PLAINTIFF'S EXHIBIT
UC-1882

C&P OCCUPATIONAL HEALTH TEAM

LISTING OF POTENTIAL CARCINOGENS

JULY 1, 1978

2-Acetylaminofluorene

Acrylonitrile (a) (b)

4-Aminodiphenyl

Asbestos (a) (b)

Benzene (a) (b)

Benzidine

Benzidine-Derived Dyes

Bis-2-chloroethyl ether (Dichloroethyl Ether: CHLOREX) (a)

Bis-2-chloroethyl-2-naphthylamine

Bis-chloromethyl ether

Carbon tetrachloride (a)

Chloroform (a)

Chloroprene

Chromates of Lead & Zinc

Chromium-6 Carcinogenic Compounds (including bis-Triphenyl Silyl Chromate)

3,3' -Dichlorobenzidine (and salts)

Diethyl sulfate (a)

Diisopropyl sulfate (b)

Dimethyl sulfate

Ethylene Thiourea

4-Dimethylaminoazobenzene

1,4-Dioxane (a)

Epichlorohydrin (a)

Epoxy Resin ERL 2774 (a) (Diglycidyl Ether of Bisphenol A)

Epoxy Resin ERL 4205 (a) (Bis (2,3-Epoxycyclopentyl) Ether)

Epoxy Resin ERL 4206 (Vinylcyclohexene dioxide) (a)

Epoxy Resin ERL 4234 3-(3',4' - Epoxycyclohexyl) 8,9-epoxy-2,4-dioxaspiro (5,5-undecane) (a)

Ethylene dibromide

Ethylene dichloride (a)

Ethyleneimine (Aziridine) (b)

Methyl chloromethyl ether

α-Naphthylamine (b)

β-Naphthylamine

Neopentyl glycol diacrylate (a)

Nickel, Inorganic (a)

4-Nitrodiphenyl

2-Nitropropane

Nitrosoamines (b)

N-Nitrosodimethyl-amine (b)

Perchloroethylene (a) (Tetrachloroethylene)

Polychlorinated Biphenols (b)

Polycyclic Aromatic Hydrocarbons (a) (b) (Fuel Oil Residues; Quench Oil, pitches; tars, Dripolenes A, B, and C, Resin B Condensates)

β-Propiolactone

Toluene-2,4-diamine (a)

Trichloroethylene (a)

Vinyl Chloride (a)

(a) C&P Product, Raw Material, or Process Intermediates

(b) Possible Contaminant in C&P products or operations

W. C. Kuryla/gc

July 11, 1978

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C/P OCCUPATIONAL HEALTH TEAM
LISTING OF POTENTIAL CARCINOGENS

SUBSTANCE	CATEGORIES*	EXPOSURE LIMITS		
		ACGIH TLV	NIOSH PROPOSAL OR OSHA STANDARD**	C/P STANDARD OR GUIDELINE
2-Acetylaminofluorene	CX		NE (c)	NE; cf Regulation 29 CFR 1910.1014
Acrylonitrile***	A	20 ppm	2 ppm (d)	2 ppm
4-Aminodiphenyl	AX	NE	NE (c)	NE; cf Regulation 29 CFR 1910.1011
Asbestos***	AX	5 fibers/cc > 5μm long	2 fibers/cc (c) > 5 mμlong	2 fibers/cc > 5 mμlong cf Regulation 29 CFR 1910.1001
Benzene***	AX	10 ppm	1 ppm (c)	1 ppm; NSOOC cf Regulation 29 CFR 1910.1028
Benzidine	AX	NE	NE (c)	NE; cf Regulation 29 CFR 1910.1010
Benzidine-Derived Dyes	C	---	---	NE (Hull, 4/12/78)
Bis-2-chloroethyl ether (Dichloroethyl Ether: CHLOREX)***	C	5 ppm		0.1 ppm

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***
C and P Product, Raw Material or Process Intermediate

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a = NIOSH Criteria Document
b = NIOSH Alert
c = OSHA Permanent Standard
d = OSHA Emergency Temporary Standard

**** Possible contaminant in C and P products or processes

NSOOC = No skin or oral contact
NE = No exposure or contact by any route

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Union Carbide trial exhibit UC-1882: C&P Occupational Health Team Listing of Potential Carcinogens, with E. Z. Hu...
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SUBSTANCE	CATEGORIES*	EXPOSURE LIMITS		
		ACGIH TLV	NIOSH PROPOSAL OR OSHA STANDARD**	C/P STANDARD OR GUIDELINE
Bis-2-chloroethyl-2-naphthylamine	A			NE
Bis-chloromethyl ether	AX	1 ppb	NE (c)	NE; cf Regulation 29 CFR 1910.1008
Carbon tetrachloride***	C	10 ppm	2 ppm (b) 10 ppm (c)	2 ppm
Chloroform***	C	10 ppm	2 ppm (a) 50 ppm (c)	2 ppm
Chloroprene	B	25 ppm	1 ppm (b) 25 ppm (c)	1 ppm
Chromates of Lead and Zinc (as Cr)	B	0.05 mg/m^3 (as Cr)	---	0.05 mg/m^3 (as Cr)
Chromium-6 Carcinogenic Compounds (Including Bis-Triphenyl Silyl Chromate***)	B	---	1 $\mu g/m^3$	1 $\mu g/m^3$
3-3'-Dichlorobenzidine (and salts)	CX		NE (c)	NE; cf Regulation 29 CFR 1910.1007
Diethyl sulfate***	C			1 ppm; NSOOC

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C/P OCCUPATIONAL HEALTH TEAM
LISTING OF POTENTIAL CARCINOGENS

SUBSTANCE	CATEGORIES*	EXPOSURE LIMITS		
		ACGIH TLV	NIOSH PROPOSAL OR OSHA STANDARD**	C/P STANDARD OR GUIDELINE
Diisopropyl sulfate****	C			1 ppm; NSOOC
Dimethyl sulfate	C	1 ppm		1 ppm; NSOOC
4-Dimethylaminoazo-benzene	CX		NE (c)	NE; cf Regulation 29 CFR 1910.1015
1,4-Dioxane***	C	50 ppm	1 ppm (a)	cf letter Hull/Montagna, 12/16/77
Epichlorohydrin***	C	5 ppm	2 mg/m^3 (a) 5 ppm (c)	0.5 ppm
Epoxy Resin ERL 2774*** (Diglycidyl Ether of Bisphenol A; 2,2-Bis(ρ-Glycidyloxy-phenyl)propane)	C	---	---	To be determined, NSOOC
Epoxy Resin ERL 4205*** (Bis(2,3-Epoxycyclo-pentyl)Ether)	C	---	---	To be determined, NSOOC

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WCK/7-1-78

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C/P OCCUPATIONAL HEALTH TEAM

LISTING OF POTENTIAL CARCINOGENS

SUBSTANCE	CATEGORIES*	EXPOSURE LIMITS		
		ACGIH TLV	NIOSH PROPOSAL OR OSHA STANDARD**	C/P STANDARD OR GUIDELINE
Epoxy Resin ERL 4206*** (Vinylcyclohexene dioxide)	C	10 ppm		10 ppm; NSOOC
Epoxy Resin ERL 4234*** 3-(3',4'-Epoxycyclo-hexyl)8,9-epoxy-2, 4-dioxaspiro(5,5-undecane)	C			1 ppm; NSOOC
Ethylene dibromide	C	20 ppm	1 mg/m^3 (a)	0.1 ppm
Ethylene dichloride***	C	50 ppm	5 ppm (a)	5 ppm
Ethyleneimine**** (Aziridine)	CX		NE (c)	NE; cf Regulation 29 CFR 1910.1012
Ethylene Thiourea	C	---	---	NE (Hull, 4/12/78)
Methyl chloromethyl ether	AX		NE (c)	NE; cf Regulation 29 CFR 1910.1006
α-Naphthylamine****	BX		NE (c)	NE; cf Regulation 29 CFR 1910.1004

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C/P OCCUPATIONAL HEALTH TEAM
LISTING OF POTENTIAL CARCINOGENS

SUBSTANCE	CATEGORIES*	EXPOSURE LIMITS		
		ACGIH TLV	NIOSH PROPOSAL OR OSHA STANDARD**	C/P STANDARD OR GUIDELINE
β-Naphthylamine	AX	NE	NE (c)	NE; cf Regulation 29 CFR 1910.1009
Neopentyl glycol*** diacrylate	C			NSOOC
Nickel, Inorganic***	B		15 μg/m^3 (a); 1 mg/m^3 (c)	1 mg/m^3; cf 29 CFR 1910.93
4-Nitrodiphenyl	AX	NE	NE (c)	NE; cf Regulation 29 CFR 1910.1003
2-Nitropropane	C	25 ppm	NE (b)	1 ppm; Peele Letter 6-30-77
Nitrosoamines****	C			NSOOC
N-Nitrosodimethylamine ****	CX		NE (c)	NE; cf Regulation 29 CFR 1910.1016
Perchloroethylene*** (Tetrachloroethylene)	C	100 ppm	50 ppm (a) 100 ppm (c)	50 ppm

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C/P OCCUPATIONAL HEALTH TEAM

LISTING OF POTENTIAL CARCINOGENS

SUBSTANCE	CATEGORIES*	EXPOSURE LIMITS		
		ACGIH TLV	NIOSH PROPOSAL OR OSHA STANDARD**	C/P STANDARD OR GUIDELINE
Polychlorinated Biphenyls ****	B, C	1 mg/m^3 42% Cl 0.5 mg/m^3 54% Cl	1 µg/m^3 (b); 0.5 mg/m^3 (c) 54% Cl	1 ug/m^3
β-Propiolactone	CX		NE (c)	NE; cf Regulation 29 CFR 1910.1013
Polycyclic Aromatic*** Hydrocarbons (Fuel Oil Residues; Quench Oil, pitches, tars, Dripolenes A, B, and C. Resin B Condensates)	A	200 µg/m^3		cf letters Hull/Guest, 3/3/75 Hull/Montagna, 10/76 Hull/Montagna, 12/21/77 NSOOC
Toluene-2,4-diamine***	C			0.1 ppm; NSOOC (Olin)
Trichloroethylene***	C	100 ppm	100 ppm TWA (a); 100 ppm 8 hr TWA (c)	25 ppm (Hull/Montagna, 3/11/78)
Vinyl chloride***	AX		1 ppm (c)	1 ppm; cf Regulation 29 CFR 1910.1017

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South Occupational Health Coordinators

Mr. J. P. Alexander	-	513
Mr. V. D. Dutcher	-	510
Mr. F. Garcia-Sharp	-	293
Mr. J. B. Leverton	-	515
Mr. J. L. Gary	-	519
Mr. L. T. Windel	-	526
Mr. J. O. Zimmerman	-	330

5/78



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UC 149-2

Southern OH - Coordinator
FYI Dan

KGT - File

INTERNAL CORRESPONDENCE

CHEMICALS AND PLASTICS

270 PARK AVENUE, NEW YORK, NEW YORK 10017

To (Name) Operations Managers
Market Area Managers
Plant Managers
R&D Directors
Engineering Directors
Distribution Directors

cc: Attached Distribution List

Date July 18, 1978

Originating Dept. SHARE - EP/OH

Floor Number 21

Answering letter date

Subject Updated C&P List of Potential Carcinogens

Attached is the up-to-date list of substances of interest to C&P which we have determined should be regarded as potential carcinogens and therefore handled accordingly. This replaces the previous list issued with our letter dated January 31, 1978. Several additions have been made, including certain chromium compounds and epoxy resins.

Permissible exposure limits and other information regarding these substances are contained in a separate detail document which will be sent to all Industrial Hygiene and Medical Departments, environmental protection and occupational health coordinators, technology managers, and other appropriate managers for all locations and functions. Others with a need to know may obtain a copy by contacting Dr. W. C. Kuryla, Technology Manager-Occupational Health, at the South Charleston Technical Center.

E Q Hull

E. Q. Hull, M. D.
Medical Director
Chemicals and Plastics

A E Montagna

A. E. Montagna
Operations Manager
Environmental Protection
and Occupational Health
Chemicals and Plastics

EQH/AEM/ad
Attachment

9443

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Additional Distribution

*C. R. Allenbach	Niag. Falls(Metals)
*R. C. Andrews	322 (H&A)
L. M. Baker	19
*F. D. Bess	511
*N. E. Bolton	4
*J. B. Browning	22
*T. J. Burke	781(BP)
*T. W. Carmody	22
*C. P. Carpenter	Mellon
R. G. Chenoweth	511
*R. J. Conkling	323(Linde)
*E. F. Cox	Mellon
*L. A. Crisorio	222
*J. M. Cwikla	358(Film)
*C. U. Dernehl	4
J. M. Fallon	21
*J. A. Fitzgerald	Jacksnvl.(APD)
*N. W. Gaines	511
*W. F. Gorham	312(98)
*D. E. Gould	312(Somvl.)
*R. E. Graebert	511
*R. A. Hardison	Parma(CPD)
*H. L. Haynes	22
*D. L. Heywood	21
*E. R. Homan	Mellon
*J. C. Hovious	511
*R. A. Howard	44(Elec.)
*E. Q. Hull	511
*R. F. Jensen	323(Linde)
*J. B. Johnson	511
*R. G. Jordan	OakRidge(Nuc.)
*R. T. Kramer	512
*W. C. Kuryla	511
*T. A. Lincoln	22
*M. G. Manetti	46
*J. D. Martin	510
*A. E. Montagna	21
*O. P. Mukheja	440(Toronto)
*R. E. Peele	511
*E. A. Piersall	250(Metals)
*T. P. Raby	312(51)
*J. A. Ring	19
C. D. Schmidt	29
T. N. Tackett	10
*A. G. Voress	21
*G. W. Wainwright	1200(Geneva)
*C. S. Weil	Mellon
*J. W. Whittlesey	46
*R. C. Wise	21
*V. A. Yarborough	44(Devel.)
R. L. Yelton	29
N. L. Zutty	29

*Additional detail document enclosed.

A. E. Montagna-7/18/78

BRB 0445