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APPENDIX NO.

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A BF GOODRICH ANALYTICAL TECHNOLOGY AND SERVICES REPORT

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SUBJECT —
RESIDUAL VINYL CHLORIDE IN GEON^R LATEX AND WASTE WATER SAMPLE

SUMMARY

Cumulus Fibres, Inc., uses Geon^R 352 latex, and is concerned about legal problems due to vinyl chloride monomer (VCM) in effluent water. The gas chromatography (GC) laboratory was asked to measure the VCM levels in a sample of a "Geon Mix" used at Cumulus, and in samples of incoming city water and effluent water (the effluent water had a high total solids level which may be due to latex overspray). The Geon mix sample had 6 mg/kg (ppm) residual VCM, the city water 0.3 ng/g (ppb), and the effluent water 31 ng/g VCM. Cumulus must determine whether this level is in compliance for their industry, community, etc. However, if it is too high, filtering the water would be one way of reducing it.

EXPERIMENTAL

All samples were analyzed using a modified version of ASTM Standard Method D-4443-84. Two mL aliquots of each sample were sealed in standard headspace vials. These were equilibrated for 60 min at 90°C and then analyzed with a Perkin-Elmer Sigma 2000 GC equipped with an HS100 headspace sampler, a photoionization detector, and a 9 foot by 1/8 inch column packed with 0.19% picric acid on Carbopack C. The Geon mix and the effluent were calibrated separately by standard addition. The calibration factor for the effluent was used for the city water.


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