



UNION CARBIDE INTERNAL EXPOSURE STANDARDS LIST

BASED ON CARCINOGENICITY, TERATOGENICITY OR OTHER SIGNIFICANT TOXICITY

(See Reverse Side for Explanations and Definitions)

SUBSTANCE (CAS No.)	CARCINOGENICITY	TERATOGENICITY	OTHER SIGNIFICANT TOXICITY	EXPOSURE STANDARD FOLLOWED BY UNION CARBIDE (SOURCE)
2-Acetyl-amino- fluorene (53-96-3)	Suspect cancer agent	Teratogen		As Low As Practical (UCC)
Acrylic acid (79-10-7) 0.3 WT% IN REF. PROPIONIC ACID	TRACE AMOUNTS IN; TAR BOTTOMS MIXED ACIDS	<i>what about impurities in our acid?</i>	NOT LAB	2 ppm (UCC)
Acrylonitrile (107-13-1)	Known human carcinogen	Teratogen	:	2 ppm 10 ppm C (OSHA)
4-Aminodiphenyl (92-67-1)	Known human carcinogen	N.D.		As Low As Practical (UCC)
Asbestos (1332-21-4)	Known human carcinogen	(-) <i>which building of floor contains the asbestos? 428</i>	802 LAB VARIOUS PARTS AROUND THE PLANT STORES PACKING + GASKETS, TAPE, FIRE BLANKETS, WELD. SCREENS TOOL ROOM	10 Fibers/cc C 2 Fibers/cc >5 μ m long (OSHA)
2,2'-Azobis- isobutyronitrile (78-67-1)				0.5 ppm 2 ppm STEL (UCC)

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U. C. Corporate HERB
Accepted: 1 March 1982



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Benzene (71-43-2)	Known human carcinogen <i>DOES NOT APPEAR ON CERTIFICATE OF ANALYSIS</i>	Teratogen (See Footnote A) <i>How much in in the solvent used & recovery?</i>	<i>LAB</i> <i>1/4 PT</i>	10 ppm 25 ppm C 50 ppm/10 - min peak (OSHA)
Benzidine (92-87-5)	Known human carcinogen	N.D.		As Low As Practical (UCC)
Benzidine- derived dyes <i>O-Tolidine 119-93-7</i>	Known human carcinogens	N.D.	<i>LAB</i>	As Low As Practical (UCC)
Benzyl Chloride (100-44-7)	**	N.D. (R)		1 ppm (OSHA)
Bis-2-Chloro- ethyl ether (111-44-4)	**	N.D.		15 ppm C (Skin) (OSHA)
Bis-2-Chloro- ethyl-2-naphthyl- amine (494-03-1)	Known human carcinogen	N.D.		As Low As Practical (UCC)

Footnote: (A) Teratogenic only in presence of maternal toxicity
(R) Revision from previous list

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Bis-Chloromethyl ether (542-88-1)	Known human carcinogen	N.D.		As Low As Practical (UCC) (R)
Cadmium (7440-43-9)	Suspect cancer agent	Teratogen <i>all which had labels all labels Bldg?</i>	STORES, SOLDER ? BLDG 230	40 $\mu\text{g}/\text{m}^3$ * 200 $\mu\text{g}/\text{m}^3$ C (UCC)
Carbon tetra- chloride (56-23-5)	Suspect cancer agent	(-)	Embryotoxic	2 ppm* 4 ppm C (UCC)
Chlorodifluoro- methane (Fluorocarbon-22) (75-45-6)	**	Teratogen* <i>Bldg?</i>	STORES + RX POTTERS 5 to 6 125# DRUMS/YR NORTH OF BLDG 428	1000 ppm (ACGIH)
Chloroform (67-66-3)	Suspect cancer agent	Teratogen	LAB 16 L	2 ppm* 4 ppm C (UCC)
Chromium-6 compounds	Suspect cancer agents	** <i>PAINTS SANDYARD</i> 5905 4817 5970 5917 4805 5909	+ STORES SOUTH OF BLDG. 428	0.05 mg/m^3 (as Cr) (ACGIH)

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BRB 0491

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Di-Sec-butoxy- acetophenone (68109-57-9)	Suspect cancer agent*	N.D.		No skin or oral contact (UCC)
3,3'-Dichloro- benzidine (and salts) (91-94-1)	Suspect cancer agent(s)	N.D.		As Low As Practical (UCC)
Diethyl sulfate (64-67-5)	Suspect cancer agent	N.D.		1 ppm No skin or oral contact (UCC)
Diisopropyl sulfate (2973-10-6)	Suspect cancer agent (See Footnote A)	N.D.		1 ppm No skin or oral contact (UCC)
1,2-Dimethoxy- ethane (110-71-4)		Teratogen		10 ppm TWA *(Skin) 25 ppm STEL (UCC) (R)
Dimethyl- acetamide (127-19-5)	N.D.	Teratogen		10 ppm No skin contact (OSHA)

Footnote: (A) Limited evidence for carcinogenic potential in humans, but insufficient to conclude that the material is a known human carcinogen; i.e., is a suspect human carcinogen.
(R) Revision from previous list

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4-Dimethylamino- azobenzene (60-11-7)	Suspect cancer agent	Teratogen		No exposure* (OSHA)
Dimethyl formamide (68-12-2)	**	Teratogen*	LAB 12AT	10 ppm No skin contact (OSHA)
Dimethyl sulfate (77-78-1)	Suspect cancer agent	N.D.		0.1 ppm No skin or oral contact (ACGIH)
Dimethyl sulfoxide (67-68-5)	N.D.	Teratogen	LAB 1GAL	10 ppm* No skin contact (UCC)
1,4-Dioxane (123-91-1)	Suspect cancer agent	** <i>Is this still used as an inhibitor in chloroform?</i> (R)		50 ppm* No skin or oral contact (UCC)
N-Dodecyl mercaptan (112-55-0)				0.5 ppm (UCC)

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Dripolenes-A,B,C	Suspect cancer agents (See Footnote A)	N.D.		600 $\mu\text{g}/\text{m}^3$ No skin contact (UCC)
Epichlorohydrin (106-89-8)	Suspect cancer agent	N.D.		0.5 ppm (UCC)
Epoxy resin ERL-2774 (25068-38-6)	Suspect cancer agent	N.D.	SEE LETTER ATTACHED	10 ppm No skin or oral contact (UCC)
Epoxy resin ERL-4205 (2386-90-5)	Suspect cancer agent	N.D.		10 ppm No skin or oral contact (UCC)
Epoxy resin ERL-4206 (106-87-6)	Suspect cancer agent	N.D.		10 ppm No skin or oral contact (UCC)
Epoxy resin ERL-4234 (26616-47-7)	Suspect cancer agent	N.D.		10 ppm No skin or oral contact (UCC)

Footnote: (A) Standard based on suspected presence of
Polycyclic Aromatic Hydrocarbons

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BRB 0497

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2-Ethoxyethanol (CELLOSOLVE) (110-80-5)	N.D.	Teratogen		50 ppm C (UCC)
Ethylene dibromide (106-93-4)	Suspect cancer agent	**		0.1 ppm (UCC)
Ethylene dichloride (107-06-2)	Suspect cancer agent	(-) (R)	NOT LAB	5 ppm (UCC)
Ethyleneimine (151-56-4)	Suspect cancer agent	** (R)	Embryotoxic (R)	As Low As Practical (UCC)
Ethylene oxide (75-21-8)	Suspect cancer agent			5 ppm (UCC)
Ethylene thiourea (96-45-7)	Suspect cancer agent	Teratogen		As Low As Practical (UCC)

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2-Ethylhexyl acrylate (103-11-7)	Suspect cancer agent (See Footnote A)	N.D.		5 ppm (UCC)
Formaldehyde (50-00-0)	Suspect cancer agent	N.D.	LAB 2 PT	2 ppm (ACGIH)
Formamide (75-12-7)	N.D.*	Teratogen		20 ppm No skin contact (ACGIH)
Fuel oil residues	Suspect cancer agents (See Footnote B)	N.D.		As Low As Practical (UCC)
Hexafluoro- acetone (684-16-2)	N.D.	Teratogen		0.1 ppm No skin contact (ACGIH)
Hydrazine (302-01-2)	Suspect cancer agent	(-)	LAB 500 GM	1 ppm* (Skin) (OSHA)

Footnote: (A) Based on chronic skin painting study: To be reviewed on completion of Inter-Industry Acrylate Committee Chronic Toxicity Study.
(B) Standard based on suspected presence of Polycyclic Aromatic Hydrocarbons

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Hydrogen Sulfide (7783-06-4)		** (R)	1 LECTURE BOTTLE Chemical LAB Asphyxiant	10 ppm (OSHA)
Itaconic Acid (97-65-4)				5 mg/m ³ (UCC)
Lead - SANDYARD PAINTS (7439-92-1) B-5905 4817 5970 5917 5909	(-) LEAD OXIDE 10 LB ACETATE 2 LB LEAD TETRACETATE 1200GB (IN LAB)	Teratogen LAB <i>Paints?</i>	1000 PPM SOLUTION 1 PT LEAD NITRATE 1 LB LEAD CARBONATE 1/2 LB METAL IN STORES	50 ug/m ³ 30 ug/m ³ Action Level (OSHA)
Mercury Alkyl Compounds	LAB	Teratogens*		0.01 mg/m ³ (as Hg) (ACGIH)
Mercury, All compounds except Alkyl	METAL 4 ML CHLORIDE 1 LB THIOCYANATE 1 LB NITRATE 1 LB OXIDE 1/4 LB	LAB?	METAL IN INS. SHOPS Bldg? 230	0.05 mg/m ³ (as Hg) (ACGIH)
2-Methoxyethanol (Methyl CELLOSOLVE R) (109-86-4)	LAB 55 GAL	Teratogen <i>Stores?</i> NORTH OF BLDG 428		10 ppm TWA(Skin)* 25 ppm STEL (UCC) (R)

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Methyl chloro- methyl ether (107-30-2)	Known human carcinogen	N.D.		OSHA Standard
4,4-Methylene- dianiline (101-77-9)	Suspect cancer agent	N.D.		0.1 ppm No skin or oral contact (ACGIH)
1-Naphthylamine (134-32-7)	**	N.D.		OSHA Standard
2-Naphthylamine (91-59-8)	Known human carcinogen	N.D.		OSHA Standard
Neopentyl glycol diacrylate (2223-82-7)	Suspect cancer agent	N.D.		No skin or oral contact (UCC)
Nickel, Inorganic Compounds	Suspect cancer agents	LAB	NICKEL CARBONIDE 4 OZ NI ACETATE 1 LB NI AMM. SULFATE 1 LB NI SULFATE SOLUTION 1 PT	1 mg/m ³ (OSHA)

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UNION CARBIDE INTERNAL EXPOSURE STANDARDS LISTBASED ON CARCINOGENICITY, TERATOGENICITY OR OTHER SIGNIFICANT TOXICITY

(See Reverse Side for Explanations and Definitions)

SUBSTANCE (CAS No.)	CARCINOGENICITY	TERATOGENICITY	OTHER SIGNIFICANT TOXICITY	EXPOSURE STANDARD FOLLOWED BY UNION CARBIDE (SOURCE)
Nitric Oxide (10102-43-9)			STORES BLDG 126 Chemical Asphyxiant	25 ppm (OSHA)
Nitrobenzene (98-95-3)		N.D. (R)	Chemical Asphyxiant	1 ppm (Skin) (OSHA) (R)
4-Nitrodiphenyl (92-93-3)	Known human carcinogen	N.D.		No exposure* (OSHA)
2-Nitropropane (79-46-9)	Suspect cancer agent	** check paint and adhesives (see attached highlighted sheet)		25 ppm* (OSHA)
N-Nitrosoamine compounds	Suspect cancer agents*			No skin or oral contact (UCC)
N-Nitroso- dimethylamine (62-75-9)	Suspect cancer agent	(-) (R)	Embryotoxic (R)	OSHA Standard

Footnote: (R) Revision from previous list

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(See Reverse Side)

NOTES OF EXPLANATION:

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(b) Entries marked with a double asterisk (**) indicate they are under continual review because of a current deficiency of relevant credible data.
(c) "N.D." indicates that information has not been located to allow a decision on carcinogenic or teratogenic potential.
(d) The symbol (-) indicates that the available evidence is sufficient to determine that a material does not cause a given effect.

DEFINITIONS:

1. Known Human Carcinogen means a substance for which there is sufficient credible evidence to determine that the material has caused cancer in humans.
2. Suspect Cancer Agent means a substance for which there is credible scientific evidence, based on animal and other related studies, that the material is carcinogenic in laboratory animals, but for which there is insufficient evidence that the substance causes cancer in man.
3. Teratogen means a chemical substance or physical agent which causes abnormalities in structural and/or functional development during gestation.

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N-Nitroso-N-Phenylhydroxyl-amine (148-97-0)	Suspect cancer agent			*
Perchloro-ethylene (127-18-4)	**	(-)		50 ppm (ACGIH)
Polychlorinated biphenyls (PCB's)	Suspect cancer agents	** <i>location?</i> SEE ATTACHMENT	Embryotoxic IN TRANSFORMERS	1 $\mu\text{g}/\text{m}^3$ 3 $\mu\text{g}/\text{m}^3$ C* No skin contact (UCC)
B-Propiolactone (57-57-8)	Suspect cancer agent	N.D.		OSHA Standard
Propylene oxide (75-56-9)				20 ppm 100 ppm STEL (UCC)
Pyrolysis fuel oil	Suspect cancer agent	N.D.		200 $\mu\text{g}/\text{m}^3$ 600 $\mu\text{g}/\text{m}^3$ C* No skin contact (UCC)

Footnote: (A) Standard based on suspected presence of Polycyclic Aromatic Hydrocarbons

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(See Reverse Side for Explanations and Definitions)

SUBSTANCE (CAS No.)	CARCINOGENICITY	TERATOGENICITY	OTHER SIGNIFICANT TOXICITY	EXPOSURE STANDARD FOLLOWED BY UNION CARBIDE (SOURCE)
Quench oil	Suspect cancer agent	N.D.		200 $\mu\text{g}/\text{m}^3$ 600 $\mu\text{g}/\text{m}^3$ C* No skin contact (UCC)
Radiation	Known human carcinogen	Teratogen*		0.5 REMS During Pregnancy 5 REMS-Equiv./yr (NCRP Report 39, 1971) (R)
Resin B condensates	Suspect cancer agents	N.D.		200 $\mu\text{g}/\text{m}^3$ 600 $\mu\text{g}/\text{m}^3$ C* No skin contact (UCC)
2,3,7,8-Tetra- chlorodibenzo- p-Dioxin (TCDD) (1746-01-6)	Suspect cancer agent	Teratogen		No exposure* (UCC)
Tetramethylurea (632-22-4)	N.D.	Teratogen		No exposure* (UCC)
Toluene-2,4- diamine (95-80-7)	Suspect cancer agent	N.D.		0.1 ppm* No skin or oral contact

Footnote: (A) Standard based on suspected presence of
Polycyclic Aromatic Hydrocarbons
(R) Revision from previous list

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BRB 0511

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Trichloro- ethylene (79-01-6)	**	(-)		50 ppm (ACGIH)
Vinyl Chloride (75-01-4)	Known human carcinogen	Teratogen*		(UCC) 1 ppm 5 ppm/15 min C (OSHA)

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INTERNAL
CORRESPONDENCE

UNION CARBIDE CORPORATION OLD RIDGEBURY ROAD, DANBURY, CT 06817

To (Name)
Division
Location
Area

HOLDERS OF THE CORPORATE
OCCUPATIONAL HEALTH MANUAL

Date

May 28, 1982

Originating Dept.

Area

Copy to

Subject

The attached UCC Internal Exposure Standards List is for inclusion in your Corporate Occupational Health Manual. The list is essentially the same as I transmitted on February 9, 1982, with some changes made based on feedback received from you... Changes from the February list are noted with an "R". Please address any questions regarding the list to Norm Gaines.

The Health Effect Review Board is sponsoring a review of the issues surrounding this list - its purpose, uses, and contents. Representatives from the GOHC are participating in this review, and you will be kept advised of its progress.

Very truly yours,


A. G. Voress

AGV/pob