c.c. T. Denton-Roberts
D. Wood, RXL
C.R. Coleman, Rumbon

DVNH/SS

14th August, 1968

Mr. Wood,
Petty & Sons Ltd.,
Whitehall Road,
Leeds. 12.

Dear Mr. Wood,

With reference to our telephone conversation today concerning the possible hazards to your employees in the use of hot melt adhesives, I confirm that some of these adhesives contain Monsanto's Aroclors. The range includes chlorinated diphenyls and terphenyls, which are chemically very stable e.g. to water, oxidation etc. The simpler members are oily liquids with fairly high boiling points as you will see by reference to the accompanying Technical Bulletin No. C1/2 'Aroclor - Chlorinated Diphenyl - Physical and Chemical Properties and Applications'. The Aroclors are in no way similar to, or related to, any of the gases or liquids that have been used in chemical warfare, but like all chlorinated organic substances they can cause damage to the liver if the vapour or the liquid are ingested for a sufficient time. For this reason it has been recommended that the maximum permissible concentration of Aroclor vapour should be 1 mgrm/m³ for workers exposed continuously for 8 hours/day throughout their working life. Admittedly this is a very small concentration of Aroclor, but it has been set to safeguard the worker against a risk of rather indefinite nature, in the knowledge that the absorbed Aroclor will gradually accumulate in the liver and will have an adverse effect. We have never heard of a fatality or of a case of serious illness which has been ascribed to the ingestion of Aroclor.

The enclosed booklet on 'Toxicology and Safe Handling of Monsanto Aroclor - Chlorinated Diphenyl' contains the relevant information, and you will notice there that an early indication of excessive contact with Aroclor is the development of an unsightly ache which is termed 'chloracne'. This condition will clear up when the individual is removed from contact with Aroclor, and there will be no impairment of the liver.

In the event that you decide to use such adhesives in your continuous book-binding machines you should take all reasonable steps to prevent Aroclor vapour from escaping into the factory atmosphere. This would involve the following components:-

MONS 090531

(a) Melting Pot for Adhesive. This should not be an open topped vessel, but properly covered and vented to the roof of the factory away from any air intakes or windows. It should have a removable charging port which would be hermetically closed at all other times. As nearly above the pot as is consistent with easy charging there should be an exhaust duct so that when the port is open the escaping dreolor will be removed.

(b) Area of Machine where hot adhesive is applied. The section of the machine where the hot adhesive is applied and the following section where the adhesive is cooling down should, as far as possible, be enclosed with adequate connection to the exhaust duct, so that the dreolor vapour is discharged to the outside of the factory.

Special attention should be given to the effect of the air changes on the factory temperature, since in cold weather the workers will complain of the adverse effect of the exhaust fans. For this reason I would recommend that the book-binding machines should, if possible, be isolated from the rest of the factory, and as the process is substantially automatic the operators need only enter as occasion demands.

I trust these comments will enable you to reassure the workers concerning their safety during the trials, and thereafter to determine the most suitable precautions for long term operations.

Yours sincerely,

A.V.L. BANK

MONS 090532