cc. J.M. Thomson, London.

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HAV/bjo'g.

9th December, 1970.

Mr. P. Carnaffin,
British Steel Corporation,
Lackenby Works,
P.O. Box 3,
Middlesbrough,
Teesside, TS6 7RN.

Dear Mr. Carnaffin,

In reply to your recent letter to Mr. Thomson at our London Office, and our subsequent telephone conversation on the subject of Pyrocolor I would like to outline in more detail the facts on this material.

Pyrocolor contains polychlorinated biphenyls (PCBs) which have recently been indicated, along with other organochlorine compounds such as DDT, as environmental pollutants. The primary reason for the concern expressed over the finding of such materials in the environment is that this indicates that they are stable and extremely resistant to degradation. These are qualities for which they were chosen as fire-resistant transformer coolants in the first place. It does, however, impose a duty on the user of the material to avoid indiscriminate disposal. Pyrocolor should never be tipped into drains or sewers and accidental spillages and leakages should be mopped up with sawdust, ash or sand and not washed into surface water drains. If large quantities of waste Pyrocolor are available for disposal, the reclamation service offered by Monsanto should be investigated. Small quantities and solid wastes should be disposed of through a responsible waste disposal contractor, who should be advised to bury the material at a toxic waste dump.

The reasons for this procedure are not because Pyrocolor is particularly toxic, but because of the need to avoid a build-up of such materials particularly in marine or aquatic environments.

Appropriate toxicity tests on small mammals indicate that Pyrocolor is not particularly toxic if accidentally ingested, but may be moderately toxic if there is prolonged and repeated skin contact. For this reason gloves should be worn if contact with the liquid is anticipated and accidental contamination should be washed off with soap and water. At normal ambient temperatures these simple precautions will suffice to prevent any hazard.

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At elevated temperatures when vapour may be emitted, it is not recommended that personnel should be exposed for prolonged periods without protection. The American Conference of Government Hygienists has set a MAC limit of between 0.5 and 1.0 milligrams per cubic metre of air for 8-hour exposure. If it is necessary to work for appreciable periods of time in atmospheres exceeding this level a cannister mask such as Siebe Gorman type CO should be worn. Short term exposure, such as might arise in an emergency, is unlikely to cause any permanent ill effects since the irritation and discomfort caused by the fumes would inhibit voluntary exposure.

In common with many other organo-chlorine compounds Pyroclor may affect the liver if ingested or absorbed. It is also possible that excessive skin contact may produce a condition known as chloracne, although reports of this condition are very rare.

In short, persons exposed accidentally to the vapour of Pyroclor should move or be removed to fresh air and any skin contamination should be washed off with soap and water. It is unlikely that any ill effects beyond the transient symptoms of irritation, followed possibly by nausea and headache will be experienced.

The development of a completely non-toxic substitute for Pyroclor is difficult to envisage, since its toxicity is not regarded as very acute. It would be interesting to develop a non-persistent alternative, but this would be difficult to reconcile with the non-inflammability requirements.

Please let me know if you have any further queries.

Yours sincerely,

H.A. VODDEN.

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