

July 14, 1976

To: Industrial Hygiene Mailing List
From: C. Wayne Simpson
Subject: Materials of Occupational Health interest in
the Steel Industry

The attached material was prepared by the AISI Committee on Industrial Hygiene and forwarded to the Council on Wage and Price Stability. This material was prepared to assist the council in its assessment of the impact of Federal regulations on the steel industry.

You may find this information to be a useful "shopping list" of materials of possible exposure in steel operations.

Wayne

CWS:kr

Attachments

cc: J. L. Howard
D. P. Klaiber
R. D. Tranter



ARM 1282

American Iron and Steel Institute
1000 16th Street, N.W.
Washington, D.C. 20036

STENMARK
PRESIDENT

June 10, 1976

Roy Nierenberg, Esq.
Assistant General Counsel
Council on Wage and Price Stability
New Executive Office Building
726 Jackson Place, N. W.
Washington, D. C. 20506

Dear Roy:

In accordance with our commitment in our meeting on May 3 and our conversation of today, we are enclosing the following described listing.

The list includes those substances among 400 included in the OSHA Standards Completion Project (SCP) for which the new standards will have impact on the steel industry. We have divided the list into 3 degrees of impact.

As you are aware, the standards developed through SCP may or may not change the TWA values, but in most cases establish "an action level" which is 1/2 or less of the TWA level and at which point various actions would be required; e.g., monitoring, medical surveillance, personal protective equipment, etc.

Almost all health standards being developed contain provisions for monitoring, reporting, medical surveillance and, in most cases, requirements for personal protective equipment or clothing and hygiene facilities.

As stated previously, standards for several of the substances are in process and many are scheduled for release in the next 2 years.

We hope the list will be helpful to you and if you have questions or need additional information, please call John Janous or me.

Very truly yours,

John H. Stenmark
John H. Stenmark

JHS:leh
Enclosures
cc: J. F. Collins
J. A. Janous



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OSHA STANDARDS IMPACT

29 C.F.R. 1910.1000 Z-1, Z-2, Z-3

MATERIALS USED OR EVOLVED IN STEELMAKING

1. Of Substantial Impact - Estimated to at least minimally exceed probable "action level" assignment, requiring routine monitoring, medical examinations, etc.

<u>MATERIAL</u>	<u>AREA OF POSSIBLE EXPOSURE</u>
Ammonia	- galvanizing lines
Arsenic	- raw material impurity
Asbestos	- bag houses, insulation, welding rod
Benzene	- coke by-products
Calcium Oxide	- refractories, sinter oxide, flux
Carbon Monoxide	- blast furnaces, coke plant
Chromium	- ladle furnace additions
Chromic Acid	- tinning, galvanizing
Coal Dust	- coal handling
Coal Tar Pitch Volatiles	- coking, by-products, blast furnace, BOF relining, roofing, paving, foundry
Copper	- scrap melting, welding
Fluorides	- teeming, HF pickling, mold washes
Graphite	- blast furnaces, BOF, foundries
Hydrogen Chloride	- pickle lines
Hydrogen Cyanide	- coke by-products, foundry, blast furnaces, plating lines
Hydrogen Sulphide	- blast furnaces, coke plant
Iron Oxide Fume	- furnaces, burning
Lead	- scrap burning, zinc pigs, patenting, wire drawings, additions
Manganese	- furnace additions
Mercury	- instrument shop
Methyl Ethyl Ketone	- paint shop, cleaning generally

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Methylene Chloride	- solvent
Molybdenum	- ladle addition, grease
Naptha (coal tar)	- coke by-products
Napthalene	- coke by-products
Nickel	- furnace additions
Nitrogen Dioxide	- welding, nitric acid pickling, diesel exhaust, coke ovens
Oil Mist	- rolling, cutting
Ozone	- welding, electric motor rooms
Petroleum Distillates	- solvents, general use
Phenol	- coke plant
Silica	- refractory
Silicates	- refractory
Sodium Hydroxide	- cleaners, coke by-products
Stoddard Solvent	- cleaning
Sulfur Dioxide	- blast furnaces, coke plants, fuel combustion
Sulfuric Acid	- pickling
Tin	- tinning lines
Titanium Dioxide	- welding, furnace addition, painting
Toluene	- paint shop, coke by-products
III-Trichloroethane, Methyl Chlorofene	- solvent
Trichloroethylene	- solvent
Xylene	- paint shop, coke by-products
Zinc Oxide	- burning

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MATERIALS USED OR EVOLVED IN STEELMAKING

2. Minor Impact - Found in some plants, exposure probably will not exceed action level.

<u>MATERIAL</u>	<u>AREA OF USE</u>
Acrolein	- foundries, diesel exhaust
Acetaldehyde	
Antimony	- ladle additions
Arsine	- pickle lines, blast furnaces
Carbon Disulfide	- coking
Chlorodiphenyl 42%	- electrical maintenance, cleaning transformers
Chlorodiphenyl 54%	- electrical maintenance
Ethyl Acetate	- paint shop
Ethyl Benzene	- paint shop
Formaldehyde	- foundry
Methyl Acetate	- paint shop
Methyl acetylene propadiene mixture (MAPP)	- burning
Methylene Bisphenyl Isocyanate	- foundry binder
Phosgene	- chlorinates, solvent decomposition
Propane	- fuel
Turpentine	- paint shop
Vanadium	- coke by-products - furnace addition
Zirconium	- foundry

OSHA STANDARDS IMPACT

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MATERIALS USED OR EVOLVED IN STEELMAKING

- 3.. Improbable Impact - Found at some locations, employee exposure believed to be very minimal.

<u>MATERIAL</u>	<u>AREA OF USE</u>
Acetone	- cleaner - oxygen plant
Barium	- water treatment - biocide
Butyl Acetate	- paint shop
Butyl Alcohol	- paint shop
Butyl Glycidyl Ether	- paint shop
Carbon Dioxide	
Chlorine Dioxide	- water treatment plant
O-dichlorobenzene	- 'DOWN THERM'
Ethanolamines	- annealing gas treatment
Ethyl Silicate	- refractories
Hydrazine	- water treatment
Lithium	- grease
Magnesium Oxide	- desulfurizing
Octane	- fuel
Oxalic Acid	-
Phosphoric Acid	-
Pyridine	- foundry binder catalyst