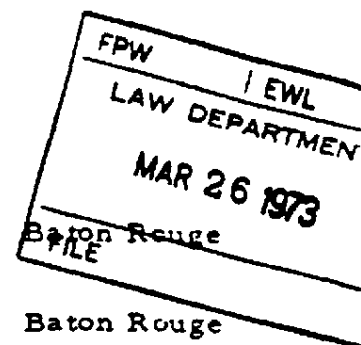


ETHYL CORPORATION

INTER-OFFICE



To Mr. J. M. Riddle

FROM E. Whitehead Elmore

SUBJECT Vinyl Chloride Monomer/Potential Health Hazard

ADDRESS Baton Rouge

ADDRESS Baton Rouge

DATE March 23, 1973

Yesterday Dr. Rinehart, Jim Brierley, Ted Bordelon and I met to discuss the above-captioned subject and the proper approach in relationship to customers. Apparently there is no substantial risk insofar as customers of PVC are concerned, but the risk is potentially real as to VCM customers. Accordingly, Dr. Rinehart has drafted and I am attaching to this memorandum a form of letter which I have approved for use in notifying our VCM customers of the need for extra caution and employee briefing in connection with VCM. You will note Dr. Rinehart's letter refers to MCA Chemical Safety Data Sheet SD-56 as revised in 1972 and indicates that a label will be affixed to the cover of that data sheet indicating the threshold limit value has been reduced from 500 ppm to 200 ppm. For information, I have Xeroxed and am attaching to this memorandum an excerpt from the data sheet concerning the possible carcinogenic effect of vinyl chloride monomer. A letter similar to the one drafted by Dr. Rinehart has been sent by Dow Chemical Company to its VCM customers.

You may want to send copies of the letter to ICD salesmen so that inquiries from customers will be understood by them. You will note the last sentence of Dr. Rinehart's letter is an invitation for assistance from Ethyl. Any request for assistance appropriately should be referred to the Medical Department and Dr. Rinehart in particular.

Messrs. Freberg, Ramin and Whitlock are on the distribution, since International and/or Ethyl of Canada may decide to use a similar letter for their customers, with some required redrafting.

Jim Brierley has indicated he will notify our insurance brokers as a precaution, informing them that we are taking necessary steps with our customers and in our own plant. I do not know what action we are taking as of yet in our own plants, but I understand Dr. Rinehart has

Mr. J. M. Riddle

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discussed this matter with Mr. Armstrong and we plan to initiate a sampling program and take other action as appropriate within our safety program.


E. Whitehead Elmore


EWE:nsj
Attachments.

CC: W. F. Armstrong
T. J. Bordelon
J. I. Brierley
K. A. Freberg
M. F. Gautreaux
J. M. Gill
M. L. Gould
C. W. Montgomery
R. A. Moser
C. M. Neher
F. W. Ramin
H. W. Rees
W. E. Rinehart
F. P. Warne
M. Whitlock

Gentlemen:

Since you are a valued customer for Ethyl's vinyl chloride monomer, we feel we should alert you to the fact that there has been a recent change in thinking ^{by health experts} as to permissible employee exposure. Enclosed is a copy of the MCA Chemical Data Sheet (SD-56) for vinyl chloride which was revised in 1972. More recently, but still in 1972, the American Conference of Governmental Industrial Hygienists has adopted a threshold limit value (TLV) of 200 ppm. We have noted this on the label affixed to the cover of the enclosed bulletin.

We urge you to review with your employees the properties, potential hazards and procedures for handling vinyl chloride as they appear in the data sheet.

In many installations which handle vinyl chloride, it has been found that it is technically feasible to maintain employee exposures to levels even lower than 200 ppm. Such practice, will, of course, provide an even greater margin of safety than exists with the allowable limits of exposure. We recommend you review your handling practice with the goal of reducing exposures wherever possible. If we can be of any service, we would be happy to discuss this further with you.

Very truly yours,

M. L. Gould
Manager
Industrial Chemicals Division

available to man the lifeline and to assist in the rescue if needed. The rescuer should be in view of the outside attendant at all times or in voice communication with him.

8.5 EXTERIOR REPAIR WORK

All outside welding, burning or spark-producing work on tanks or equipment which have contained

VCM should be done after the container has been thoroughly cleaned of VCM vapors. Purging should be tested by a competent person to see if it is free of VCM. It is not recommended that air be used to purge a vessel.

If the repair work is interrupted, the tank atmosphere should be checked thoroughly and a new work permit issued before resumption of work.

9. WASTE DISPOSAL (See 7.5)

9.1 All Federal, State, and Local regulations regarding health and pollution should be observed. Disposal of waste material, however, depends to a great extent upon surroundings, weather conditions and the emergency making disposal necessary.

9.2 When it becomes necessary to dispose of VCM as such, it is preferable to do so as a vapor, venting to an area free of any source of ignition.

9.3 When a waste disposal problem arises as a result of a major spill or equipment rupture, only properly protected and qualified personnel should remain in the area.

9.4 Waste mixtures containing VCM should not be allowed to enter drain or sewers as serious explosions in such systems may result.

10. MEDICAL MANAGEMENT

10.1 HEALTH HAZARDS

10.1.1 Vinyl chloride monomer does not present a serious industrial health hazard provided workers are adequately supervised and observe the proper means of handling it. Under the Occupational Safety and Health Act, the U.S. Department of Labor has set a 500 ppm Ceiling Value on permitted employee exposures. Based upon animal and human observations, this level provides considerable margin of safety for industrial exposures.

NOTE: A syndrome termed occupational acro-osteolysis, characterized primarily by Raynaud's phenomenon and osteolytic changes in certain bones, particularly the distal phalanges of the hands, has been noted among certain workers in vinyl chloride polymerization operations. The specific cause of this disease, and particularly any role played by vinyl chloride, is unknown.

Recent research studies reported from Italy indicate that repeated, long-term high level exposures of rats to vinyl chloride monomer vapor can result in the development of malignant tumors. However, many years of industrial experience with human exposures to concentrations frequently far above current standards have not demonstrated any carcinogenicity to humans.

10.1.2 Acute Toxicity

Levels on the order of 6,000 ppm for five minutes exposure are required to produce minimal

symptoms resembling mild alcohol intoxication in humans. Levels approximately 16,000 ppm for the same length of time will produce varying degrees of intoxication, with light-headedness, some nausea, and a dulling of visual and auditory responses in most humans.

10.1.3 Chronic Toxicity

The liver is the principal target resulting from excessive chronic exposure. The currently recommended ceiling level (OSHA) of 500 ppm is well below a level producing any signs or symptoms of toxicity.

10.2 PREVENTIVE MEASURES

10.2.1 All operations in which vinyl chloride is used should be regularly evaluated and atmospheric concentrations kept, at all times, below 500 ppm. Sophisticated air sampling techniques are required. This includes gas chromatography. Processes must be closed or ventilated sufficiently to achieve a concentration control low enough so that respiratory protection devices are needed only on an emergency basis.

10.2.2 Personal Hygiene

Vinyl chloride should be kept off the skin and out of contact with the eyes. If accidental contact to the skin occurs, immediate washing with soap and water is necessary; if to the eyes, immediate irrigation