

DPMC EXPOSURE GUIDELINE

PREPARED BY THE INDUSTRIAL
HYGIENE DEPARTMENT
APRIL 1986

LAM 027253

ABS-008757

CHBT8501101
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DPMC INDUSTRIAL HYGIENE EXPOSURE GUIDELINES

JANUARY 1985

Basis

Acceptable levels of employee exposure to chemical substances have been established in recent years by various regulatory and scientific groups. This includes the Occupational Safety and Health Administration, (OSHA); the American Conference of Governmental Industrial Hygienists, (ACGIH); and the National Institute for Occupational Safety and Health (NIOSH). Recommendations on acceptable levels of employee exposure for individual chemical substances often vary between these groups due to 1) differences in data interpretation, or 2) a review of new health hazard information not previously considered. Where existing acceptable limits of exposure are determined to be inadequate, Shell may establish a Shell Internal Limit, for example, epichlorohydrin.

To provide an updated listing of recommended acceptable limits of employee exposure, the attached summary of "DPMC Exposure Guidelines" was prepared.

DPMC Exposure Guidelines represent target control levels for employee protection. At the minimum, precautionary workpractices, respiratory protection and where indicated protective clothing should be used to reduce exposure to or below the DPMC Exposure Guideline. For many chemical substances, two guidelines have been set 1) a short term @ 15 minutes and 2) an 8 hour TWA.

DPMC Exposure Guidelines reflect reasonably current health hazard and toxicological information and will be updated annually. DPMC Exposure Guidelines are as strict as those established by OSHA and incorporate Shell Internal Limits where these have been established. Guidelines have been established for those substances with greater exposure potential or in more frequent use.

Respiratory Protection

For each DPMC Exposure Guideline listed, the minimum type of respiratory protection recommended for use has been identified. Respirators affording a higher level of protection may be used if determined to be appropriate, e.g. a full-face mask may be used to avoid eye irritation instead of a half facepiece; an air supplied respirator may be used instead of a cartridge respirator, etc.

Protective Clothing

Certain chemical substances have the capacity to cause a toxic effect by being absorbed through the skin. This may occur with or without any local skin effect (reddening, rash, burn, etc). Of those substances which can be absorbed, the capacity or rate in which absorption will occur may vary significantly (slightly, moderately, readily absorbed). Each chemical substance reported to have this capacity has been identified on the listing of DPMC

Exposure Guidelines. It is generally recommended that uncontaminated PVC gloves be used for protection against chemical substances which may be absorbed through the skin.

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ABBREVIATIONS USED

A.C.G.I.H.	American Conference of Governmental Industrial Hygienists - A professional standard setting organization.
A.M. Cartridge	Ammonia Respirator Cartridge
E.N.T.	Eyes, Nose and Throat.
Health Data and Comments	Basic information concerning known toxicity is presented without regard to exposure level, frequency of exposure required to cause health effect, etc.
mg/m ³	Milligram dust per cubic meter of air (weight/volume).
NIOSH	The National Institute for Occupational Safety and Health. This is the research branch of OSHA located under H.E.W.
O.V. Cartridge	Organic Vapor Cartridge - Black in color.
ppm	Parts Per Million (Volume/Volume) - Usually used for gases and vapors.
STEL	Short Term Exposure Limit - Generally referred to as the upper exposure level allowed over a short duration.
Suspect Embryo fetus hazard	Toxicity information and exposures to this chemical are currently being reviewed; has not yet been categorized under the Shell Embryo-Fetus Hazard Program.
Type N Canister	Red canister suitable for carbon monoxide
TWA	Time-Weighted Average - The usual term referred to for 8 hour exposures.
3M 9900	Disposable 3M paper respirator which is suitable for some dusts.
3M 9920	Disposable 3M welding fume respirator which is suitable for some fumes and welding circumstances
I.D.L.H.	Immediately Dangerous to Life or Health - maximum concentration which would permit escape within a 30 minute period.

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DPMC EXPOSURE GUIDELINES

SUBSTANCE	DPMC GUIDELINES			MINIMUM RESPIRATOR SELECTION (Requirements)	HEALTH DATA AND COMMENTS
	TWA	STEL	UNITS		

Asbestos	2.0	10.0	Fibers per cc	Disposable 3M 9920 dust mask for all exposure potential i.e. insula- tion removal, etc. Protective clothing also required.	Recognized lung carcinogen; may also cause asbestosis (lung scarring).
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DPMC EXPOSURE GUIDELINES

<u>SUBSTANCE</u>	<u>OSHA</u>		<u>1986 ACGIH</u>		<u>SHELL DPMC GUIDELINES</u>		<u>UNITS</u>
	<u>PEL-TWA</u>	<u>PEL-CEILING</u>	<u>TLV-TWA</u>	<u>TLV-STEL</u>	<u>TWA</u>	<u>STEL</u>	
Asbestos	2.0	10.0	2.0	-	2.0	10.0	f/cc

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CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
FACILITY LEVEL OF PARTICIPATES, INC., C.U.M.
JANUARY 1, 1973 TO MARCH 31, 1973

WIND DIRECTION	NO. OF HRS.	MEAN	STD. DEV.
N	32	85.9	31.2
NE	106	57.6	25.4
E	60	67.9	27.4
SE	60	46.2	22.9
ESE	80	90.8	22.4
SE	119	81.9	24.3
SSE	47	47.3	20.5
S	213	92.7	26.2
SSW	15	72.6	26.6
WSW	27	75.5	26.5
WS	45	89.6	27.8
W	60	88.9	27.8
NW	59.3	83.2	29.3
NNW	79	101.4	29.8

CITY SAMPLING STATION -- HOUSTON 21
JANUARY 1, 1973 TO DECEMBER, 31, 1973
WIND DIRECTION: -- S
FREQUENCY DISTRIBUTION OF PART. CONC

CITY SMOGGING STATION -- HOUSTON 21
JANUARY 1, 1973 TO DECEMBER, 31, 1973
WIND DIRECTION -- SSE
FREQUENCY DISTRIBUTION OF PART. CONC

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ABS-035517

AB9-035618
 CITY ENGINEERING DIVISION - HOUSTON 21
 JANUARY 1, 1973 TO DECEMBER 31, 1973
 FREQUENCY DISTRIBUTION OF PART. CONC.

CITY ENGINEERING DIVISION - HOUSTON 21
 JANUARY 1, 1973 TO DECEMBER 31, 1973
 FREQUENCY DISTRIBUTION OF PART. CONC.

WIND DIRECTION	NO. OF PART.	PERCENT	WIND SPEED
N	22	5.2	21.3
NE	166	66.9	27.1
E	40	9.8	27.3
SE	150	36.5	27.3
S	115	28.4	27.3
SW	115	28.4	27.3
W	115	28.4	27.3
NW	115	28.4	27.3

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CITY ENGINEERING DIVISION - HOUSTON 21
 JANUARY 1, 1973 TO DECEMBER 31, 1973
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W	115	28.4	27.3
NW	115	28.4	27.3

AB9-035618

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SE	150	36.5	27.3
S	115	28.4	27.3
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W	115	28.4	27.3
NW	115	28.4	27.3

WINDSPEED AND DIRECTION

CITY SAMPLING STATION - HORTON 21
JANUARY 11, 1973 TO DECEMBER 31, 1973
FREQUENCY DISTRIBUTION OF WINDSPEED

WIND DIRECTION	NO. OF HRS.	MEAN	STD. DEV.
N	93	57.9	21.5
NNE	166	60.2	21.1
NNE	166	60.2	21.1
E	60	60.2	21.1
ESE	60	60.2	21.1
SSE	166	60.2	21.1
S	166	60.2	21.1
SSW	166	60.2	21.1
SW	166	60.2	21.1
WSW	166	60.2	21.1
W	166	60.2	21.1
WNW	166	60.2	21.1
NW	166	60.2	21.1
NNW	166	60.2	21.1
N	166	60.2	21.1

CITY SAMPLING STATION - HORTON 21
JANUARY 11, 1973 TO DECEMBER 31, 1973
FREQUENCY DISTRIBUTION OF WIND DIRECTION

WIND DIRECTION	NO. OF HRS.	MEAN	STD. DEV.
N	93	57.9	21.5
NNE	166	60.2	21.1
NNE	166	60.2	21.1
E	60	60.2	21.1
ESE	60	60.2	21.1
SSE	166	60.2	21.1
S	166	60.2	21.1
SSW	166	60.2	21.1
SW	166	60.2	21.1
WSW	166	60.2	21.1
W	166	60.2	21.1
WNW	166	60.2	21.1
NW	166	60.2	21.1
NNW	166	60.2	21.1
N	166	60.2	21.1

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