

Memorandum Concerning.

SAMPLING PROGRAM AT LOWE BROTHERS PLANT

Dust Hazard

The same points studied in 1940 should be resampled.
Quarters added since 1940 should be included:

Approximately 25-40 electrostatic air samples
10-20 dust samples.

The study should include chemical analysis to determine the level of contamination due to lead or any other pigment of known hygienic importance. The need for the study of any pigment other than lead should be determined from the frequency with which such pigments are used, their nature, and the manner in which they are handled (i.e. wet or dry).

Some Safe Levels

Cadmium	1.0 mg./10 M ³
Lead	1.5 mg./10 M ³
Zinc (oxide)	150 mg./10 M ³
Mercury	1.0 mg./10 M ³

Silica and dust count studies should be included if the materials handled warrant such studies. The latter need be done only if the exposures are prolonged and frequent.

Solvent Exposure

The number of samples required to determine the solvent hazard cannot be accurately fixed. This study will require close cooperation between the plant and the testing crew. The number of samples and the general nature of the solvent must be determined

beforehand on the basis of the manufacturing schedule so that the field crew can be properly equipped to take the necessary samples. It may be possible to confine the sampling to the more toxic solvents. It probably will be necessary to make several trips to Dayton in order to cover all of the more toxic solvents. This will require exact information concerning the solvent formulae used. Generally, the following points should be studied.

Lacquer Plant

Solvent hazard during mixing, thinning, and filling.

The dust exposure if present should be included.

Varnish Plant

Exposures arising in the kettle operations (possibly acrolein) should be studied as well as the solvent exposure occurring in mixing, filtering, and filling operations.

Pump and Storage Room

Solvent hazard depending upon the solvents stored.

Paint Remover Department

Exposure to benzol and chlorinated hydrocarbons.

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RE 0003794

Some Solvents and Other Compounds of Hygienic Importance (Other Than Metallic) Which May be Used in Paints, Varnishes, Enamels, and Paint Removers

	Tolerance (Approx.)	
	p.p.m.	mg./m ³
Acetone	500	1000
Aniline (organic pigment)	5	20
Benzine (or Stoddard's solvent)	500	2000
Benzol	100	200
Butanol (N)	50	200
Carbon Tetrachloride	100	500
Ethyl Acetate	400	1000
Methyl Alcohol	200	200
Chlorinated Hydrocarbons	from 100+	--
Ethyl Alcohol	1000	2000
Amyl Acetate	200	1000
Xylol	200	500
Acrolein (produced in varnish making)	0.5	1
Naphtha (coal tar)	100-200	200-500
Turpentine	100	500

Tolerance data from W. A. Cook, Ind. Med. 14, 936 (1945).