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EXTRA

PLAINTIFF'S
EXHIBIT
BRK-109

The Industrial Commission
Of Ohio
Division Of Safety & Hygiene
246 N. High St., Col., O. 43215

May 8, 1980

Mr. Don Kricho
Safety Supervisor
General Motors Corporation, General Motors Assembly Division
Lordstown Plant, P.O. Box 1406
Warren, Ohio 44482

Dear Mr. Kricho:

Enclosed is a report on the visit made to your company on May 2, 1980.

It was a pleasure to meet with you and othersand the courtesy extended was very much appreciated.

If this Division can be of assistance to your company at any time on industrial hygiene or engineering problems relating to safety, please let us know.

Very truly yours,

Maurice E. Hatten

Maurice E. Hatten, P.E.
Industrial Hygiene Engineer
Technical Research and Engineering

MEH/bjs

Enclosure

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Re: General Motors Corporation
General Motors Assembly Division
Lordstown Plant, P.O. Box 1406
Warren, Ohio 44482

1. On May 2, 1980, this company was visited in response to employee complaint of illness or irritation symptoms regarding spraying of rust inhibitor (Part Number 998-1523-66) before chrome molding is applied. The work is in Department 1730. The Assembly Division employs 9600 less layoff to 7500 at present.

2. Those contacted were:

   Mr. Don Kricho, Safety Supervisor
   Mr. Eric Jaycox, Industrial Hygienist
   Mr. Dave Seese, Union Health and Safety
   Mr. Ron Scrabis, Area Foreman
   Mr. Dominic Cutrone, Assembler

3. This Division assembles Monza and Sunbird automobiles.

4. The rust prevention material is applied by hand sprayer in small amounts, at intervals, to trim area only around windows. Air movement at the work stations is adequate(and directable) to uncomfortable from chill factor. Spraying is done on both sides of the conveyor line, without hood. A very small amount of the tacky spray has accumulated on overhead beams and other objects. The material is intended to remain tacky over an extended period. Masking is not done,and spray scattered on glass or painted metal is removed at a later point on the assembly line.

5. Composition of the spray, manufactured by Parr Inc., 18400 Syracuse Avenue, Cleveland, Ohio, 44110, includes lamp black, mineral spirits less than 50%, asbestos "floats" 1 to 2%, corrosion inhibitor (pitch and waxes, petroleum grease and calcium soaps), polymer and resin. The asbestos is encapsulated and remains bound. There are no operations here breaking thru the binding. The spray is a black, free flowing, slightly viscous liquid with no unusual fire or explosion hazards. The material may be received in 5 gallon cans or 55 gallon barrels, and specifies agitation before use. The company has equipment to agitate the 5 gallon can but not the barrel. Prescribed mineral spirits thinner may be used in either situation, to adjust viscosity or other properties.

6. Personal sampling was done with charcoal tube and Sipin pump at a spray station (D. Cutrone) from 9:58 AM to 11:07 AM (2.18 liters of air). Gas chromatograph analysis by the Ohio Health Department found no detectable benzene, toluene, vinyl chloride and mineral spirits in this size sample. A bulk sample was also obtained and analyzed; none of the above contaminants were found, excepting mineral spirits, approximately 25%.

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7. Also, a breathing zone (BZ) test with Draeger tube "KW2," CH 25401 (all aliphatic hydrocarbons starting with hexane, heptane, octane, etc.) indicated only a trace (off color from brown endpoint) in 24 pump cycles required, whereas the same tube gave an immediate brown test in an opened can. Another test, sampling near the center of the conveyor line, also indicated no measurable amount (stopped at 20 cycles).

8. Draeger tube CH 23001 for toluene indicated none measurable, BZ, spray station. An opened can gave an indication probably off color and due to aliphatic compounds more than toluene or other aromatic compounds.

9. The ultimate health hazard of breathing small amounts of gases, liquids and solids from this complex mixture is open to evaluation. No TLVs are exceeded so far as determined, but complex chemicals and mixtures are present that lack specific TLVs. The presence of asbestos is of concern not only for the present operations, but also during salvage operations months or years later. Perhaps some other filler or fiber could be safer and more economic. Testing varying amounts of spray in a laboratory with test animals could be done to expedite understanding of some consequences of long period exposures on an assembly line. An important fact related is that persons who stop smoking completely (and soon enough) have almost as good health as those who never smoked. Otherwise, the hazards of continued smoking, with exposure to tars and carcinogens, are well documented. If body fluids dissolve or allow rapid removal of very small amounts of the spray material, there may be no real danger, especially when later work changes occur. However, if the tacky and tarry material tends to accumulate in the respiratory systems, it is probably dangerous especially due to petroleum carcinogens and asbestos, a known carcinogen with latent effect.

10. The following is based upon the American Conference of Governmental Industrial Hygienists Current TLVs,.

    Threshold Limit Values (TLVs) refer to airborne concentrations of substance and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effects. Because of wide variations in individual susceptibility, however, exposure of an occasional individual at or even below current TLVs may not prevent discomfort, aggravation of pre-existing conditions, or an occupational illness. Many TLVs are based on acute exposures and do not necessarily represent prolonged exposures after many years of work.

11. This investigation was made in accordance with 4121:1-5 Specific Safety Requirements of The Industrial Commission of Ohio Relating to All Workshops and Factories.

12. Suggestions offered are:

    A. Seek safer and more economic material that has filler or fiber other than asbestos.

    B. Maintain material quality consistency by avoiding long standing 55 gallon barrels where separation or settling occurs.

    C. The fire hazard from accumulated spray on various surfaces could be avoided by hand brushing or rolling if possible. More vapor would

probably be breathed, but far less particulates. Also, noise level would be lowered, but the area is notably quiet.

D. If employees in the immediate operation (or area) prefer, approved particulate respirators, single use type, could be worn at least until adequate safety of system is clarified. They can serve also to note where and how much particulate exposure is occurring. Vapors were not found to be a problem, but would also be removed to limited extent as adherents to particulates.

E. If the present operation system is maintained, evaluate spray material safety by varying exposures to laboratory test animals.

Respectfully submitted,

Maurice E. Hatten

Maurice E. Hatten, P.E.
Industrial Hygiene Engineer
Technical Research and Engineering

Enclosure: Tables 5 and 6, Carcinogenic Irritant Discoveries

C-1-5

Table 5. *Recognized Occupational Respiratory Carcinogens*

Agents	Sites: Lung	Larynx	Nares	Nasal Sinuses
Arsenic	+	+	+	+
Asbestos	+			
Chromium	+	+	+	+
Nickel	+		+	+
Isopropyl Oil	+	+		+
Mustard Gas	+	+		
Coal Tar	+	+		
Mineral Oil	+	+		
Radioactive Chemicals	+			+

1. Significance of Specific Industrial Carcinogenic Irritants

Although the knowledge of specific industrial carcinogenic agents affecting the skin dates back to almost 200 years, the recognition of occupational carcinogens

Table 6. *The Time Table of Discoveries of Occupational Cancers*

Name of Agent	Date	Discoverer	Target Organ	Type of Contact
Chemicals-Organic				
Coal Soot	1775	Pott	Skin	Occupational
Coal Tar (lignite)	1876	von Volkmann	Skin	Occupational
Coal Tar (Bitumen)	1892	Butlin	Skin	Occupational
Coal Tar (Anthracite)	1910	Tsuda	Skin	Occupational
Coal Tar (fumes)	1936	Kawamata	Lung	Occupational
Creosote Oil	1920	O'Donovan	Skin	Occupational
Anthracene Oil	1908	Oliver	Skin	Occupational
Paraffin Oil				
(Shale)	1876	Bell	Skin	Occupational
(Petroleum)	1910	Schamberg	Skin	Occupational
Petroleum Coke	1890	Dervillé and Gueramonprez	Skin	Occupational
Lubricating Oil				
(Petroleum)	1930	Heller	Skin	Occupational
(Shale)	1910	Wilson	Skin	Occupational
Benzene	1928	Delore and Borgomano	Bone Marrow	Occupational
Hydrogenated Coal Oil (Bergius)	1960	Sexton *et al.*	Skin, Mouth	Occupational
Isopropyl Oil	1947	Nale and Hueper	Nasal Sinus, Larynx, Lung	Occupational
Mustard Gas	1959	Yamada	Larynx, Lung	Occupational
Chemicals-Inorganic				
Arsenic	1822	Paris	Skin	Occupational
	1887	Hutchinson	Skin	Medicinal
	1930	Sauer	Lung	Occupational
Asbestos	1935	Lynch and Smith	Lung	Occupational
Chromates	1935	Fitch-Alwens	Lung	Occupational
Nickel	1932	Grenfell	Nasal Cavity and Sinuses, Lung	Occupational
Radiations				
Ultraviolet Rays	1894	Unna	Skin	Occupational
Roentgen Rays	1902	Frieben	Skin	Occupational
Radioactive Chemicals	1879	Härting and Hesse	Lung	Occupational

acting upon the organs of the respiratory system is only 35 years old, despite the fact that some of these respiratory carcinogens had been known for many decades

to cause skin cancers.
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(Table 6).

a) Classific

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environmental agents
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weighty evidence than
cancer hazards is con
of particular environ
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equivocal nature of th
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Environmental Ag
Beryllium
Benzidin
Iron Oxide
Soot — Incomp
Chemicals Con
Thermic Tobac
Normal and