PLAINTIFF'S
EXHIBIT
BRK-138

June 29, 1954

Charles Myers, Safety Director
New Departure Division
General Motors Corporation
Sandusky, Ohio

Dear Mr. Myers:

Enclosed herewith are copies of a letter and report submitted by Dewitt Huffman, Industrial Hygiene Engineer, for your information and guidance.

If there is any way this Division can be of service to you, please let us know.

Very truly yours,

JAMES H. FLUKER,
SUPERINTENDENT

JHF:mew
Enc:

22

June 29, 1954

Medical Department
Industrial Commission of Ohio
Columbus 15, Ohio

IN RE: O. D. 5994-22
CLAIM OF, MAGRUM

Gentlemen:

On June 22, 1954 a visit was made to the New Departure Division, General Motors Corporation, Sandusky, Ohio, to check conditions under which the above named claimant had worked. The company manufactures bearings.

The claimant was engaged in the cleaning of balls used in bearings in Department #4 of this company from 6/1/48 to 6/14/53. In Department #4 the company has 13 barrels in which the balls are cleaned. These barrels are approximately 2 feet deep by 15 inches in diameter and are set at a 45 degree angle when operating; the charging ends of the barrels are open, they are leather lined. At the present time the company uses Savasol #2 which is a chain hydrocarbon of the gasoline or Stoddard solvent type, which has a flash point of 40°F. About a gallon of bearings are placed in the tumbling barrel, a rag partially saturated with the solvent tossed in and the barrels tumbled for approximately six hours. The company used perchloroethylene from September 1951 to February 1953, at which time Savasol was introduced as a substitute. It is reported that from February 10 to February 17, 1953 they ran out of Savasol and used carbon tetrachloride. It is also alleged by the claimant, that one day in June 1953 they again used carbon tetrachloride.

Since 1953 or earlier, to prevent the use of carbon tetrachloride, the only source of supply is the fire house. The fire house has been using coloring material in the carbon tetrachloride since 1947 or 1948 to prevent the use of this material for other purposes. The claimant's statement that he used carbon tetrachloride one day in June 1953 may be checked by asking him how he knew it was carbon tetrachloride.

Savasol, having a flash point of approximately 40° F. would fall somewhere between Heptane, with a flash of 25° F. and Octane, with a flash of 60° F. The boiling point of these two materials are 208 and 257° F., respectively. Tests taken with a Davis Vapotester indicated a concentration of between 500 and 1,000 ppm (parts per million) at the mouth of the barrel. Between operations an employee takes a rag saturated with solvent and wipes the leather linings of the tumbling barrels. A test taken in his breathing zone during this operation, which takes less than one minute per barrel, showed a concentration in excess of the lower explosive limit of Savasol, which would be more than 1% or 10,000 ppm.

The instrument was not sensitive enough to measure the concentration in the air, but from theoretical calculations, based on the use of 1½ gallons per day, one change of air per hour in the area in which the claimant worked (approximately 40' x 40' x 25' to the ceiling and part of a large building) would be required to keep the concentration below 500 ppm.

Carbon tetrachloride which has a boiling point of 170° F. would be slightly

24

more volatile than Zerexol. If carbon tetrachloride were used, as alleged, claimant was subject to 10,000 ppm of this substance for less than one-half hour per day when wiping the linings and assuming six changes of air per hour in the area in which he worked to 50 ppm during his 8-hour shift.

Very truly yours,

EMMETT HOFFMAN,
INDUSTRIAL HYGIENE ENGINEER,

EHH:mcw

INDUSTRIAL COMMISSION OF OHIO
DIVISION OF SAFETY AND HYGIENE
COLUMBUS 15

June 29, 1954

James M. Fluker, Superintendent
Division of Safety and Hygiene
Industrial Commission of Ohio
Columbus 15, Ohio

RE: NEW DEPARTURE DIVISION
GENERAL MOTORS CORPORATION
SANDUSKY, OHIO

On June 22, 1954 a visit was made to the above named company to check a claimant's alleged exposure to carbon tetrachloride in Department 44.

Contact was made with Charles Myers, Safety Director and B. T. Ebrd, Personnel Service Supervisor.

The company is engaged in the manufacture of bearings.

A description of the tests made is given in the letter to the Medical Department regarding Claim O. D. 5994-22.

The concentrations obtained in the cleaning of bearings are rather high. In order to reduce these concentrations, the whole problem of cleaning of bearings should be referred to the engineering department for them to work out a new system. If they continue the present system of cleaning bearings, the company should consider the exhausting of barrels by attaching an exhaust duct to the base of the tumbling barrels. Tumbling barrels or rattlers are exhausted in foundries by exhausting through the trunnions.

Respectfully submitted,

DEWITT HUFFMAN,
INDUSTRIAL HYGIENE ENGINEER.

DDH:mcv

25