



ACTION ALERT

THE REFRACTORIES INSTITUTE
1102 OLIVER PLAZA
PITTSBURGH, PA. 15222

December 20, 1977

To the Official Representatives of each Member Company:

Subject: Suspected carcinogens used in
refractories operations

Attached is your copy of a composite listing of the initial reports from members of the Safety and Health and Toxic Substances committees of chemical substances currently being used in refractories operations suspected by OSHA of posing a potential occupational carcinogenic risk. This preliminary list is furnished to you in order that you may check it against chemical substances your company uses, and evaluate what would happen to your operations under proposed OSHA regulations.

The presence of a chemical substance on this list does not necessarily mean that it would be automatically classified as a Category I or II substance and therefore, subject to the stringent controls outlined in the *Federal Register* notice discussed in my letter to you dated November 15, 1977. Nor, unfortunately, does the absence of a substance from this list mean that it could not be so classified at some future time.

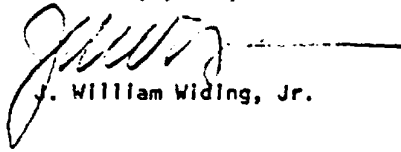
As you can see from looking at the comments on the attached sheets which are summaries of data from NIOSH Publication 77-149, there is considerable evidence that many of these chemical substances may, under certain conditions, cause tumors in animals, humans, or both. Such substances are therefore technically classified as suspect carcinogenic or neoplastic agents. These are the substances that apparently are most likely to be classified initially as Category I or II substances. Please note that the proposed regulations do not distinguish between laboratory or production use of a substance. The same controls would apparently be required in either case, although the number of people affected--and the resulting impact--could, of course, vary greatly. Substances for which comments do not indicate any carcinogenic or neoplastic toxic effects might--for present purposes--be considered of secondary importance. This is not to say such substances are not toxic in other ways; indeed, many are quite toxic and already have had exposure standards established. However, by NIOSH's definition, every substance on this list is at least a suspect carcinogen.

The crux of our problem is to determine what the impact of possible Category I or II classifications for these suspected carcinogens would be on the industry's operations. If you are using any of these substances classified as having neoplastic or carcinogenic effects and if the imposition of the strict controls outlined in the attachment to my November

-2-

letter would have a substantially adverse effect to your company, we would like to know about it as quickly as possible so that we can consider using those facts in support of a statement of our position to OSHA. If you have any information or questions, please call me at your earliest convenience.

Sincerely yours,



J. William Widing, Jr.

JWW/hm
Encl.

cc: Safety and Health Committee
Toxic Substances Subcommittee

G-0004'

A PRELIMINARY LIST OF CHEMICAL SUBSTANCES
LISTED IN NIOSH PUBLICATION 77 - 149
REPORTED BY SOME REFRACTORIES PRODUCERS

NIOSH NO	PRIME NAME OF COMPOUND (with alternates mentioned)	RANK CODE	COMMENTS
AH52500	Acetic Acid, (Ethylenedinitrilo) Tetra-.Trisodium Salt Syn: EDTA Trisodium Salt	0000	Status: Currently tested by NCI for carcinogenicity by standard bioassay protocol as of April 1976
AI52500	Acetic Acid, Lead (2+) Salt	4111	Toxic Effects: Carcinogenic
AJ07000	Acetic Acid, Nitrilotri- Trisodium Salt, Monohydrate	----	Status: Currently tested by NCI for carcinogenicity by standard Bioassay Protocol as of April 1976
AL31500	Acetone	0000	Status: Undergoing NCI testing 4/76
CA93500	Anthracene(coaltar pitch component)	4112	Toxic Effects: Carcinogenic, Neoplastic
CG36750	Arsenious Acid, Monosodium Salt	0000	Review: Carcinogenic determination: human suspected
CI64750	Asbestos	4103	Toxic Effects: Carcinogenic Review: Carcinogenic determination-human positive
CY14000	Benzene	7222	Toxic Effects: Carcinogenic, Neoplastic Review: Carcinogenic determination: human suspected
DA64750	Benzene, Nitro	0000	
DV77000	2-Biphenylol, Sodium Salt Syn: Dowicide	----	
ED45500	Boric Acid Syn: Orthoboric Acid	3101	Toxic Effects: Neoplastic
EL64750	2-Butanone Syn: Ethyl Methyl Ketone; Ketone, Ethyl Methyl; Ethyl Ketone, Methyl	0000	
FF66500	Carbon Disulfide	0000	Status: Undergoing NCI testing 4/76
FG49000	Carbon Tetrachloride	4313	Toxic Effects: Carcinogenic, Neoplastic

G-00048

A PRELIMINARY LIST OF CHEMICAL SUBSTANCES (continued)

Page 2

	Carbowax 1000		see: TQ35000
FJ57000	Cellulose, Carboxymethyl Ether	0000	Status: Undergoing NCI testing 4/76
FJ59500	Cellulose, Carboxymethyl Ether, Sodium Salt Syn: Carboxymethylcellulose, sodium salt; sodium carboxy- methyl cellulose	4101	Toxic Effects: Neoplastic
	Chromate of soda		See: GB29550
GB28500	Chromic acid, Chromium (3+) salt (3:2)	----	IARC Review: carcinogenic determination: animal positive Toxic Effects: Neoplastic
GB29400	Chromic acid, Dipotassium salt	3111	Toxic Effects: Neoplastic IARC Review: carcinogenic determination: animal suspected
GB29550	Chromic acid, Disodium salt Syn: Chromate of soda	0000	IARC Review: Indefinite
GB40250	Chromite	----	Toxic Effects: Neoplastic IARC Review: carcinogenic determination: animal positive
GB42000	Chromium	4102	Toxic Effects: Neoplastic IARC Review: carcinogenic determination: animal suspected
GB64750	Chromium (III) oxide (2:3)	4102	Toxic Effects: Carcinogenic IARC Review: carcinogenic determination: animal suspected Status: NIOSH candidate subject for hazard review (carcinogenesis)
GB66500	Chromium (VI) oxide (1:3)	7202	Toxic Effects: Carcinogenic IARC Review: Indefinite
GF85750	Coal tar, aerosol	----	Toxic Effects: Neoplastic
GG11090	Cobalt (II) nitrate (1:2)	2101	Toxic Effects: Neoplastic
GG28000	Cobalt (2+) oxide	4101	Toxic Effects: Carcinogenic
JH48000	1,3,2-Dioxathiolane 2,2-dioxide	----	Toxic Effects: Neoplastic

G-00049

A PRELIMINARY LIST OF CHEMICAL SUBSTANCES (continued)

Page 3

JJ78000	Diphenyl Amine	0000	
	EDTA Trisodium Salt		See: AH52500
KJ29750	Ethane, 1,1,1-Trichloro Syn: 1,1,1-Trichloroethane	0000	Status: Undergoing NCI testing 4/76
KJ85750	Ethanol, 2-Butoxy Syn: Ethylene Glycol, Monogutyl Ether	0000	
KQ63000	Ethyl Alcohol Syn: Ethanol	3112	Toxic Effects: Carcinogenic
KV03500	Ethylene, Chloro-, Polymer Syn: Polyvinyl Chloride	4101	Toxic Effects: Neoplastic IARC Review: Indefinite
KV36750	Ethylenediamine, N,N'-Diethyl- Dinitroso	----	Toxic Effects: Carcinogenic
	Ethylene Glycol, Monobutyl Ether		See: KJ85750
KX24500	Ethylene Oxide	----	IARC Review: Indefinite
LM54250	Fluorescein, Disodium Salt	4101	Toxic Effects: Neoplastic
MN47250	Hexamethylenetetramine	4101	Toxic Effects: Neoplastic
N074000	Iron (III) Oxide	0000	IARC Review: Indefinite
N085000	Iron (II) Sulfate (1:1)	3101	Toxic Effects: Neoplastic
OM49000	Magnetite	3101	Toxic Effects: Neoplastic
OV45500	Mercury	4101	Toxic Effects: Neoplastic
OZ50750	Methacrylic Acid, Methyl Ester	4101	Toxic Effects: Carcinogenic
	Mylar		See: TQ79000
	Nitriiotriacetic Acid		See AJ01750

G-00050

A PRELIMINARY LIST OF CHEMICAL SUBSTANCES (continued)

Page 4

RA12250	Nitrous Acid, Sodium Salt	0000	Status: Undergoing NCI testing 4/76
RG22750	9-Octadecenoic Acid, (Z) Syn: Oleic Acid	2101	Toxic Effects: Neoplastic
	Oleic Acid		See: RG22750
RK43750	Olivine	3101	Toxic Effects: Neoplastic
	Orthoboric Acid		See: ED45500
SE71750	Petroleum	3121	Toxic Effects: Neoplastic
SE73500	Petroleum Asphalt Syn: Asphalt (steam refined)	----	Toxic Effects: Neoplastic
SF71750	Phenanthrene (coal tar pitch component)	3121	Toxic Effects: Neoplastic
SJ33250	Phenol	3121	Toxic Effects: Carcinogenic Status: Undergoing NCI testing 4/76
SM63000	Phenol, Pentachloro Syn: Dowicide G	3101	Toxic Effects: Neoplastic
TC95000	Phosphoric Acid, Trisodium Salt	0000	
TQ33250	Polyethylene	4202	
TQ35000	Polyethylene Glycol Syn: Carbowax	3101	Toxic Effects: Carcinogenic
TQ79000	Polyethylene Terephthalate film Syn: Mylar	----	Toxic Effects: Neoplastic
TR15800	Polynuclear Aromatic Hydrocarbons	----	
	Polystyrene		See WL64750
TR81000	Polyvinyl Alcohol Syn: PVA	----	Toxic Effects: Carcinogenic

G-00051

A PRELIMINARY LIST OF CHEMICAL SUBSTANCES (continued)

Page 5

	Polyvinyl Chloride		See:KV03500
	PVA		See: TR81000
	Quartz		See: VV73300
VU24500	Serpentine	3101	Toxic Effects: Neoplastic
VV73300	Silica, Crystalline-Quartz Syn: Quartz; Silica Flour (powdered crystalline silica); Silicon Oxide,DI-(Sand)	----	Toxic Effects: Neoplastic
	Silica Flour (powdered crystalline silica)		See: VV73300
	Silicon Oxide,DI-(Sand)		See: VV73300
VW35000	Silver	4101	Toxic Effects: Neoplastic
VY80500	Sodium Azide	0000	Status: Undergoing NCI testing 4/76
	Sodium Bisulfate		See: WT111100
VZ47250	Sodium Chloride	0000	Status: Undergoing NCI testing 4/76
	Sodium Chromate		See: GB29550
WI44600	Stearic Acid, Methyl Ester	3101	Toxic Effects: Neoplastic
WL64750	Styrene Polymer	4101	Toxic Effects: Neoplastic
WT111100	Sulfuric Acid, Monosodium Salt Syn: Sodium Bisulfate		
WW50750	Tannic Acid	4101	Toxic Effects: Carcinogenic IARC Review: carcinogenic determination: animal positive
XR22750	Titanium Oxide Syn: Titanium Dioxide	0000	Status: Undergoing NCI testing 4/76
	Titanium Dioxide		See XR22750
XS52500	Toluene	0000	
YR62500	Urea	0000	Status: Undergoing NCI testing 4/76

G-00052