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DOW CHEMICAL U.S.A.

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HDPE POWDER CONCENTRATIONS IN H3

Three air samples were collected at the bottom manway of H3 powder hopper to determine if powder concentrations were in the explosion range during manual unloading operations.

The samples were obtained using a Gilian Model 113AH1 Flow Sampler at a flow rate of 2.2 litres per minute. The particulate was collected on a millipore matched weight filter cassette for gravimetric analysis. The sampling duration was approximately 5 minutes for each sample.

The results of the analyses were well below the minimum explosion limit for polyethylene powder in air (.02 ounces per cubic foot). However, keep in mind that these concentrations were averages over a five minute time period and though this data indicates that we did not have an explosive concentration at the manway continuously, it is possible that an explosive concentration occurred for shorter durations either at the manway or elsewhere in the hopper. Apparently the chances of this happening are greatest when the powder falls from the hopper walls, causing visible puffs of powder. Due to the short durations of these puffs, they would be difficult to sample accurately with the equipment we have; however, there is some validation work being done at Midland IH with direct reading dust monitors that might be able to measure these brief puffs of powder. If you think we need more data on this job, I will investigate it further.

<u>Sample</u>	<u>Sample Duration</u>	<u>Concentration Detected</u>
Before Transfer	5.1 minutes	.000018 oz/cu ft
Transferring	6.2 minutes	.000059 oz/cu ft
Transferring	5.0 minutes	.000063 oz/cu ft

Regards,

Mark

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