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FROM Michael H. Juba AT Harmarville DATE July 19, 1979
TO Mr. H. E. Runion AT Harmarville REFERENCE MR04-07-00
SUBJECT ETHYLENE DICHLORIDE - STATUS IN EASTERN REGION

Per your request, information relative to the presence and/or usage of ethylene dichloride (EDC) in the Eastern Region is presented below in tabular form. In addition, supportive material has been assembled and attached to expand upon and/or substantiate the tabled data.

Ethylene Dichloride - Eastern Region Facilities

<u>Strategy Center</u>	<u>Facility</u>	<u>Usage</u>	<u>Frequency of Usage</u>	<u>Protective Controls</u>	<u>Exposure Potential</u>
GORAM	Refineries	Leaded gasoline Blending	Moderate	Closed System	Minimal
MOCHEM	Jayhawk	Carbyne Production	Operation is currently inactive	Closed System	Remote
	Merriam	Solvent	Limited	Fume hoods	Minimal
GS&T	Harmarville	Stock item Chemical stockroom	Limited	Fume hoods	Minimal

For purposes of completeness, the following additional information is submitted.

Should Gulf decide to begin production of a material designated as PA-18, it will be imperative that a complete review of EDC usage, as associated with this process, be undertaken (PA-18 is a binding agent utilized in the manufacture of paper as well as the non-stick portion of various tape). At the present time discussions have centered around the possibility of manufacturing PA-18 at the Jayhawk Chemical Plant. However, this is only being investigated and no decisions have been made nor are any anticipated in the immediate future. Currently, PA-18 is manufactured according to Gulf specifications by Hardwicke Chemicals, Elgin, South Carolina for sale by Gulf Oil. EDC is utilized as a recycle solvent in PA-18 production. Apparently, the operation is enclosed and the solvent is not consumed in the process nor is EDC present in the final product. At the present time, no Gulf employees are directly involved in the manufacture of PA-18.

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DATE 7/19/79

FROM Michael H. Juba

TO Mr. H. E. Runion

SHEET NO 2

I have been assured by the Industrial Chemicals group that we will be notified in the event of any status change regarding PA-18. I hope this information will meet your immediate needs. However, if you have any additional questions, please let me know.

Mike

Michael H. Juba

Attachments

MHJ:jks

cc w/atts: D. J. Davis
L. B. Barnes
F. M. Love



A SUBSIDIARY OF GULF OIL CORPORATION

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TELEPHONE 412 775 6000

ATTACHMENT I

- EDC is present in various quantities for a variety of reasons at the following facilities:

GORAM (Refining)

Philadelphia	EDC is a constituent of
Toledo	leaded antiknock fuel
Cincinnati	additives utilized in
Bayamon	gasoline blending
Milford Haven	
Europoort	
Gulphavn	
Sarni	

GOCHEM

Jayhawk	EDC is utilized in the production of Carbyne (post-emergence wild oat herbicide)
Merriam (Crop Protection-Organic Synthesis Group)	EDC is stored for possible use in some special thin layer chromatography (TLC) applications

GS&TC

Harmarville	A quantity (approximately two gallons) of EDC is maintained as a stock item
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- Comments regarding applications for EDC, quantities handled or stored, and frequency of EDC usage at the previously indicated locations are enumerated below:

GORAM (Refining)

EDC is present as a component in the antiknock lead additive fluid utilized at Eastern Region refineries for gasoline blending. A typical motor mix for automotive gasolines is composed of approximately 62 percent tetraethyl lead (TEL), 18 percent ethylene dibromide (EDB), 18 percent ethylene dichloride (EDC), and 2 percent other ingredients such as dye, petroleum solvent and stability improver. EDB and EDC function as lead scavenging agents in leaded gasoline by reacting with lead compounds to form lead bromide and lead chloride. In this manner, EDB and EDC prevent the buildup of lead deposits in engine combustion chambers.

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For the overall best performance of aviation piston engines, the lead scavenger consists entirely of EDB. A typical aviation mix includes approximately 61-62 percent TEL, 35-36 percent EDB and 3 percent of other ingredients.

The possibility of excessive exposure to EDC associated with fuel blending operations seems remote at this time as blending systems are and have been essentially enclosed operations in an effort to protect employees against exposure to TEL.

GOCHEM

Jayhawk

Approximately 114,480 pounds of EDC are currently stored in a 1,500 gallon Fodler glass lined, steel, storage tank. The tank is diked, grounded, and equipped with a "conservation" vent system which is activated or "breathes" only in the event of a large pressure buildup inside the tank. The tank has a stationary roof and a CO₂ blanket has been introduced over the top surface of the EDC. EDC had been used during the formulation of Ccarbyne, however, Carbyne production has been discontinued in favor of a new product which will be marketed as Butam. The production of Butam does not require EDC. Despite this fact, the EDC will remain in storage at Jayhawk in the event that the manufacture of Carbyne would be resumed. The Carbyne manufacturing process is essentially an enclosed system; therefore, potential exposure to EDC would be restricted to catastrophic events such as a line or vessel rupture.

Our key-person at Jayhawk has been instructed to inform this office if for any reason plans are made to resume usage of EDC.

Merriam Laboratory

A quantity of EDC is maintained by the Crop Protection-Organic Synthesis Group as a stockroom item. Currently it is used very infrequently as a solvent for special thin layer chromatography studies. In these cases, the EDC would be utilized only in a ventilated fume hood. Toluene has been substituted for EDC wherever possible. At the present time approximately three liters of EDC are available at Merriam.

GS&TC

Harmarville Research & Development Center

Approximately two gallons of EDC are presently maintained in the chemical stockroom as a stock item. Apparently EDC is not currently being utilized in any active projects. However, since a quantity of EDC is retained as a stock item, there is a possibility that this material could be requisitioned for

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use. In an effort to remain informed of any requests for EDC, Messrs. Luke and Slater have agreed to keep this office appraised of any transactions involving EDC by forwarding a copy of the appropriate purchase or chemical requisition form to Industrial Hygiene. This will enable us to ascertain where and by whom EDC is being used.

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