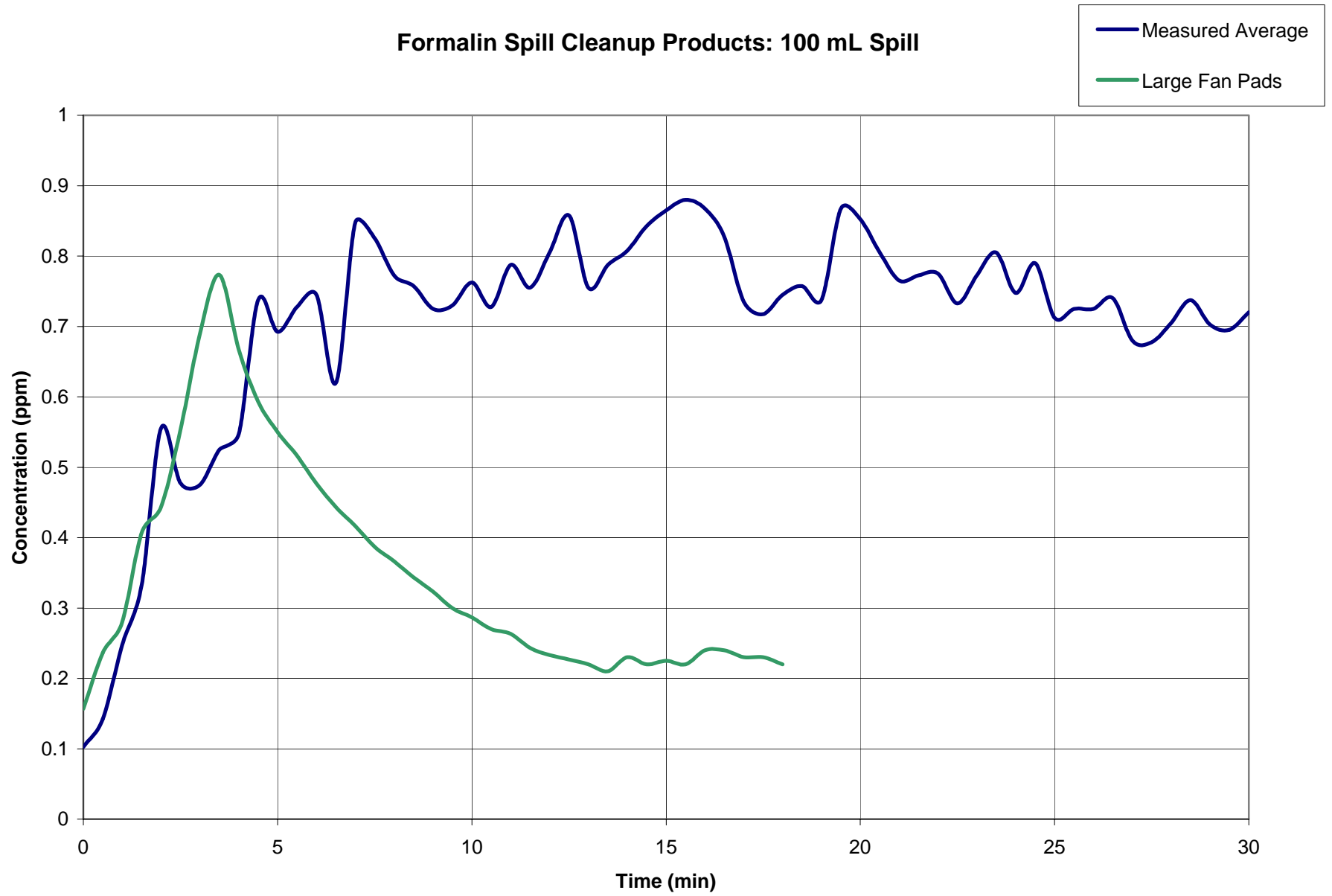
3. Results of Effectiveness on Simulated Spills

Formalin Spill Cleanup Products: 100 mL Spill

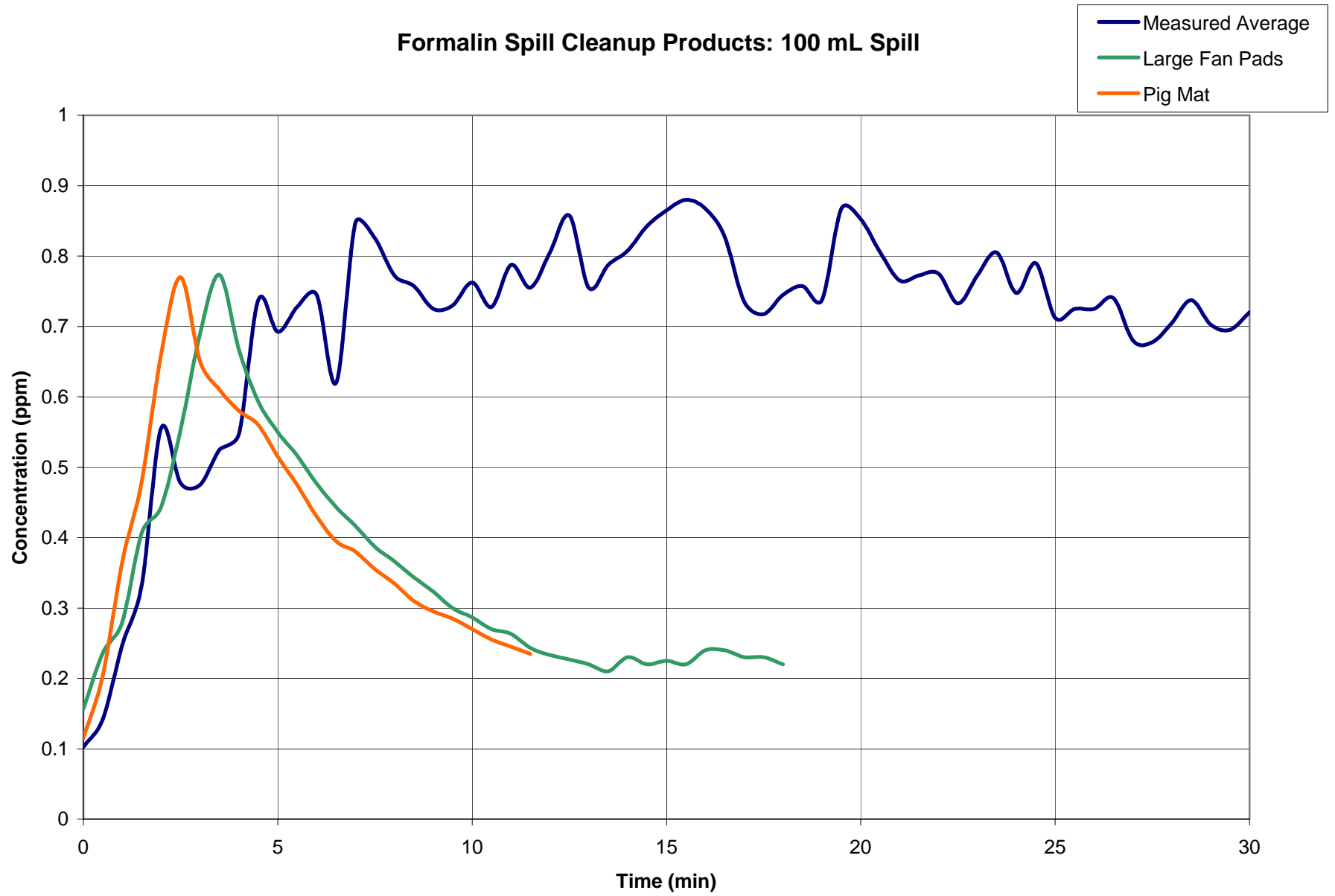
Measured Average



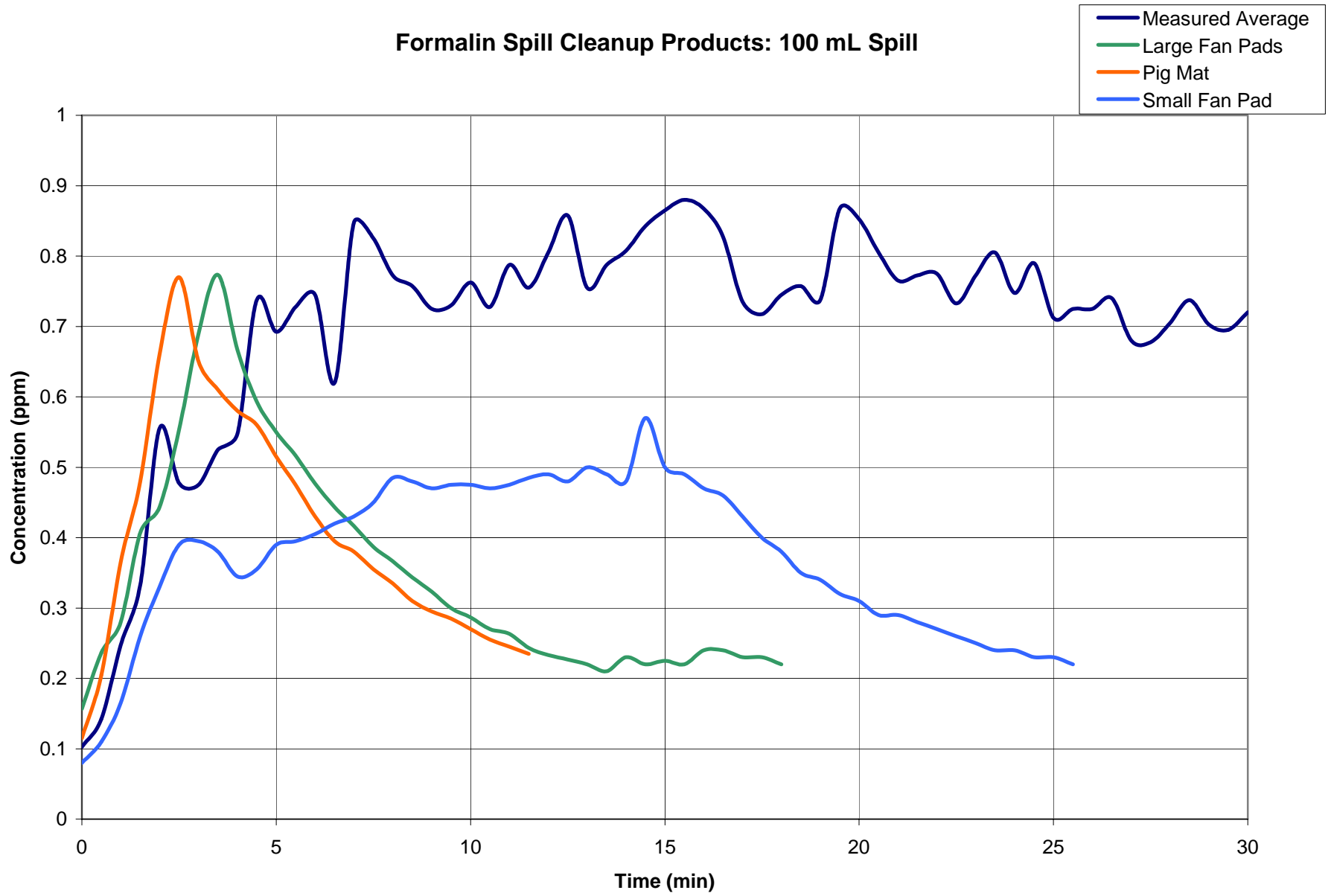
Formalin Spill Cleanup Products: 100 mL Spill



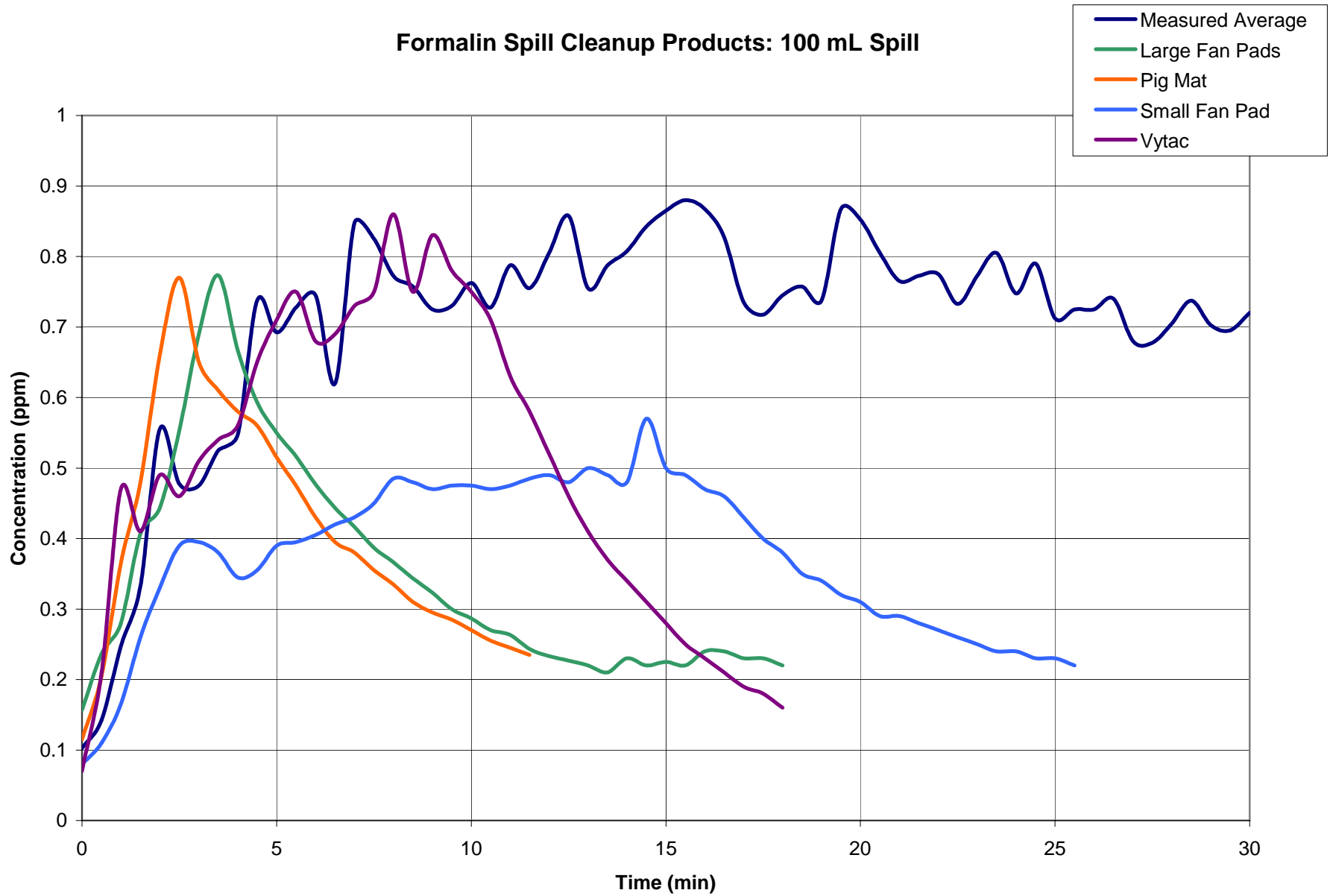
Formalin Spill Cleanup Products: 100 mL Spill



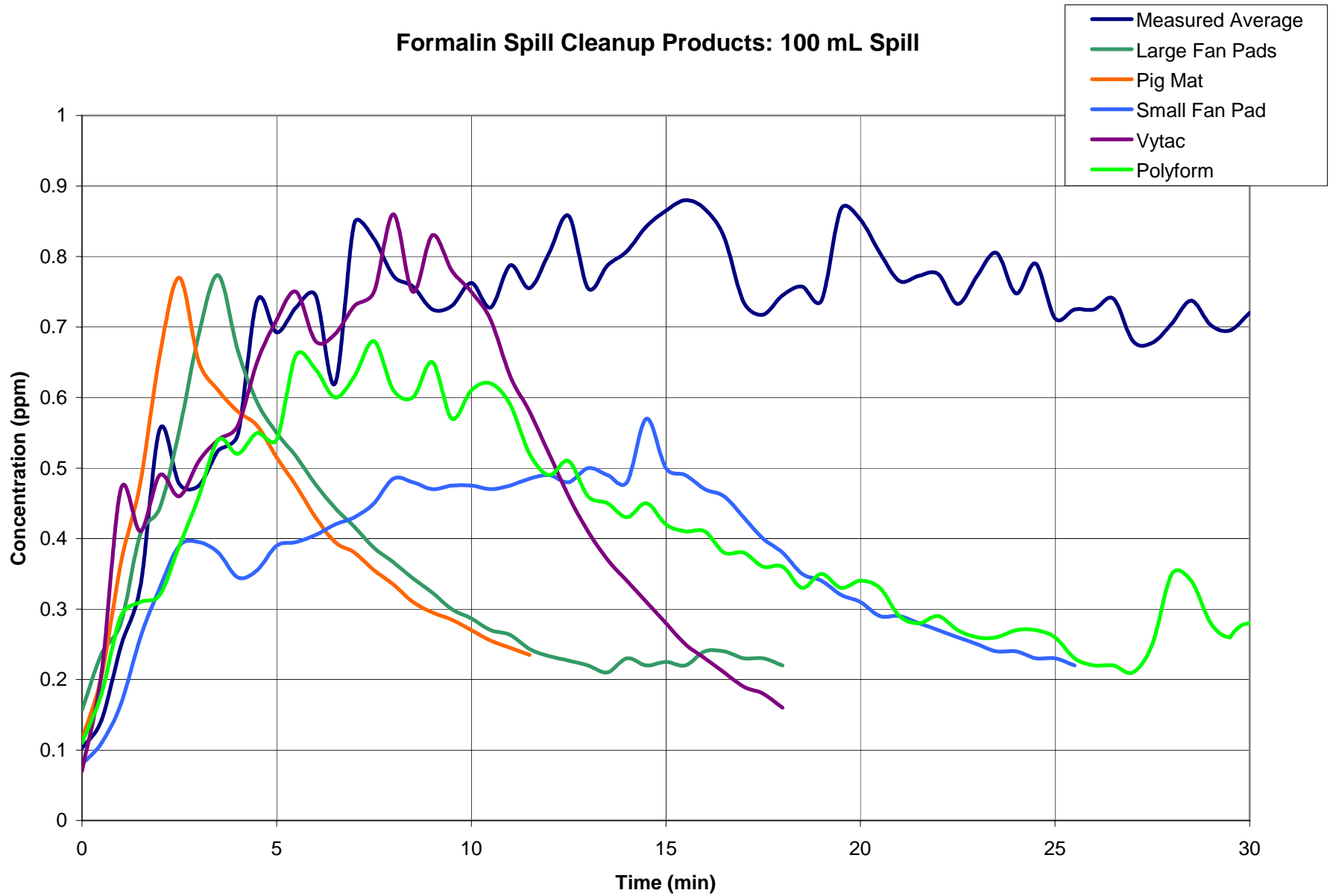
Formalin Spill Cleanup Products: 100 mL Spill



Formalin Spill Cleanup Products: 100 mL Spill



Formalin Spill Cleanup Products: 100 mL Spill



Acknowledgements

- WorkSafeBC Research Secretariat
- Fraser Health Workplace Health Management Team and Prevention Team
- Surrey Memorial Hospital Sterile Processing Department
- Royal Columbian Hospital Laboratory Department
- Precillia (Percy) Chua, MSc(A)
- UBC SOEH
- Occupational Health & Safety Agency for Healthcare in BC

Questions?

