

September 20, 1952

Dr. Earl W. Doty
900 Pine Avenue
Long Beach 13, California

Dear Earl:

I send you herewith, hastily, notations on the composition of the two samples forwarded to us.

These formula are more or less confidential, I believe, and should not be advertised, but they do provide some basis for the belief that the men may have come to grief through excessive exposure to these materials on their skin and in the air.

I know of nothing we can do further, but if this matter develops further, and we can assist, do not hesitate to call on us. Keep us informed as well.

Thanks.

Sincerely yours,

Robert A. Kehoe, M. D.

RAK ef

C.C.: Mr. A. H. Chenault - with copy of report.

Dictated but not read.

Enc.

KE 0012629

Material: Two samples of metal cleaning fluids
Submitted: 9-16-52 by Dr. E. Doty for Mr. J. Koehnle,
189 Springside, Walnut Creek, California
Required: Identification

Kelite, Formula 555

Manufacturer: Kelite Products Inc., Los Angeles, Calif.
Uses: Cleaning carburetors
Composition: Contains methylene chloride
(manufacturer's information)
M.A.C.: Methylene chloride - 500 p.p.m.

Bendix Metal Clene

Manufacturer: Bendix Products Division, South Bend, Ind.
Uses: Degreasing
Composition: (Analysis)

Chlorinated hydrocarbons (range 1,2 dichloroethane, trichloroethylene)	17%
Water and soluble solvents	21%
Non volatile resinous materials	12%
Cresylic acid*	12-15%
High boiling aromatics	Balance

* Name given to a mixture of cresols (from coal tar)
boiling from 205° upwards.

M.A.C.:

Dichloroethane	75 p.p.m.
Trichloroethylene	150 p.p.m.
Cresols	5 p.p.m. (California) (a)

(a) Boiling range not given, but most likely applies to
materials boiling below 205° C.

cc: Dr. R. A. Kehoe ✓
Dr. E. W. Doty
Mr. J. F. Koehnle

New York Safety Department

New York

A. H. Chenault

Los Angeles

Toxicity Investigation
S. S. Hinaman Garage
Gridley - Sacramento, California

September 19, 1952

The following is a brief summary of the investigation of a reported lead poisoning incident. This, coupled with the attached copy of John Koehnle's report, gives the complete data of our participation in this investigation.

Thursday, August 21st, John Koehnle received a report from Union that Mr. [REDACTED] had died of a ruptured liver, and that several other men working in this garage were ill. After talking with Dr. Doty and having him talk with Dr. Kehoe, we instructed John Koehnle to make an investigation on Friday, August 22nd, and report to us. The original report mentioned that competition had first been called in and had told Union Oil Company, who delivered gasoline to the garage, to turn it over to us, since we furnished lead to Union in that area. The original information indicated that the death might have been caused from lead poisoning.

On Monday, August 25th, Dr. Doty and I met John Koehnle in Sacramento and made an investigation at Gridley. Dr. Doty handled the medical investigation with the local doctors, and I looked over the garage. We met Dr. Carry - who took care of John Perry; Dr. Bartschi - who was taking care of Lloyd Bigerstaff, J. L. Brothers, E. A. Bears and J. Ennis; and Dr. Murphy, County Health Officer for Butte County - offices in Chico. We took lead analyses at the garage and found two samples gave an absolute zero reading. This information, coupled with other data, indicated to us that lead was in no way involved.

After leaving Gridley, and discussing the subject with Dr. Doty - he was of the opinion that the cause of the death and the illness of the other men whose symptoms were exactly the same as Mr. [REDACTED] who died, indicated that it might be hydrocarbon poisoning. On Dr. Doty's return to Los Angeles he discussed the subject with Dr. Rutherford Johnstone, a Toxicologist in Los Angeles, and with Dr. Kehoe. With what information that was available, they felt that it might be chlorinated hydrocarbon poisoning.

Ltr. to N. Y. Safety, Cont'd.
Toxicity Investigation

- 2 -

September 19, 1952

From John Koehnle's original investigation we found that they had been using Bendix "Metal Glene", and "Kelite Formula 555" for cleaning carburetor and fuel pump parts.

Before our visit to Sacramento, Dr. Doty and I were able to obtain rather complete information on the composition on the "Kelite", which was chlorinated solvents plus detergents which were sulphurnated hydracarbons plus other ingredients. Dr. Doty will undoubtedly cover a complete analysis in his report. We were unable to learn the chemical analysis of the Bendix cleaner.

On my visit I found that the Bendix cleaner had been used for quite a number of months, and was almost "spent". Therefore, they had bought "Kelite" to take its place. The Bendix cleaner had been used to about July 15th, and the "Kelite" was started to be used somewhere about July 1st. On John Koehnle's investigation he found that both five gallon cans of cleaner were open sitting in the garage. The Bendix cleaner was sitting next to the heating and ventilating system, and the "Kelite" was sitting next to the carburetor work bench.

Their heating and ventilating system consisted of a rather large blower in one side of the garage, which picks air up at about three feet off of the floor of the garage, and circulates it through a duct system over head that blows directly down where the men work. This air is heating in the winter time, and circulated in the summer time for cooling.

After leaving Gridley, and discussing the possibility of hydracarbon poisoning with Dr. Doty - I suggested that the heating system would be a perfect distribution system for hydracarbon vapors, however, we did not determine any source from which the vapors could have come. It is significant that the stock man is also showing symptoms and at no time works out in the garage in cleaning parts or mopping floors and such.

Upon receipt of a negative answer from Dr. Doty's blood and urine samples, the Sales Department will discontinue further work on the project. We feel that in this investigation we have been of definite service to our customer, the Union Oil Company, where competition pulled out.

Yours very truly,


A. H. Chenault

AHC:dc
Attach.

September 17, 1952

P. S. Dr. Doty has received negative reports of lead in blood and urine samples taken from Bigerstaff and Brothers (no other samples taken). He will report to Dr. Bartachi, which will close our part in this investi-

Mr. A. H. Chabault

Los Angeles

J. P. Koshnir

San Francisco

Suspected TEL Poisoning Case
Gridley, Calif. - Union Oil Co.

Sept. 5, 1952

On August 21st Union Oil Co. in San Francisco notified Ethyl Corporation of an alleged possible TEL poisoning case at Gridley, Calif. in the Ford dealership, B. S. Mineman, owner.

It was learned competition had been notified first two days before and had investigated the case at the scene with a Union Oil Industrial Engineer, Al Iden. Later, when Ted Proudfoot, Assistant Operations Manager, heard of the incident, he believed "Ethyl" should handle the case.

Competition bowed out of the case when they thought TEL was not involved or because "Ethyl" supplied the fluid. Both stories have been reported. In any event we decided to investigate the incident and on Friday, August 22, a trip was made to Gridley where all parties except the attending physician were interviewed. Below is a summary of the data obtained.

On August [redacted], a mechanic at the Mineman Ford dealership, died after an illness of approximately six weeks. Indication was that he died because of a burst liver caused possibly by some type of toxic poisoning. This man had worked for Mineman for twenty years, was about 60 years old and apparently in good health.

About the same time four other men became slightly ill and apparently had the same symptoms, according to doctors' reports. These men's names are:

[redacted]

[redacted] was apparently the worst off, and on 8/15/52 had an examination. Later he entered the hospital. In part the medical report on [redacted] read as follows: "Vesicular eruptions began to appear on hands, arms, feet and legs. They became larger and spread up the extremities. The patient has been washing parts in leaded gasoline and sweeping the floor with cleaner containing burned rice hulls. On complete examination the only positive finds are the Dermatitis and a tender, slightly enlarged liver. One patient died last week with similar condition."

Mr. A. H. Chenault

(2)

Sept. 5, 1952

This copy
improved

on palms of hands, at

Home Ch
sent to

in the hospital last Friday or Saturday in an

medical report read as follows: "Vesicular eruption
under over liver. This is the third case from employ

the local physician. Our Dr. Doty was notified by
ed with Dr. Caray. On Monday, August 25, Dr. Doty
an on-the-scene examination, etc. For technical
will have to be consulted.

Information received at Gridley the following are
details of the factors which may be a source of this problem.

For many years this Ford dealership has been using leaded gasoline
for cleaning the floor and washing parts. Approximately 300 gallons a year
are used on the floor plus probably half as much used for cleaning parts.
About one quart of re-refined oil was added to each gallon of gasoline used
for cleaning parts. Burned rice hulls were used to absorb the gasoline on the
floor and to aid in cleaning.

Two metal chemical cleaners have been used by this garage: Kalite
Formula 555 and Lendix Metalclene. Samples of these cleaners were obtained
and sent to Dr. Lence in Cincinnati for his analysis.

Home Chenault discovered one important factor. An overhead duct
system is connected to a furnace located inside the building with its air
intake near the floor. In summer this set-up is used to circulate the air
inside the building. In winter an oil heater furnished heat to the set-up
and heats the building. As Home pointed out, this would be a wonderful air
distributor if any vapors were picked up by the blower.

Two lead-in-air tests were made in the garage. A reading of 0 (zero)
was obtained.

The use of gasoline as a cleaner has been discontinued.

Union Oil Co. in San Francisco would like to have a report on this
incident either verbally or in writing. This I intend to do (orally) as soon
as we hear from Dr. Doty on his medical findings on the case.

Very truly yours,

John F. Boehnle

Cc.: L. A. Office

A. H. Chenault (2 extra copies)

Name: [REDACTED]

Material: Urine and Blood

Submitted: 8-29-52 by Dr. E. Doty, 900 Pine Avenue, Long Beach
13, California

Required: Lead Analyses

URINE

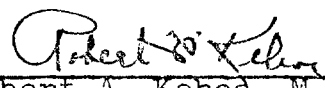
Analysis Number	- 52A-5612
Volume	- 118 ml.
Specific Gravity	- 1.027
Mg. Pb/Liter	- 0.09

BLOOD

Analysis Number	- 52A-5613
Weight	- 19.6 Grams
Mg. Pb/100 Grams	- 0.05 (Spectrographic)
Mg. Pb/100 Grams	- 0.04 (Dithizone)

The concentration of lead in the blood is within normal limits. The urinary lead concentration is also within the normal range for a sample of this volume. The combined results demonstrate that this man has had no recent occupational exposure of any consequence to lead.

Signed:


Robert A. Kehoe, M. D.

Samples Collected: 8-25-52
Samples Received: 8-29-52
Samples Reported: 9-4-52

KE 0012635

Name: [REDACTED]

Material: Urine and Blood

Submitted: 8-29-52 by Dr. E. Doty, 900 Pine Avenue, Long Beach
13, California

Required: Lead Analyses

URINE

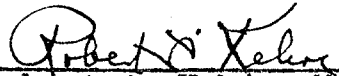
Analysis Number - 52A-5610
Volume - 84 ml.
Specific Gravity - 1.030
Mg. Pb/Liter - 0.10

BLOOD

Analysis Number	-	52A-5611	
		<u>Spectrographic</u>	<u>Dithizone</u>
Grams	-	15.0	19.6
Mg. Pb/100 Grams	-	0.04	0.03

The concentration of lead in the blood is well within normal limits. The urinary lead concentration is also within the normal range for a sample of this volume. The combined results demonstrate that this man has had no recent occupational exposure of any consequence to lead.

Signed:


Robert A. Kehoe, M. D.

Samples Collected: 8-25-52
Samples Received: 8-29-52
Samples Reported: 9-4-52

RETAINED
D.

DRS. STELLAR, SCHROEDER & LEE

1019 AVALON BOULEVARD

WILMINGTON, CALIF.

August 29, 1952

TO WHOM IT MAY CONCERN:

These men are the employees of the S. S. Hineman Garage, in Cridley, California, in whom there was some question of TEL intoxication:

[REDACTED] age 25

Industrial Medical History:

This man first began working at the S. S. Hineman garage in 1951. Since that time, he has done all types of work around the garage, but he has worked primarily in the Mechanical Department and in the Service Station. Many times, while in the Mechanical Department, he has dipped automotive parts in five-gallon buckets of gasoline, but as to the exact number of times--daily or weekly--it is difficult to ascertain; however, he does state that on occasion, when he has dipped his hands in the gasoline, his hands have become numb from the mixture. (Note: This mixture is apparently not gasoline, but contains two and one-half gallons of Union Oil #76 gasoline, plus approximately one quart of lubricating or drainage oil.) On occasion, he has also dipped automotive parts in a solution of Kelite, but this has been rare.

Past History:

This patient had the usual childhood diseases. In April of this year, he had an operation for correction of Strabismus of his right eye. This apparently was a congenital abnormality. He was rejected from the United States Army because of this eye and because of rather marked Pes Planus.

Present illness:

On or about August 15, 1952, the patient went to bed feeling quite well, but during the night he was awakened by an intense burning and itching of his hands. He noticed that his fingers contained numerous rather large bullae; these were apparently primarily on the dorsum of the fingers. By the following morning, he also noticed

RE 0012337

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his hands and the soles of his feet. He had no other symptoms of any kind--no headache, no frequency of urination, no pain in his extremities, no constipation, no diarrhea.

Past History:

The patient had the usual childhood diseases without any serious illness of any kind. He has also had some constipation, but he has frequently been told by his doctor that this was due to "pure laziness". During the time he was in the army, he suffered an injury to his ear, but otherwise he has had no injuries or serious illnesses.

Examination:

Examination of this patient was negative except for the presence of rather small vesicles around the tips of the fingers, palms of the hands, and soles of the feet. These vesicles were very small. There was no evidence of any bullae--past or present.

Examination of the abdomen revealed the liver margin to be palpable and tender. Examination was otherwise negative.

 age 25

Industrial Medical History:

This man has worked for the S. S. Mineman garage since 1949. He has also worked in the Parts Department. At the present time, he calls himself the "Manager of the Parts Department". He has only dipped his hands in the oil mixture, or the Bendix solution, or the Kelite, on rare occasions when he has been out to the Mechanical Department to inspect a broken part. In fact, he very infrequently has any contact directly with any of these solutions. Very thorough questioning of this man revealed that, to the best of his knowledge, he had done nothing unusual, either in his work or at home.

Present illness:

This man also began having small blisters on his hands and feet approximately one week ago. He describes these areas as itching severely and then, before he was aware of the fact, the small blisters began to appear. The itching was most intense, especially in the areas where he perspired a great deal. He did not develop any bullae.

Past History:

This man had the usual childhood diseases. He has been

Page four

in good health, except for the fact that he has had some hay fever which has never been disabling in any way. He has never had any history of allergies.

Examination:

Examination revealed some small vesicles around the tips of the fingers, the palms of the hands, and the soles of the feet.

The liver margin was palpable and tender. There were no other abnormal physical findings.

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Comment:

It was the usual custom, in this garage, to wash up the floor nightly with Union Oil #76 gasoline. This was done by putting gasoline on the soiled areas and where there was excessive grease, putting rice hulls on, then sweeping up the mixture. None of the men mentioned have ever had anything to do with this cleaning-up job; the man who does this is, to the best of my knowledge, in good health at the present time.

Mr. Brothers told me that many times as he has opened cans of Kelite, he has noticed a strong smell of the fumes, but this has lasted only a few seconds.

The automotive parts were apparently cleaned by putting them into a basket and then dipping the basket in either the Kelite or the Bendix solution. The basket was then taken out of the cleaner and carried away and washed with a hose. I did not look at the working environment myself, but this was thoroughly checked by Mr. Chenault and Mr. Kochmle, of the Ethyl Safety Department. The report will be forthcoming from Mr. Chenault.

Earl W. Doty M.D.
Earl W. Doty, M.D.
900 Pine Avenue
Long Beach 13, California

EWD:McK

KE 0012639