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INTERNAL CORRESPONDENCE

CHEMICALS AND PLASTICS

P. O. BOX 441, SOUTH CHARLESTON, WEST VIRGINIA 25303

(Name) Mr. A. J. Romanach
Address 2000-4431
Location TECHNICAL CENTER

Date January 15, 1976

Originating Dept EP Engineering

Subject Hydrochloric Acid
(HCl) Dispersion

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EP ENGINEERING

Dear Tony:

In reference to your request to determine maximum ground level HCl concentrations resulting from boiler burning of chloride-containing wastes, I offer the following. The calculated maximum ground level concentration under the condition you described is 0.005 ppm. The maximum occurs about 1800 feet downwind from the stack, under conditions of strong solar radiation (high turbulence) and a four mile per hour downwind.

The above calculations are based on the following stack data that you provided:

#9 & 12 boilers which are set up for burning waste gas streams in S. Charleston	Stack height:	150 ft.
	Stack diameter:	12 ft.
	Stack gas rate:	152,500 ACFM <i>50% of rated flow</i>
	Stack gas temperature:	500°F
	HCl concentration:	20 ppm

Ambient concentrations were calculated using the Pasquill-Gifford dispersion model and the Holland plume rise model. The calculated results should be accurate within an order of magnitude. Use of the Holland plume rise model generally yields conservatively high ground-level concentration estimates.

If you have any questions or if I can be of further help, please let me know.

Very truly yours,

J. R. Foster
J. R. Foster

JRF:jej

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