

Validated Method for Formaldehyde Using Three Different Diffusive Samplers

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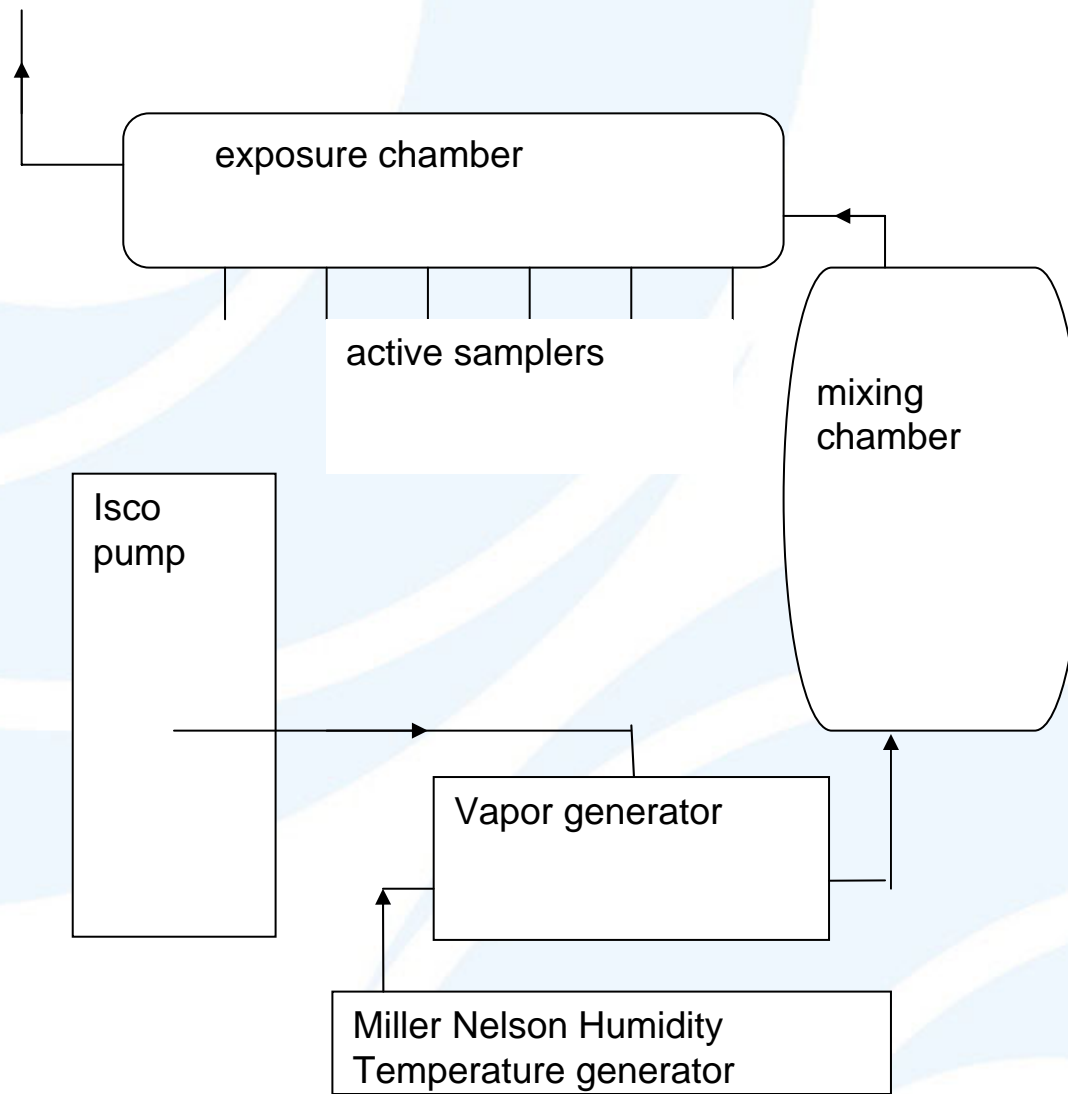
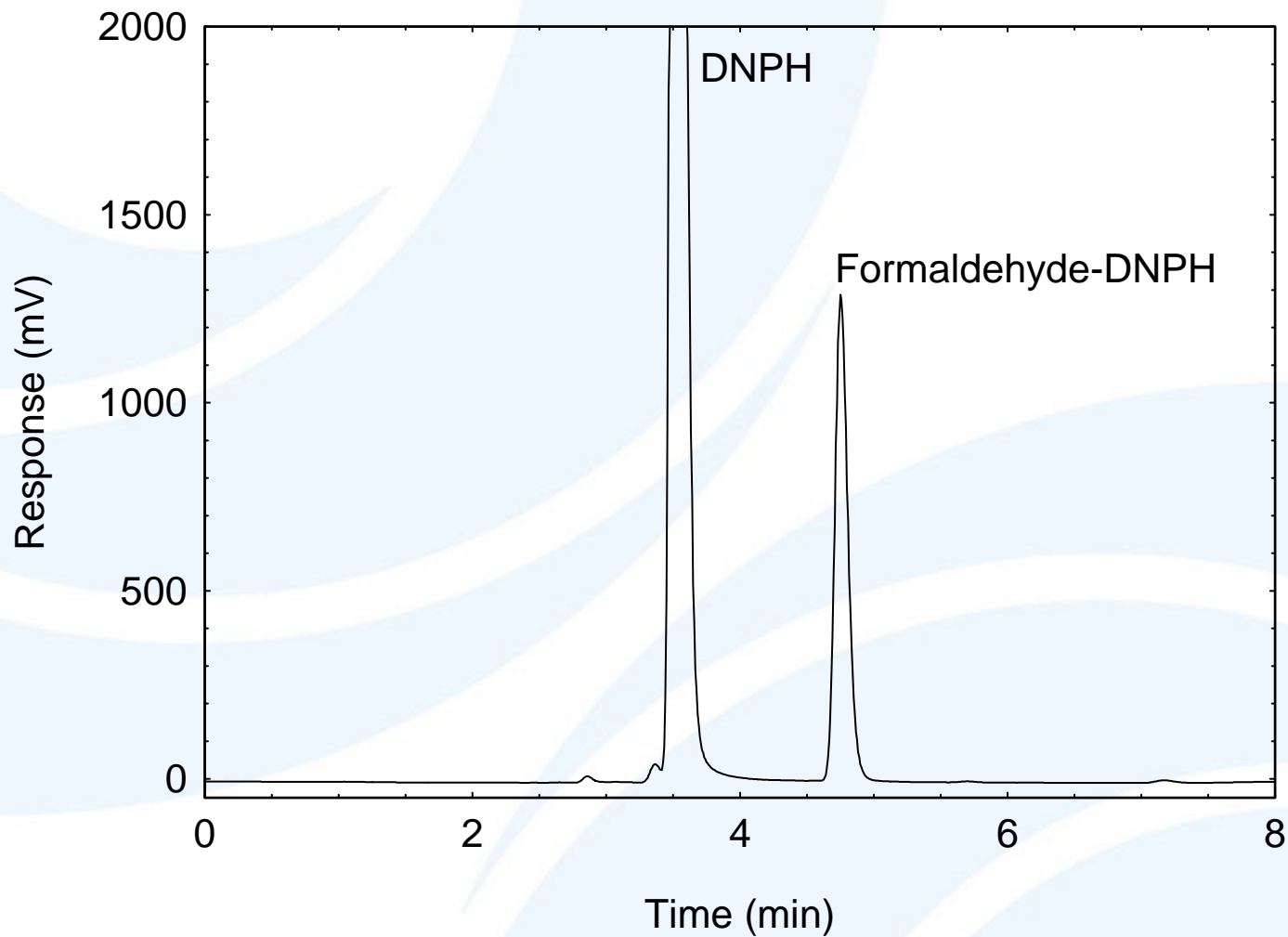
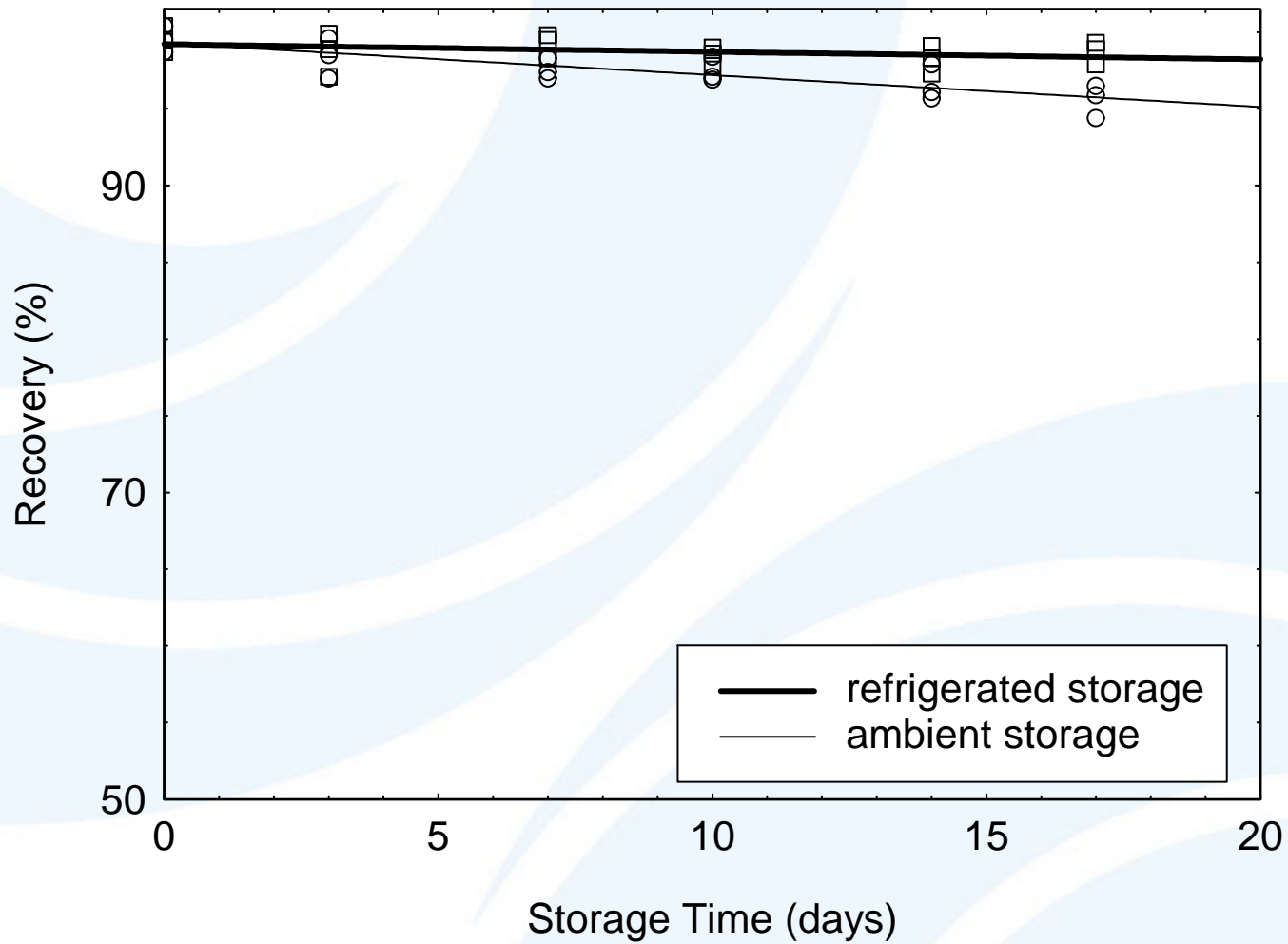


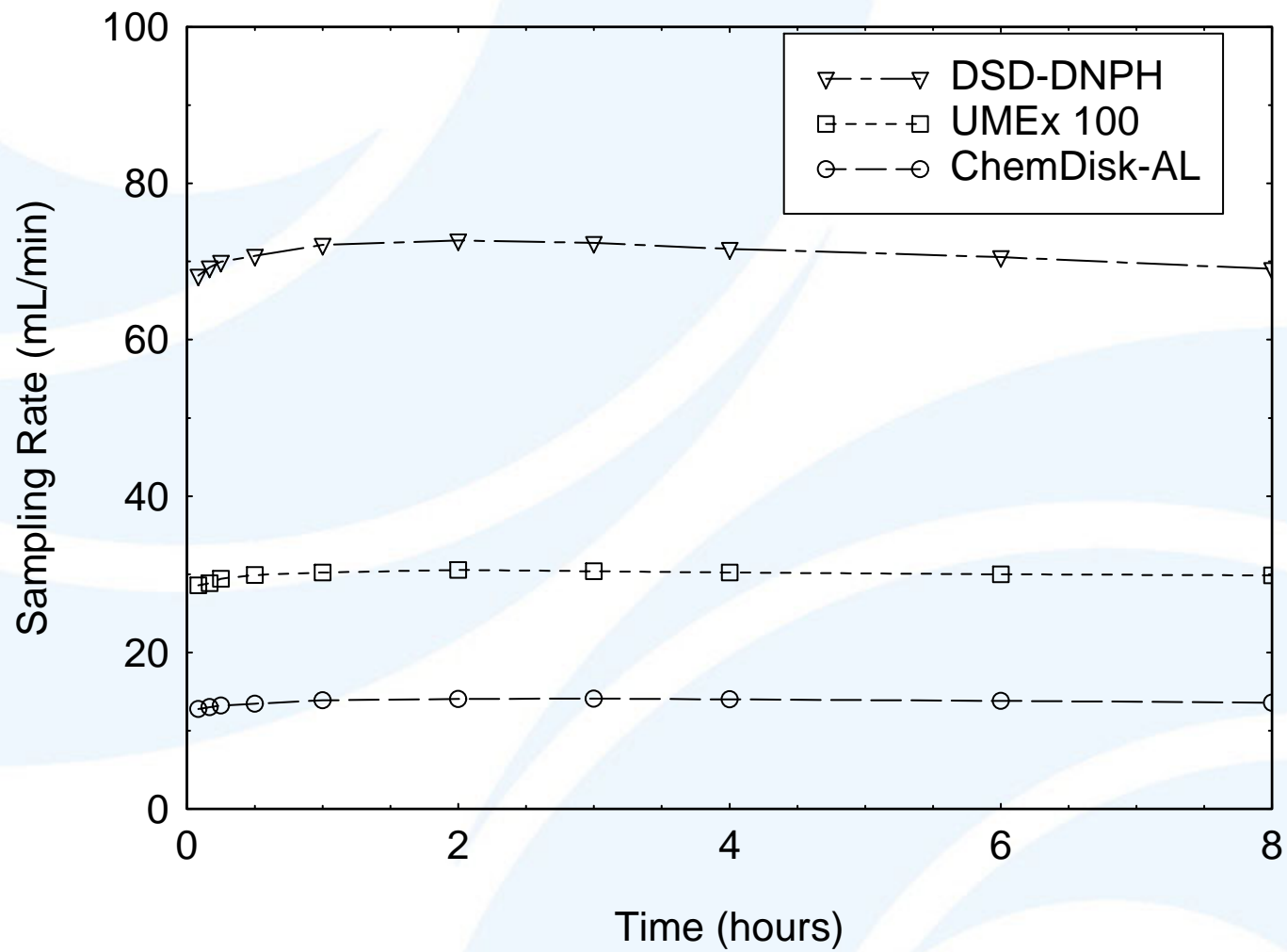
Diagram of Sample Generation Apparatus



A chromatogram of 18.9 $\mu\text{g}/\text{mL}$ formaldehyde in acetonitrile with DNP.



Formaldehyde Storage using DSD-DNPH sampler



Sampling Rate and Capacity

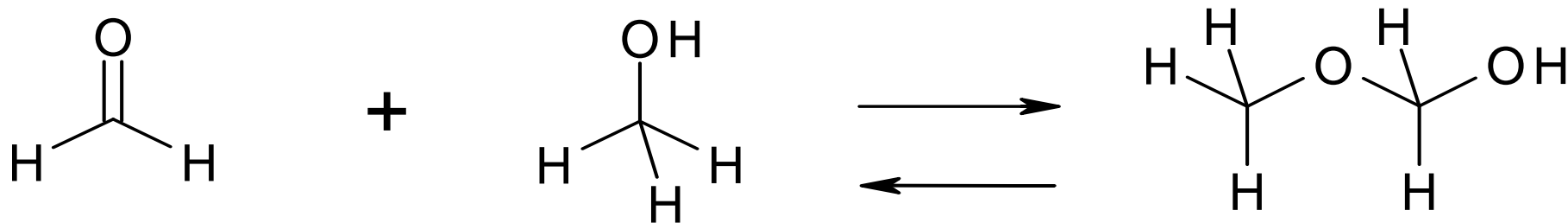
Ozone Effect on Formaldehyde Recovery

ozone (ppm)	Average % of theoretical for ChemDisk-AL	Average % of theoretical for UMEx 100	Average % of theoretical for DSD-DNPH
0.154	96.6	96.9	97.1
0.304	94.5	94.0	94.8
0.577	92.5	92.6	92.5
0.719	87.3	87.3	87.0

Effect of Relative Humidity on Recoveries

%Relative humidity	% of theoretical for Chem-Disk-AL	% of theoretical for DSD-DNPH	% of theoretical for UME _x 100
20	93.5	95.4	95.5
15	85.4	89.4	89.7
10	77.6	82.7	83.6
5	66.1	77.2	76.2

Reaction of formaldehyde and methyl alcohol to form methoxymethanol in formalin solutions



Effect on Recovery of the Percent of Methyl Alcohol in the Formalin

source (% methyl alcohol)	% of theoretical for ChemDisk-AL	% of theoretical for UME _x 100	% of theoretical for DSD-DNPH
Aldrich (8%)	86.8	86.6	86.4
Acros (15%)	72.7	70.9	71.5
Aldrich (15%)	70.2	70.7	70.3
Sigma (15%)	69.3	68.7	69.0



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