

THE ASSOCIATED ETHYL COMPANY LIMITED NORTHWICH CHESHIRE

Telephone: NORTHWICH 3241/7.

Telegrams & Cables: ETHYLPORT, NORTHWICH.

Head Office:

ARTILLERY HOUSE,
ARTILLERY ROW,
LONDON, S W 1.
ABBEY 3974.

OUR REF. MZF/4(a)

YOUR REF.

DATE

2nd November 1950

CONFIDENTIAL

Dr. R. A. Kehoe,
University of Cincinnati,
Kettering Laboratory of
Applied Physiology,
Eden Avenue,
CINCINNATI,
U.S.A.,

Dear Dr. Kehoe,

I am afraid I have delayed slightly my reply to your letter of the 5th October, on the subject of the possible quantity and quality of the heavy ends which will be produced in our new ethyl chloride process. I had hoped to try and get more factual information, but I do not believe that this will be really possible until the plant is in operation. We will then be able to, and we most certainly will, make a careful study of this aspect.

The best data that we have available at the moment is extracted from the process manual, and is given below. I have written to "Shell" to see whether there is any material off the pilot plant operations which might be made available to your laboratory for examination.

The process consists of the chlorination of ethane and the hydrochlorination of ethylene to produce crude ethyl chloride. This crude ethyl chloride is then redistilled and the high boiling fraction or bottoms discarded. The residue contains the heavy ends, and consists of the following substances in the proportions shown :

Ethyl Chloride	9.9%
Isopropyl Chloride	1.7%
1.1 Dichloroethane	63.0%
2 Chlorobutane	2.1%
111 Trichlorethane	5.5%
1.2 Dichloroethane	17.3%
Heavy Ends	0.5%
	100.0%

TO: Dr. R. A. Kehoe.....

- 2 -

DATE: 2nd November 1950.....

Also present are traces of 2 methyl-butene, 2 dichloromethane, allyl chloride, 1 chloropropane, t-butyl chloride, chloroform and carbon tetrachloride.

As previously stated, the quantity of heavy ends from the bottoms, mixed with the rest of the product is 5-lbs/hr. which is made up of benzene and substituted benzenes, paraffinic material, and chloropropenes.

It would appear that this bottom fraction leaves the fractionating column at a temperature of 210°F and a pressure of 38 p.s.i.g. fully liquid, and is cooled to 110°F . This means that the boiling point of the mixture at atmospheric pressure is of the order of 80 or 90°C , certainly not lower than 60°C .

Yours sincerely,

hf/ecd


(H. Fossett)