

ALLIED CHEMICAL CORPORATION

MEMORANDUM

ALLIED CHEMICAL - CONFIDENTIAL

March 1, 1974

To: Mr. J. M. Quinn

Subject: Air Monitoring Techniques for Vinyl Chloride Monomer

I refer to Mr. Cornell's memo dated February 13, 1974 which reports on reconnaissance observations utilizing the Century analyzer. From the standpoint of our future negotiating position with governmental agencies, the use of the statement "background readings of 10 ppm" is disturbing. If this is indeed a background concentration of 10 ppm vinyl chloride identified as such, I am certain that this exposure level will become unacceptable. On the other hand, if this is a zero shift attributable to the instrument noise or the presence of interfering materials, this fact also needs to be clearly established in the record. In open air plants our experience is that the concentrations of vapors on the upwind vector from emission sources is generally nondetectable at the 1 ppm level unless there is some other emission source across the fence line which contributes to our readings.

Because of the sensitivity of this point, I would appreciate a prompt response to the technical questions raised and suggest that, in the future, we more clearly indicate the precise meaning of our observations.

W S Ferguson
W. S. Ferguson

WSF:mn

cc: Mr. A. J. von Frank
Mr. E. W. Callahan
Mr. R. H. Sand

ASI 00023484

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Table 3.1. PHYSICAL CHARACTERISTICS OF VINYL CHLORIDE^b

Formula	CH ₂ :CHCl
Molecular weight	62.50
Vapor pressure 21.1°C	34 ps ig (2.4 kg/cm ² gauge)
Specific volume 21.1°C	6.2 cu ft/lb (387.0 ml/g)
Boiling point 1 atm	7.0°F (-13.9°C)
Freezing point 1 atm	-255.5°F (-159.7°C)
Specific gravity, gas 15°C., 1 atm (air = 1)	2.15
Density, liquid - 20°C	0.9834
Critical temperature	317.1°F (158.4°C)
Critical pressure	774.7 ps ia (52.7 atm.) (54.4 kg/cm ² absolute)
Critical density	0.370 g/ml
Latent heat of vaporization b.p	79.84 cal/g
Latent heat of fusion m.p	18.14 cal/g
Specific heat	
Liquid 20°C	0.38 cal/(g) (°C)
Gas 25°C., 1 atm., Cp	0.205 cal/(g)(°C)
Viscosity, liquid -20°C	0.278 centistoke (0.2734 centipoise)
Flammable limits in air	4.0-22.0 percent (by volume)
Autoignition temperature	881.6°F (472°C)
Dielectric constant 17.2°C	6.26
Surface tension -20°C	22.27 dynes/cm
Refractive index, n _D ⁻¹⁰	1.4046
Solubility in water 25°C, 1 atm	0.11 g 100 g water

VCM is soluble in alcohol, very soluble in ether and carbon tetrachloride.

Synonyms: chloroethene, chloroethylene

Conversion factors at 25°C and 760 mm Hg.

1 ppm = 2.56 mg/m³

1 mg/liter = 391 ppm

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