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December 3, 1974

Re: Goodyear Tire & Rubber
Metal Products Division
1144 E. Market St.
Akron, Ohio 44316

Risk # SI-2351

Attn: J.D. Peterson

On October 30, 1974, a survey was conducted at the Metal Products Division of Goodyear Tire and Rubber for welding fumes and particulates, at the Butt Welding Lines Nos. 2, 3 and 6, Submerged arc welding and inert gas shield welding line No. 24.

The following persons were contacted:

(a) Paul Bankovich, Industrial Hygienist
(b) Jan Hemminger, Safety Manager, Plant 3
(c) Paul Hanus, Shift Foreman
(d) Roger Williams, Shift Foreman
(e) William Bonifay, Vice Chairman Union Safety Committee
(f) Henry Mumford, Chairman, Union Safety Committee
(g) Robert Vasko, Union Shift Representative
(h) Jessee Barton, Union Safety Advisor

Air samples were taken for welding fumes and particulate at the above operations using MSA Model G personal sampling pumps plus tared polyvinylchloride and mixed cellulose ester filters attached within the breathing zones of employees working at the mentioned operations. The analytical method used to obtain the results for metal oxide fumes is Atomic Absorption Spectroscopy and for particulate to re-weigh tared filters to find differences in weights.

The results are listed in the accompanying table No. 1. listing operation, results, current Threshold Limit Values (TLV) from the Federal Register OSHA, Table G-1 and G-3 and the American Conference of Governmental Industrial Hygienist, 1974 Handbook.

Based on the finding of this survey listed in Table 1. the Threshold Limit Values for both OSHA and ACGIH were not exceeded for the various materials.

Re: Goodyear Tire & Rubber
Metal Products Division

Threshold Limit Values refer to airborne concentrations of substances 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 variation in individual susceptibility, exposure of an individual at or below threshold limit values may not prevent discomfort, aggravation of a pre-existing conditions, or occupational illness.

Recommendations:

(A) Maintain the concentrations of metal oxide fumes below allowable limits. A maintenance program should be instituted to insure local exhaust ventilation systems are in good working order. Periodic checks on the conditions of hoods, in the system are faulty, replace or repair at once.

(B) A program of air sampling should be conducted periodically in the breathing zone of employee at these operations to determine controls are functioning so as to insure that employees are not exposed to concentrations of any materials or substances above Threshold Limit Values.

(C) Periodic physical examinations should be provided to all employees working with toxic materials to insure these employees are not being adversely affected by these materials.

Concurrent with the survey, the writer observed certain questionable safety conditions that should be mentioned.

(A) Full face shields should be provided to any employee involved in any paint stripping operation.

(B) At the pickling operation, input area, certain precautions should be taken to prevent "blow back" of hot acid on employees.

(1) Providing full face shields to all employees involved.
(2) The installation of a clear barrier close to the source of hot acid.
(3) The installation of an alarm system either visible or audible to indicate if the acid bath is super heating.

(C) In the paint spray operation certain precautions should be taken to prevent excessive employee's exposure to solvent vapors and fire.

(1) The installation of a visible or audible alarm at all spray booths to insure there is at least 100 linear feet per minute at the face of the boths to prevent a build-up of solvent vapors.

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Re: Goodyear Tire & Rubber
Metal Products Division

(2) Keep the inside of all spray booths free of accumulation of paint or other material.
(3) When spray painting, employees should take the parts as far into the booth as possible, to effectively utilize the ventilation system.
(4) When freshly painted parts are dried, place the parts in front of an unused booth to prevent a build-up of solvent vapors.

If you should require assistance or information regarding this inspection or problems you may have in the future, please feel free to contact the Division.

Sincerely,

Dale Selchan

Dale Selchan
Industrial Hygienist

DS:edd

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TABLE 1

Survey Results of October 30, 1974 All results in mg/M^3 unless otherwise stated.

(1) Workman: Mr. Dugger, Butt Welder Line 6

Substances	1974 OSHA TLV	1974 ACGIH TLV	Results
Lead	0.2 mg/M^3	0.15 mg/M^3	0.0 mg/M^3
Iron oxide fume	10 mg/M^3	5 mg/M^3	1.41 mg/M^3
Nickel	1 mg/M^3	1 mg/M^3	0.0 mg/M^3
Zinc	5 mg/M^3	5 mg/M^3	0.0 mg/M^3
Manganese	5 mg/M^3	5 mg/M^3	0.01 mg/M^3
Chromium	1 mg/M^3	1 mg/M^3	0.0 mg/M^3
Cadium	0.1 mg/M^3	0.05 mg/M^3	0.0 mg/M^3
Magnesium	15 mg/M^3	10 mg/M^3	0.0 mg/M^3

(2) Workman: Joe Humphrey, Chipper Line 6

Substances	TLV, 1974 OSHA	TLV, 1974 ACGIH	Results
Lead	0.2 mg/M^3	0.15 mg/M^3	0.0 mg/M^3
Iron oxide fume	10 mg/M^3	5 mg/M^3	2.18 mg/M^3
Nickel	1 mg/M^3	1 mg/M^3	0.0 mg/M^3
Zinc	5 mg/M^3	5 mg/M^3	0.0 mg/M^3
Manganese	5 mg/M^3	5 mg/M^3	0.02 mg/M^3
Chromium	1 mg/M^3	1 mg/M^3	0.0 mg/M^3
Cadium	0.1 mg/M^3	0.05 mg/M^3	0.0 mg/M^3
Magnesium	15 mg/M^3	10 mg/M^3	0.0 mg/M^3

(3) Workman: Mr. Reiter, Chipper Lines 2 & 3

Substances	1974 OSHA TLV	1974 ACGIH TLV	Results
Lead	0.2 mg/M^3	0.15 mg/M^3	0.0 mg/M^3
Iron oxide fume	10 mg/M^3	5 mg/M^3	0.23 mg/M^3
Nickel	1 mg/M^3	1 mg/M^3	0.0 mg/M^3
Zinc	5 mg/M^3	5 mg/M^3	0.0 mg/M^3
Manganese	5 mg/M^3	5 mg/M^3	0.0 mg/M^3
Chromium	1 mg/M^3	1 mg/M^3	0.0 mg/M^3
Cadium	0.1 mg/M^3	0.05 mg/M^3	0.0 mg/M^3
Magnesium	15 mg/M^3	10 mg/M^3	0.0 mg/M^3

(4) Workman: Tom Truick, Sub-Weld Inert Gas Shield Welder 24 li... 1st position

Substances	1974 OSHA TLV	1974 ACGIH TLV	Results
Lead	0.2 mg/M^3	0.15 mg/M^3	0.0 mg/M^3
Iron oxide fume	10 mg/M^3	5 mg/M^3	1.21 mg/M^3
Nickel	1 mg/M^3	1 mg/M^3	0.13 mg/M^3
Zinc	5 mg/M^3	5 mg/M^3	0.24 mg/M^3
Manganese	5 mg/M^3	5 mg/M^3	0.17 mg/M^3
Chromium	1 mg/M^3	1 mg/M^3	0.01 mg/M^3
Cadmium	0.1 mg/M^3	0.05 mg/M^3	0.00 mg/M^3
Magnesium	15 mg/M^3	10 mg/M^3	0.00 mg/M^3

(5) Workman: Mr. Marsh, Butt Welder Lines 2 & 3

Substances	1974 OSHA TLV	1974 ACGIH TLV	Results
Lead	0.2 mg/M^3	0.15 mg/M^3	0.0 mg/M^3
Iron oxide fume	10 mg/M^3	5 mg/M^3	0.65 mg/M^3
Nickel	1 mg/M^3	1 mg/M^3	0.0 mg/M^3
Zinc	5 mg/M^3	5 mg/M^3	0.0 mg/M^3
Manganese	5 mg/M^3	5 mg/M^3	0.1 mg/M^3
Chromium	1 mg/M^3	1 mg/M^3	0.0 mg/M^3
Cadmium	0.1 mg/M^3	0.05 mg/M^3	0.0 mg/M^3
Magnesium	15 mg/M^3	10 mg/M^3	0.0 mg/M^3

(6) Workman: Mr. Mondella, Submerged arc welder

Substances	1974 OSHA TLV	1974 ACGIH TLV	Results
Total particulate (non-respirable)	15 mg/M^3	10 mg/M^3	3.78 mg/M^3
Fluorides	2.5 mg/M^3	2.5 mg/M^3	0.0 mg/M^3

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