

Toxicology Section.
AT.23

O.O. D.V.M. Hardy ✓
D.B. Cameron-Brussels
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FLU/ED-A/ST

22nd April, 1966

Mr. P. L. Walker
Turnright Controls Limited
Westhill
Moddendon
Northfordshire.

REC'D 25 APR 1966

Dear Mr. Walker,

Further to our discussion on the 19th April, I set out below our recommendations for reducing the Aroclor 1248 toxicity hazards and information on ED 40 and MOS 361. Technical bulletins on the last named products are enclosed.

The Aroclor concentration in the air condition room should be substantially reduced by enclosing the areas where the thermostat elements are left to drip for 24 hours and ducting the exhaust gas to atmosphere using the positive pressure in the room. The question of whether the modifications are sufficient to safely control the Aroclor concentration at all times during the year will have to be left until the modifications have been made and the system tested. Apart from the use or bypassing of the refrigeration system during cold spells, the number of thermostat elements being drained in the room at any given time must have a considerable effect on the concentration of Aroclor vapour in the room and we recommend that they should be kept to a minimum.

With regard to human protection when handling Aroclor 1248, we know of no hand creams capable of providing adequate protection against continuous contact with Aroclor. However, we understand that you will let us have details of a new protective cream which appears to be suitable for giving protection from 2 1/2 hours from cold. We recommend the use of Rosalex Number 1 for intermittent contact.

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The only gloves that will be really suitable for a long life with Aroclor are those made of Viton, Silicone Rubber, PTFE or Nylon. All other materials will swell appreciably in contact with Aroclor. However, gloves made of material resistant to Aroclor are very expensive and many companies prefer to use gloves made of less resistant material and change them more frequently. Thin polypropylene gloves have been found to be very suitable.

On Page 1 of the technical bulletin on HB 40 you will find information on the general physical properties of the product. The vapour pressure and coefficient of thermal expansion are very similar to Aroclor 1248 but the specific gravity is much lower. We know that HB 40 is being used as a thermostat actuating fluid in the States but work on evaluating this fluid for this particular type of application has been carried out privately by the companies involved. Although we see no reason why HB 40 should not be used for this type of application, we are not in a position to recommend its use over Aroclor 1248. We will naturally give you any data that will assist you in evaluating the fluid but regret that the majority of information on the product refers to its use as a plasticiser and not as a functional fluid.

The price of HB 40 in 460 lb drums is 2/4d per lb plus 10% T.C.I.

You will note from the data on MCS 361 that the boiling point is above 800°F and we see no reason why MCS 361 should not be used at temperatures up to this figure. MCS 361 is a polyphenyl ether type material and is available at a price of U.S.\$20 per gallon f.o.b. St.Louis. The best product for this application would be OS-124 but since this is available at \$165 per gallon f.o.b. St.Louis, we feel that for your particular requirements MCS 361 will provide a better financial answer. The data sheet does not contain a value for a coefficient of thermal expansion but this can be calculated by using the reciprocal of density versus temperature.

I look forward to hearing from you when you have had an opportunity to study the contents of this letter and the enclosures.

Yours sincerely

T. DENTON-ROBERTS