

SM-32 (REV. 5-78)



Shell Oil Company
Interoffice Memorandum

MARCH 9, 1982

M
Put in your book

FROM: SENIOR INDUSTRIAL HYGIENIST
TO: SUPERINTENDENT HEALTH AND SAFETY
SUBJECT: RESPIRATOR USE SURVEY

After much discussion and due consideration, a final determination of the respirator use requirements for Maintenance North and South has been proposed (See attachment). The Maintenance Organization has given considerable thought to the process and has concluded that all craft jobs are Category III.

Please let me know if you have any questions.

A handwritten signature in cursive script that reads "Phil Snyder".

P. J. Snyder

PJS/gri

Attachments

cc: With Attachments

L. V. Ashe
W. W. Reeves
ECB Satellite
PJS Chron

LAM 004358

DPMC-10432

MAINTENANCE - DPMC

DPMC-10433

LAM 004359

RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Boilermaker Maint. - N	Benzene	Periodically negative respirator used in pulling bundles on shutdowns.	Supplied air respirator/ SCBA used in emergency conditions.	Respirator not required for evacuation.
	Toluene	"	"	"
	Xylene	"	"	"
	Hexane	"	"	"
	Hydrogen* Sulfide	Supplied air respirator used when working on equipment containing H ₂ S.	"	"
	Sulfolane	-	-	"
	Chromate (Z-322)	-	-	"
	M.E.A. Dow Corning Fluid	-	-	"
	Slurry (Cat Cracked)	-	-	"
	Shell Cutter Stock	-	-	"
	Catalyst HEZ-53	-	-	"
	Shell Blend 100	-	-	"
	Sulfur	Periodically negative respirator used in pulling lines to equipment.	Supplied air respirator used in emergency conditions.	"

MAINTENANCE - DPMC

DPMC-10434

LAM 004360

RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Boilermaker Maint. - N (cont'd)	Hydrogen	-	-	Respirator not required for evacuation.
	Naphtha	-	-	"
	Nickel Moly Catalyst	Periodically negative respir- ator used in pulling lines to equipment.	Supplied air respirator used in emergency conditions.	"
	Light Gasoline	-	-	"
	Phenol	Periodically negative respir- ator used in pulling or working on equipment.	Supplied air respirator used in emergency conditions.	"
	Cutter Stock	-	-	"
	Extract Bright Stock	-	-	"
	Extra Heavy Gas Oil Ex. Distilling	-	-	"
	DA Oil	-	-	"
	Asphalt	-	-	"
	MEK	Periodically negative respir- ator used in working on exchangers.	Supplied air respirator used in emergency conditions.	"
	Cumene Hydro- peroxide	"	"	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004361

3

DPMC-10435

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Boilermaker Maint. - N (cont'd)	Butadiene	Periodically negative respirator used in working on exchangers.	Supplied air respirator used in emergency conditions.	Respirator not required for evacuation.
	Epichlorohydrin	"	"	"
	Ethyl MMT (Ethyl)	-	"	"
	Gasoline, Pyrolysis	-	"	"
	MTBE (methyl tertiary butylether)	-	"	"
	Brine Water	-	-	"
	Caton Resin	-	-	"
	Anton Resin	-	-	"
	Sodium Sulfit	-	-	"
	Lime	-	-	"
	Chlorine*	-	Scott Air Pak used in emergency conditions.	"
	VM&P	Periodically neg. respirator used when working on equipment.	Supplied air respirator/ SCBA used in emergency conditions.	"
	Catalyst 344	-	-	"
	Mercaptans	Periodically neg. respirator used when working on equipment.	Supplied air respirator/ SCBA used in emergency conditions.	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004362

DPMC-10436

4

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Boilermaker Maint. - N (cont'd)	Phenol (Heavy Ends)	-	Supplied air respirator/ SCBA used in emergency conditions.	Respirator not required for evacuation.
	Acetic Acid	-	"	"
	Anhydrous Ammonia*	Periodically neg. respirator used in working on equipment.	"	"
	Sulfuric Acid	-	-	"
	Gasoline, Regular Grade	-	-	"
	Sodium Chromate	-	-	"
	Shell Sol B	-	-	"
Pipefitters Maint. - N	Phenol	Periodically neg. respirator used in working on equipment.	Supplied air respirator/ SCBA used in emergency conditions.	"
	Raffinate Bright Stock	-	-	"
	HVI-250 Dist.	-	-	"
	OP II Gas Oil	-	-	"
	Benzene	Periodically neg. respirator used in breaking pipe loose and on shutdowns.	Supplied air respirator/ SCBA used in emergency conditions.	"
	Toluene	"	"	"
	Hydrogen Sulfide*	"	"	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004363

5

DPMC-10437

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Pipefitters Maint. - N (cont'd)	DEA (Diethylamine)	Periodically neg. respirator used in breaking pipe loose and on shutdowns.	Supplied air respirators/ SCBA used in emergency conditions.	Respirator not required for evacuation.
	Epichlorohydrin	-	"	"
	Ethyl MMT (Ethyl)	-	"	"
	Gasoline, Pyrolysis	-	"	"
	Ammonia	-	Scott Air Pak used in emergency conditions.	"
	Phenol Heavy Ends*	Periodically (1X/mo.) neg. respirator used in working on equipment.	"	"
	Acetic Acid	-	-	"
	Anhydrous Ammonia	Periodically neg. respirator worn when working on equipment.	Scott Air Pak used in emergency conditions.	"
	Sulfuric Acid	-	-	"
	Gasoline, Regular Grade	-	-	"
	VM&P	-	-	"
	Xylene	-	-	"
	Brine Water	-	-	"
	Caton Resin	-	-	"
	Anton Resin	-	-	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004364

6

Evacuation

DPMC-10438

Job Category
Pipefitters
Maint. - N
(cont'd)

Primary Exposure

Routine Use

Emergency Control

Respirator not
required for
evacuation.

Sodium Sulfite	-	-	
Lime	-	-	"
LVI - 65 Dist.	-	-	"
DA-Oil	-	-	"
Asphalt	-	-	"
MEK	Periodically negative respirator used in working on equipment.	Scott Air Pak used in emergency conditions.	"
LVI Blended Flux	-	-	"
Dutrex 726	-	-	"
Acetone	-	Scott Air Pak used in emergency conditions.	"
Chlorine	-	"	"
Cumene Hydro-*peroxide	Periodically supplied air respirator (1X/Qtr.) used in working on equipment.	"	"
Cumene	Periodically neg. respirator used in working on equipment.	"	"
Phenol	"	"	"
Shell 618 Catalyst	-	-	"
Slurry (Cat Cracked)	-	-	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004365

7

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Pipefitter
Maint. - N
(cont'd)

Catalyst CBZ-1

-

-

Respirator not
required for
evacuation.

Shell Cutter Stock

-

-

"

Ethyl Mercaptan*

Periodically supplied air
respirators used in piping
line or shutdown.

Supplied air respirator/
SCBA used in emergency
conditions.

"

Sulfur

"

"

"

Kerosene

-

-

"

Nickel Moly
Catalyst

-

Supplied air respirator/
SCBA used in emergency
conditions.

"

Sour Gasoline

-

"

"

Sulfur

-

-

"

Hydrogen Sulfide

Periodically neg. respirator
worn while working on equip-
ment. Frequency varies.

Supplied air respirator/
SCBA used in emergency
conditions.

"

Benzene

"

"

"

Toluene

"

"

"

MEK

"

"

"

Shell Sol 100

-

-

"

Rigid Nu-Clear Cutting
Oil

-

-

"

LPS 1,2,3 Cleaner

-

-

"

Machinist
Maint. - N

DPMC-10439

MAINTENANCE - DPMC

LAM 004366

DPMC-10440

RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Machinist Maint. - N (cont'd)	Neversees Pure Nickle Special Nuclear Grade	-	-	Respirator not required for evacuation.
	Mercaptans	-	-	"
	Potassium Chromate	-	-	"
	Sulfuric Acid	-	-	"
	Acetic Acid	-	-	"
	Anhydrous Ammonia	-	-	"
	Caustic	-	-	"
	Slick Stuff No. 4	-	-	"
	Shell Blend 100	-	-	"
	Xylene	Periodically neg. respirator.	Scott Air Pak used in emergency conditions.	"
	Ammonia	-	"	"
	CCU Slurry Oil	-	-	"
Electrician/Lineman Maint. - N	Benzene	-	Scott Air Pak used in emergency conditions.	"
	Toluene	-	-	"
	Xylene	-	-	"
	Hydrogen Sulfide	Periodically neg. respirator worn while working on equipment.	Scott Air Pak used in emergency conditions.	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004367

9

DPMC-10441

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Electrician/Lineman Maint. - N (cont'd)	LPS 1,2,3	-	-	Respirator not required for evacuation.
	Sol-149	-	-	"
	CRC-Co. Contact Cleaner	-	-	"
	CRC 3-26 Multi Purpose Cleaner	-	-	"
	Acetic Acid	-	-	"
	Chlorine	-	-	"
	No. 2 Fuel Oil	-	-	"
	Shell Blend 100	-	-	"
	Lead Tin Solder	-	-	"
	LPS 1,2,3 Rust Inhibitor	-	-	"
	Co. Contact Cleaner (CRC)	-	-	"
	CRC-3-26 Multi Purpose Lubricant	-	-	"
	WD-40 Simple Spray	-	-	"
	Neversees-Pure Nickle	-	-	"
	Loctite-Safety Solvent	-	-	"

Scott Air Pak used in
emergency conditions.

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004368

10

Evacuation

DPMC-10442

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Electrician/Lineman Maint. - N (cont'd)	Rotanium-Dry Slip	-	-	Respirator not required for evacuation.
	Part East Lubricant #PE-12	-	-	
	Motor MIC-Antifricition Compound	-	-	
	Lead	-	-	
	Minexallac-Wire Wax Pulling Compound	-	-	
	Allstate-Duzall Soft Soldering Flux	-	-	
	High Gear Penetrating Oil	-	-	
	Safety Clean Solvent	-	-	
	Anti-Seize 200-Chemala	-	-	
	Califonex 78-A	-	-	
Instrument Maint. - N	Benzene	-	Supplied air respirators and Scott Air Pak used in emergency conditions.	
	Toluene	-	"	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004369

11

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Instrument
Maint. - N
(cont'd)

Xylene

-

Supplied air respirators
and Scott Air Pak used
in emergency conditions.

Respirator not
required for
evacuation.

Phenol*

Periodically neg. respirator
or supplied air respirator
required.

"

"

Hydrogen Sulfide*

"

"

"

LPS 1,2,3 Contact
Cleaner

-

-

"

Crude ECH

-

Scott Air Pak used in
emergency conditions.

"

Cumene

-

"

"

MEK

-

"

"

Gasoline Regular

-

-

"

Sulfur

-

Scott Air Pak used in
emergency conditions.

"

WD-40 Spray
Penetrant

-

-

"

Super Penetrant-
Chemala

-

-

"

Fuel Gas

-

-

"

Methane

-

-

"

Nitrogen

-

-

"

DPMC-10443

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004370

12

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Painters
Maint. - N

Acetone

-

-

Respirator not required for evacuation.

Napko 212
Thinner

Neg. pressure make may be used.

-

"

Napko 218 Epoxy-
cote Thinner

-

-

"

MEK

Neg. pressure mask may be used during spray painting.

-

"

Toluene

-

-

"

Apache-Blast
Abrasive

Daily Cescro air hood worn as blasting is done.

-

"

Xylene

-

-

"

IPA

-

-

"

Carpenters
Maint. - N

Dust

Dust mask may be used periodically.

-

"

Benzene

Neg. or supplied air respirators may be required on special jobs. Scott Air Pak used in emergency conditions.

-

"

Toluene

-

-

"

Hexane

-

-

"

Xylene

-

-

"

Phenol

Neg. or supplied air respirators may be required on special jobs. Scott Air Pak used in emergency conditions.

-

"

Asphalt

-

-

"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004371

Evacuation

Primary Exposure

Routine Use

Emergency Control

Job Category
Carpenters
Maint. - N
(cont'd)

Gas Oil

-

-

Respirator not
required for
evacuation.

Catalyst HEZ-53

-

-

"

Insulators
Maint. - N

Asbestos

Neg. pressure mask during
asbestos removal

-

"

Anhydrous Ammonia

-

-

"

Hydrogen Sulfide

-

-

"

Benzene

Periodically neg. respirator
used in working with equip-
ment.

Scott Air Pak used in
emergency conditions.

"

Chlorine

-

-

"

VM&P

-

-

"

Toluene

Periodically neg. respirator
used in working with equip-
ment.

Scott Air Pak used in
emergency conditions.

"

Mercaptans

"

"

"

Auto Mechanic
Maint. - N

Refinery Chemicals

Respirators may be required.

"

"

Bendix Carburetor
and Metal Cleaner

-

-

"

49A Cold Cleaner

-

-

"

Asbestos Brake Linings

Respirator generally not
required.

-

"

MAINTENANCE - DPMC

14

RESPIRATOR USE REQUIREMENTS

LAM 004372

DPMC-10446

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Auto Mechanic Motor Lab/Tank Farm	Benzene (From Gasoline)	Neg. respirator may be required periodically.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	Gasoline, Neutral	-	-	"
	Gasoline Regular	-	-	"
	VM&P Naphtha EC	-	-	"
	Xylene	-	-	"
	Tetraethyl Lead (TEL)	-	-	"
Heavy Equipment Operator	Refinery Chemicals	Neg. pressure mask use possible; shutdowns.	Scott Air Pak used in emergency conditions.	"
Medium Equipment Operator	Refinery Chemicals	"	"	"
Truck Drivers	Refinery Chemicals	"	"	"
Riggers Maint. - N	Refinery Chemicals	Both negative and supplied air respirators may be required on certain jobs.	"	"
Timbers Maint. - N	Inorganic Lead	Negative pressure respirator use possible.	-	"

MAINTENANCE - DPMC

14

RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Auto Mechanic Motor Lab/Tank Farm	Benzene (From Gasoline)	Neg. respirator may be required periodically.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	Gasoline, Neutral	-	-	"
	Gasoline Regular	-	-	"
	VM&P Naphtha EC	-	-	"
	Xylene	-	-	"
	Tetraethyl lead (TEL)	-	-	"
Heavy Equipment Operator	Refinery Chemicals	Neg. pressure mask use possible; exposures have occurred during shutdowns.	Scott Air Pak used in emergency conditions.	"
Medium Equipment Operator	Refinery Chemicals	"	"	"
Truck Drivers	Refinery Chemicals	"	"	"
Riggers Maint. - N	Refinery Chemicals	Both negative and supplied air respirators may be required on certain jobs.	"	"
Tinners Maint. - N	Inorganic Lead	Negative pressure respirator use possible.	-	"

DPMC-10447

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004373

14

DPMC-10448

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Auto Mechanic Motor Lab/Tank Farm	Benzene (From Gasoline)	Neg. respirator may be required periodically.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	Gasoline, Neutral	-	-	"
	Gasoline Regular	-	-	"
	VM&P Naphtha EC	-	-	"
	Xylene	-	-	"
	Tetraethyl Lead (TEL)	-	-	"
Heavy Equipment Operator	Refinery Chemicals	Neg. pressure mask use possible; exposures have occurred during shutdowns.	Scott Air Pak used in emergency conditions.	"
Medium Equipment Operator	Refinery Chemicals	"	"	"
Truck Drivers	Refinery Chemicals	"	"	"
Riggers Maint. - N	Refinery Chemicals	Both negative and supplied air respirators may be required on certain jobs.	"	"
Tinners Maint. - N	Inorganic Lead	Negative pressure respirator use possible.	-	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004374

14

DPMC-10449

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Auto Mechanic Motor Lab/Tank Farm	Benzene (From Gasoline)	Neg. respirator may be required periodically.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	Gasoline, Neutral	-	-	"
	Gasoline Regular	-	-	"
	VM&P Naphtha EC	-	-	"
	Xylene	-	-	"
	Tetraethyl Lead (TEL)	-	-	"
Heavy Equipment Operator	Refinery Chemicals	Neg. pressure mask use possible; exposures have occurred during shutdowns.	Scott Air Pak used in emergency conditions.	"
Medium Equipment Operator	Refinery Chemicals	"	"	"
Truck Drivers	Refinery Chemicals	"	"	"
Riggers Maint. - N	Refinery Chemicals	Both negative and supplied air respirators may be required on certain jobs.	"	"
Tinners Maint. - N	Inorganic Lead	Negative pressure respirator use possible.	-	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004375

15

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Welders
Maint. - N

Chrome (fumes)

Both negative and supplied
air respirators required
under some welding conditions.

Respirator not
required for
evacuation.

Stainless Steel
(fumes)

"

-

"

Carbon Steel (fumes)

"

-

"

Refinery Chemicals

"

Scott Air Pak used in
emergency conditions.

"

Surveyors
Maint. - N

Refinery Chemicals

Respirator use a possibility
but potential for use is low.

"

"

DPMC-10450

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004376

DPMC-10451

1

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Boilermakers Maint.-S	ECH	Fresh air required when breaking into a line.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	AC	-	"	"
	IPA	Fresh air required if needs arise to enter a piece of equipment that has not been purged of product or when required by operations on the permit.	"	"
	MEK	"	"	"
	DMK	"	"	"
	Chlorine*	Anytime piping is disconnected or a piece of equipment is removed and the operator requires on the permit either full face air supplied or dual cartridge respirator is requested.	"	CA Plant require Cl ₂ mouth bite respirator.
	HCl	"	"	-
	Caustic Soda	"	"	-
	Ethylene Dichloride	"	"	-
	ETPPI	Fresh air or neg. pressure respirator used as determined by work permit.	Scott Air Pak or fresh air stream in plant areas.	Respirator not required for evacuation.

MAINTENANCE - DPMCRESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Boilermaker Maint.-S (cont'd)	Nitrogen in System	Fresh air or neg. pressure respirator used as determined by work permit.	Scott Air Pak or fresh air system in plant areas.	Respirator not required for evacuation.
	Glycidol Ethers	"	"	"
	Mercaptans	"	"	"
	BPA	Dust mask as determined by work permit.	"	"
	MIBK	Fresh air or neg. pressure respirator used as determined by work permit.	"	"
	Oxitol	"	"	"
	Epon Resins	May require dust mask.	"	"
	DD	Both neg. pressure and supplied air respirators used.	"	"
	Acetonitrile	"	"	"
	Syn Gas	Occasional use of fresh air respirator when working on equipment.	"	"
	H ₂ S	"	"	"
	Sulfur	"	"	"
	VCM	"	"	"

LAM 004377

DPMC-10452

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004378

3

DPMC-10453

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Boilermaker Maint. - S (cont'd)	Benzene	Occasional use of fresh air respirator when working on equipment.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
Pipefitters Maint. - S	Polycyclic Aromatics	-	"	"
	1,3-Butadiene	-	"	"
	Benzene	Fresh air required when blinding L.O. dryers and when changing filters on pyrolysis fractionator.	"	"
	Hydrogen Sulfide*	Fresh air required when turning blinds on H ₂ S system & when entering flare system.	"	"
	Polycyclic Aromatics	Fresh air required when blinding & opening pyrolysis fractionator, coke filters and strainers.	"	"
	1,3-Butadiene	Fresh air when blinding equipment containing 1,3 BD and ACN.	"	"
	Acetonitrile	"	"	"
	Syn Gas (Co)	Fresh air when blinding or opening any vessels, pumps or columns.	"	"
	Sulfur	"	"	"
	VCM (Site III)	"	"	"

MAINTENANCE - DPMCRESPIRATOR USE REQUIREMENTS

LAM 004379

DPMC-10454

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Pipefitters Maint. - S (cont'd)	ECH	Fresh air required when breaking into a line.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	AC	"	"	"
	IPA	Fresh air required if needs arise to enter a piece of equipment that has not been purged of product or when required by operations on the permit.	"	"
	MEK	"	"	"
	DMK	"	"	"
	Chlorine*	Anytime piping is disconnected or a piece of equipment is removed and the operator requires on the permit either full face air supplied or dual cartridge respirator is requested.	"	CA Plant require Cl ₂ mouth bite respirator.
	HCl	"	"	-
	Caustic Soda	"	"	-
	Ethylene Dichloride	"	"	-
	DD	"	"	-
	MIBK	Fresh air or neg. pressure respirator used as determined by work permit.	Scott Air Pak or fresh air system in plant areas.	Respirator not required for evacuation.

MAINTENANCE - DPMC

LAM 004380

RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Pipefitter Maint. - S (cont'd)	Oxitol	Fresh air or neg. pressure respirator used as determined by work permit.	Scott Air Pak or fresh air system in plant areas.	Respirator not required for evacuation.
	Epon Resins	May require dust mask.	"	"
	ETPPI	"	"	"
	Nitrogen in System	"	"	"
	Glycidol Ethers	"	"	"
	Mercaptans	"	"	"
	BPA	Dust mask as determined by work permit.	"	"
Machinist Maint. - S	Syn Gas	Occasional use of fresh air respirator when working on contaminated equipment.	Scott Air Pak used in emergency situations.	"
	H ₂ S*	"	"	"
	Sulfur	"	"	"
	VCM	"	"	"
	Benzene	"	"	"
	Polycyclic Aromatics	-	"	"
	1,3 Butadiene	Occasional use of fresh air respirator when working on contaminated equipment.	"	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004381

6

DPMC-10456

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Machinist Maint. - S (cont'd)	Acetonitrile	Occasional use of fresh air respirator when working on contaminated equipment.	Scott Air Pak used in emergency situations.	Respirator not required for evacuation.
	MIBK	Fresh air or neg. pressure respirator used as determined by work permit.	"	"
	MEK	"	"	"
	Oxitol	"	"	"
	Epon Resins	May require dust mask.	"	"
	ETPPI	"	"	"
	ECH	"	"	"
	Nitrogen in System	"	"	"
	AC	Fresh air required when breaking into a line that has a regulated product.	"	"
	IPA	Fresh air required if needs arise to enter a piece of equipment that has not been purged of product or when required by operations on the permit.	"	"
	IPE	"	"	"
	DMK	"	"	"
	HCl	"	"	"

MAINTENANCE - DPMC

7

RESPIRATOR USE REQUIREMENTS

LAM 004382

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Machinist
Maint. - S
(cont'd)

Caustic Soda

Fresh air required if need arise to enter a piece of equipment that has not been purged of product or when required by operations on the permit.

Scott Air Pak used in emergency conditions.

Respirator not required for evacuation.

Ethylene Dichloride

"

"

"

DD

"

"

"

Glycidol Ethers

Fresh air or neg. pressure respirators may be required.

"

"

Mercaptans

"

"

"

BPA Dust

Dust mask as determined by work permit.

"

"

Electrician
Maint.- S

Syn Gas

Occasional use of fresh air respirator when working on equipment.

"

"

H₂S

"

"

"

Sulfur

"

"

"

VCM

"

"

"

PBC (in transformer)

"

"

"

Benzene

-

"

"

Polycyclic
Aromatics

-

"

"

1,3-Butadiene

-

"

"

Acetonitrile

-

"

"

DPMC-10457

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004383

DPMC-10458

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Electrician Maint. - 3 (cont'd)	ECH	-	Scott Air Pak used in emergency situations.	Respirator not required for evacuation.
	AC	-	"	"
	IPA	-	"	"
	IPE	-	"	"
	MEK	-	"	"
	DMK	-	"	"
	Chlorine	-	"	CA plant require Cl ₂ mouth bite respirator.
	HCl	-	"	Respirator not required for evacuation.
	Caustic Soda	-	"	"
	Ethylene Dichloride	-	"	"
	DD	-	"	"
	VCM	-	"	"
	MIBK	-	"	"
	Oxitol	-	"	"
	Epon Resins	May require dust mask.	"	"
	ETPPI	-	"	"

MAINTENANCE - DPMCRESPIRATOR USE REQUIREMENTS

LAM 004384

DPMC-10459

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Electrician Maint. - S (cont'd)	Glycidol Ethers	-	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	Mercaptans	-	"	"
	BPA	-	"	"
Instrument Man Maint. - S	Syn Gas	Occasional use of fresh air respirator when working on contaminated equipment.	"	"
	H ₂ S*	"	"	"
	Sulfur	"	"	"
	VCM	"	"	"
	Benzene	-	"	"
	Polycyclic	-	"	"
	1,3-Butadiene	-	"	"
	Acetonitrile	-	"	"
	ECH	-	"	"
	AC	-	"	"
	IPA	-	"	"
	IPE	-	"	"
	MEK	-	"	"
	DMK	-	"	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004385

10

DPMC-10460

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Instrument Man Maint. - S (cont'd)	Chlorine	Occasional use of fresh air respirator.	Scott Air Pak used in emergency conditions.	CA Plant require Cl ₂ mouth bite respirator.
	HCl	-	"	Respirator not required for evacuation.
	Caustic Soda	-	"	"
	Ethylene Dichloride	-	"	"
	DD	-	"	"
Painters Maint. - S	All chemical plant products	Uses neg. pressure respirator while spray painting.	"	"
Insulator Maint. - S	Asbestos	Use air purifying respirator if possible exposure to asbestos exists.	"	"
Carpenters Maint. - S	Transite	Use air purifying respirator and wet transite while cutting. Dust masks used when sanding or cutting wood.	"	"
Heavy Equipment Operator Medium Equipment Operator Truck Driver Maint. - S	Benzene, as well as other chemical plant products. Hydrogen Sulfide Polycyclic Aromatics	Respirator protection may be required when working with contaminated equipment. " -	Unlikely but possible use of SCBA. " "	" " "

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004386

11

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Heavy Equipment
Operator

1,3-Butadiene

-

Unlikely but possible
use of SCBA. Respirator not
required for
evacuation.

Medium Equipment
Operator

Acetonitrile

-

"

"

Truck Driver
Maint. - S
(cont'd)

Brickmason

All chemical
plant products

Respirator may be required
in isolated cases (sewer work).

-

"

Maint. - S

Riggers (work with
pipefitters/
boilermakers in
field)
Maint. - S

All chemical
plant products

Respirator protection may be
required when working with
contaminated equipment.

Scott Air Pak used in
emergency conditions.

"

Welders
Maint. - S

All chemical
plant products &
welding fumes

May be required to use either
air supplied or neg. pressure
respirator.

"

"

Tinners
Maint. - S

All chemical
plant products &
welding fumes

"

"

"

ATTACHMENT I

SUBJECT: Respiratory Protection Category - Maintenance Crafts

CONCLUSION

Based on the criteria included in the proposed Respirator Guideline it is our opinion that all our craft jobs should be placed in Category III. Consequently, our craftspeople should remain trained and capable of using any respirator protection equipment.

The exception to the above expectations will be individuals with some type of physical limitation/restriction. These individuals are handled on a case-by-case basis now and would continue.

SUMMARY

Upon reviewing the criteria for each possible respirator risk category several fundamental principles of how we conduct our business led us to the above conclusion.

First, our labor agreement permits the process of supplementation of one craft by another. This means that although a craftsman may be in a relatively low risk craft he may find himself being supplemented due to work demands into a craft with a much different exposure risk. We therefore find it prudent to maintain our craft respirator training at the highest level reasonably possible.

Second, our commitment to equalizing overtime may assign a craftsman from his regularly assigned area to another on short notice. The two areas may have much different exposure risks and again we try to plan for the most stringent case.

And, thirdly, the principle of a craftsman performing work of another craft if it is incidental to the primary task leaves open the possibility of exposure not readily evident at first glance.

Therefore, since a majority of our crafts could, for a number of reasons, find themselves in a job or activity which falls in a more stringent category than their primary craft would indicate we feel that a single, consistent, respirator requirement is appropriate. This provides the highest degree of safety for the people and the highest degree of flexibility for the completion of our business.

LAM 004357

DPMC-10431

1121.4
R



Shell Oil Company
Interoffice Memorandum

MARCH 9, 1982

FROM: SENIOR INDUSTRIAL HYGIENIST
TO: SUPERINTENDENT HEALTH AND SAFETY
SUBJECT: RESPIRATOR USE SURVEY

After much discussion and due consideration, a final determination of the respirator use requirements for Maintenance North and South has been proposed (See attachment). The Maintenance Organization has given considerable thought to the process and has concluded that all craft jobs are Category III.

Please let me know if you have any questions.

A handwritten signature in cursive script that reads "Phil Snyder".

P. J. Snyder

PJS/gri

Attachments

cc: With Attachments

L. V. Ashe
W. W. Reeves
ECB Satellite
PJS Chron

LAM 004387

DPMC-10462

ATTACHMENT I

SUBJECT: Respiratory Protection Category - Maintenance Crafts

CONCLUSION

Based on the criteria included in the proposed Respirator Guideline it is our opinion that all our craft jobs should be placed in Category III. Consequently, our craftspeople should remain trained and capable of using any respirator protection equipment.

The exception to the above expectations will be individuals with some type of physical limitation/restriction. These individuals are handled on a case-by-case basis now and would continue.

SUMMARY

Upon reviewing the criteria for each possible respirator risk category several fundamental principles of how we conduct our business led us to the above conclusion.

First, our labor agreement permits the process of supplementation of one craft by another. This means that although a craftsman may be in a relatively low risk craft he may find himself being supplemented due to work demands into a craft with a much different exposure risk. We therefore find it prudent to maintain our craft respirator training at the highest level reasonably possible.

Second, our commitment to equalizing overtime may assign a craftsman from his regularly assigned area to another on short notice. The two areas may have much different exposure risks and again we try to plan for the most stringent case.

And, thirdly, the principle of a craftsman performing work of another craft if it is incidental to the primary task leaves open the possibility of exposure not readily evident at first glance.

Therefore, since a majority of our crafts could, for a number of reasons, find themselves in a job or activity which falls in a more stringent category than their primary craft would indicate we feel that a single, consistent, respirator requirement is appropriate. This provides the highest degree of safety for the people and the highest degree of flexibility for the completion of our business.

LAM 004388

DPMC-10463

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004389

Job Category

Boilermaker
Maint. - N

Primary Exposure

Routine Use

Emergency Control

Evacuation

Benzene

Periodically negative respirator used in pulling bundles on shutdowns.

Supplied air respirator/ SCBA used in emergency conditions.

Respirator not required for evacuation.

Toluene

Xylene

Hexane

Hydrogen*
Sulfide

Supplied air respirator used when working on equipment containing H₂S.

Sulfolane

Chromate (Z-322)

M.E.A. Dow
Corning Fluid

Slurry (Cat
Cracked)

Shell Cutter Stock

Catalyst HEZ-53

Shell Blend 100

Sulfur

Periodically negative respirator used in pulling lines to equipment.

Supplied air respirator used in emergency conditions.

DPMC-10464

MAINTENANCE - DPMCRESPIRATOR USE REQUIREMENTS

LAM 004390

Job CategoryPrimary ExposureRoutine UseEmergency ControlEvacuationBoilermaker
Maint. - N
(cont'd)

Hydrogen

-

-

Respirator not
required for
evacuation.

Naphtha

-

-

Nickel Moly
CatalystPeriodically negative respir-
ator used in pulling lines
to equipment.Supplied air respirator
used in emergency
conditions.

"

Light Gasoline

-

-

"

Phenol

Periodically negative respir-
ator used in pulling or
working on equipment.Supplied air respirator
used in emergency
conditions.

"

Cutter Stock

-

-

"

Extract Bright
Stock

-

-

"

Extra Heavy
Gas Oil Ex.
Distilling

-

-

"

DA Oil

-

-

"

Asphalt

-

-

"

MEK

Periodically negative respir-
ator used in working on
exchangers.Supplied air respirator
used in emergency
conditions.

"

Cumene Hydro-
peroxide

"

"

"

MAINTENANCE - DPMC

3

RESPIRATOR USE REQUIREMENTS

LAM 004391

DPMC-10466

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Oil maker Maint. - N (cont'd)	Butadiene	Periodically negative respirator used in working on exchangers.	Supplied air respirator used in emergency conditions.	Respirator not required for evacuation.
	Epichlorohydrin	"	"	"
	Ethyl MMT (Ethyl)	-	"	"
	Gasoline, Pyrolysis	-	"	"
	MTBE (methyltertiary butylether)	-	"	"
	Brine Water	-	-	"
	Caton Resin	-	-	"
	Anton Resin	-	-	"
	Sodium Sulfite	-	-	"
	Lime	-	-	"
	Chlorine*	-	Scott Air Pak used in emergency conditions.	"
	VM&P	Periodically neg. respirator used when working on equipment.	Supplied air respirator/ SCBA used in emergency conditions.	"
	Catalyst 344	-	-	"
	Mercaptans	Periodically neg. respirator used when working on equipment.	Supplied air respirator/ SCBA used in emergency conditions.	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004392

4

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Boilermaker
Maint. - N
(cont'd)

Phenol (Heavy Ends)

-

Supplied air respirator/
SCBA used in emergency
conditions.

Respirator not
required for
evacuation.

Acetic Acid

-

"

"

Anhydrous Ammonia*

Periodically neg. respirator
used in working on equipment.

"

"

Sulfuric Acid

-

-

"

Gasoline, Regular
Grade

-

-

"

Sodium Chromate

-

-

"

Shell Sol B

-

-

"

Phenol

Periodically neg. respirator
used in working on equipment.

Supplied air respirator/
SCBA used in emergency
conditions.

"

Pipefitters
Maint. - N

Raffinate Bright
Stock

-

-

"

HVI-250 Dist.

-

-

"

OP II Gas Oil

-

-

"

Benzene

Periodically neg. respirator
used in breaking pipe loose
and on shutdowns.

Supplied air respirator/
SCBA used in emergency
conditions.

"

Toluene

"

"

"

Hydrogen Sulfide*

"

"

"

DPMC-10467

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004393

5

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Pipefitters
Maint. - N
(cont'd)

DEA (Diethylamine)

Periodically neg. respirator used in breaking pipe loose and on shutdowns.

Supplied air respirators/ SCBA used in emergency conditions. Respirator not required for evacuation.

Epichlorohydrin

-

"

"

Ethyl MMT (Ethyl)

-

"

"

Gasoline, Pyrolysis

-

"

"

Ammonia

-

Scott Air Pak used in emergency conditions.

"

Phenol Heavy Ends*

Periodically (1X/mo.) neg. respirator used in working on equipment.

"

"

Acetic Acid

-

-

"

Anhydrous Ammonia

Periodically neg. respirator worn when working on equipment.

Scott Air Pak used in emergency conditions.

"

Sulfuric Acid

-

-

"

Gasoline, Regular Grade

-

-

"

VM&P

-

-

"

Xylene

-

-

"

Brine Water

-

-

"

Caton Resin

-

-

"

Anton Resin

-

-

"

DPMC-10468

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004394

6

DPMC-10469

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Pipefitters Maint. - N (cont'd)	Sodium Sulfite	-	-	Respirator not required for evacuation.
	Lime	-	-	"
	LVI - 65 Dist.	-	-	"
	DA-011	-	-	"
	Asphalt	-	-	"
	MEK	Periodically negative respirator used in working on equipment.	Scott Air Pak used in emergency conditions.	"
	LVI Blended Flux	-	-	"
	Dutrex 726	-	-	"
	Acetone	-	Scott Air Pak used in emergency conditions.	"
	Chlorine	-	"	"
	Cumene Hydro-* peroxide	Periodically supplied air respirator (1X/Qtr.) used in working on equipment.	"	"
	Cumene	Periodically neg. respirator used in working on equipment.	"	"
	Phenol	"	"	"
	Shell 618 Catalyst	-	-	"
	Slurry (Cat Cracked)	-	-	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004395

7

DPMC-10470

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Pipefitter Maint. - N (cont'd)	Catalyst CBZ-1	-	-	Respirator not required for evacuation.
	Shell Cutter Stock	-	-	"
	Ethyl Mercaptan*	Periodically supplied air respirators used in piping line or shutdown.	Supplied air respirator/SCBA used in emergency conditions.	"
	Sulfur	"	"	"
	Kerosene	-	-	"
	Nickel Moly Catalyst	-	Supplied air respirator/SCBA used in emergency conditions.	"
	Sour Gasoline	-	"	"
	Sulfur	-	-	"
	Hydrogen Sulfide	Periodically neg. respirator worn while working on equipment. Frequency varies.	Supplied air respirator/SCBA used in emergency conditions.	"
Machinist Maint. - N	Benzene	"	"	"
	Toluene	"	"	"
	MEK	"	"	"
	Shell Sol 100	-	-	"
	Rigid Nu-Clear Cutting Oil	-	-	"
	LPS 1,2,3 Cleaner	-	-	"

MAINTENANCE - DPMCRESPIRATOR USE REQUIREMENTS

LAM 004396

DPMC-10471

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Machinist Maint. - N (cont'd)	Neversees Pure Nickle Special Nuclear Grade	-	-	Respirator not required for evacuation.
	Mercaptans	-	-	"
	Potassium Chromate	-	-	"
	Sulfuric Acid	-	-	"
	Acetic Acid	-	-	"
	Anhydrous Ammonia	-	-	"
	Caustic	-	-	"
	Slick Stuff No. 4	-	-	"
	Shell Blend 100	-	-	"
	Xylene	Periodically neg. respirator.	Scott Air Pak used in emergency conditions.	"
	Ammonia	-	"	"
	CCU Slurry Oil	-	-	"
Electrician/Lineman Maint. - N	Benzene	-	Scott Air Pak used in emergency conditions.	"
	Toluene	-	-	"
	Xylene	-	-	"
	Hydrogen Sulfide	Periodically neg. respirator worn while working on equipment.	Scott Air Pak used in emergency conditions.	"

MAINTENANCE - DPMC

LAM 004397

DPMC-10472

RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Electrician/Lineman Maint. - N (cont'd)	LPS 1,2,3	-	-	Respirator not required for evacuation.
	Sol-149	-	-	"
	CRC-Co. Contact Cleaner	-	-	"
	CRC 3-26 Multi Purpose Cleaner	-	-	"
	Acetic Acid	-	-	"
	Chlorine	-	-	"
	No. 2 Fuel Oil	-	-	"
	Shell Blend 100	-	-	"
	Lead Tin Solder	-	-	"
	LPS 1,2,3 Rust Inhibitor	-	-	"
	Co. Contact Cleaner (CRC)	-	-	"
	CRC-3-26 Multi Purpose Lubricant	-	-	"
	WD-40 Simple Spray	-	-	"
	Neversees-Pure Nickle	-	-	"
	Loctite-Safety Solvent	-	-	"

Scott Air Pak used in
emergency conditions.

MAINTENANCE - DPMC

10

RESPIRATOR USE REQUIREMENTS

LAM 004398

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Electrician/Lineman
Maint. - N
(cont'd)

Rotanium-Dry Slip

-

-

Respirator not
required for
evacuation.

Part East Lubricant
#PE-12

-

-

"

Motor MIC-Antifricition
Compound

-

-

"

Lead

-

-

"

Minexallac-Wire Wax
Pulling Compound

-

-

"

Allstate-Duzall Soft
Soldering Flux

-

-

"

High Gear Penetrating
Oil

-

-

"

Instrument

Maint. - N

Safety Clean Solvent

-

-

"

Anti-Seize 200-Chemala

-

-

"

Califonex 78-A

-

-

"

Benzene

-

Supplied air respirators
and Scott Air Pak used
in emergency conditions.

"

Toluene

-

"

"

DPMC-10473

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004399

11

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

DPMC-10474

Instrument
Maint. - N
(cont'd)

Xylene

-

Supplied air respirators and Scott Air Pak used in emergency conditions. Respirator not required for evacuation.

Phenol*

Periodically neg. respirator or supplied air respirator required.

"

"

Hydrogen Sulfide*

"

"

"

LPS 1,2,3 Contact Cleaner

-

-

"

Crude ECH

-

Scott Air Pak used in emergency conditions.

"

Cumene

-

"

"

MEK

-

"

"

Gasoline Regular

-

-

"

Sulfur

-

Scott Air Pak used in emergency conditions.

"

WD-40 Spray Penetrant

-

-

"

Super Penetrant-Chemala

-

-

"

Fuel Gas

-

-

"

Methane

-

-

"

Nitrogen

-

-

"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004400

Evacuation

DPMC-10475

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Painters Maint. - N	Acetone	-	-	Respirator not required for evacuation.
	Napko 212 Thinner	Neg. pressure make may be used.	-	"
	Napko 218 Epoxy-cote Thinner	-	-	"
	MEK	Neg. pressure mask may be used during spray painting.	-	"
	Toluene	-	-	"
	Apache-Blast Abrasive	Daily Cesco air hood worn as blasting is done.	-	"
	Xylene	-	-	"
	IPA	-	-	"
Carpenters Maint. - N	Dust	Dust mask may be used periodically.	-	"
	Benzene	Neg. or supplied air respirators may be required on special jobs.	Scott Air Pak used in emergency conditions.	"
	Toluene	-	-	"
	Hexane	-	-	"
	Xylene	-	-	"
	Phenol	Neg. or supplied air respirators may be required on special jobs.	Scott Air Pak used in emergency conditions.	"
	Asphalt	-	-	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004401

Evacuation

Primary Exposure

Routine Use

Emergency Control

Job Category
Carpenters
Maint. - N
(cont'd)

Gas Oil

-

-

Respirator not
required for
evacuation.

Catalyst HEZ-53

-

-

"

Insulators
Maint. - N

Asbestos

Neg. pressure mask during
asbestos removal

-

"

Anhydrous Ammonia

-

-

"

Hydrogen Sulfide

-

-

"

Benzene

Periodically neg. respirator
used in working with equip-
ment.

Scott Air Pak used in
emergency conditions.

"

Chlorine

-

-

"

VM&P

-

-

"

Toluene

Periodically neg. respirator
used in working with equip-
ment.

Scott Air Pak used in
emergency conditions.

"

Mercaptans

"

"

"

Auto Mechanic
Maint. - N

Refinery Chemicals

Respirators may be required.

"

"

Bendix Carburetor
and Metal Cleaner

-

-

"

49A Cold Cleaner

-

-

"

Asbestos Brake Linings
Respirator generally not
required.

-

"

MAINTENANCE - DPMC

14

RESPIRATOR USE REQUIREMENTS

LAM 004402

DPMC-10477

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Auto Mechanic Motor Lab/Tank Farm	Benzene (From Gasoline)	Neg. respirator may be required periodically.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	Gasoline, Neutral	-	-	"
	Gasoline Regular	-	-	"
	VM&P Naphtha EC	-	-	"
	Xylene	-	-	"
	Tetraethyl Lead (TEL)	-	-	"
Heavy Equipment Operator	Refinery Chemicals	Neg. pressure mask use possible; exposures have occurred during shutdowns.	Scott Air Pak used in emergency conditions.	"
Medium Equipment Operator	Refinery Chemicals	"	"	"
Truck Drivers	Refinery Chemicals	"	"	"
Riggers Maint. - N	Refinery Chemicals	Both negative and supplied air respirators may be required on certain jobs.	"	"
Tinners Maint. - N	Inorganic Lead	Negative pressure respirator use possible.	-	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004403

15

DPMC-10478

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Welders Maint. - N	Chrome (fumes)	Both negative and supplied air respirators required under some welding conditions.	-	Respirator not required for evacuation.
	Stainless Steel (fumes)	"	-	"
	Carbon Steel (fumes)	"	-	"
	Refinery Chemicals	"	Scott Air Pak used in emergency conditions.	"
Surveyors Maint. - N	Refinery Chemicals	Respirator use a possibility but potential for use is low.	"	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004404

DPMC-10479

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Boilermakers Maint.-S	ECH	Fresh air required when breaking into a line.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	AC	-	"	"
	IPA	Fresh air required if needs arise to enter a piece of equipment that has not been purged of product or when required by operations on the permit.	"	"
	MEK	"	"	"
	DMK	"	"	"
	Chlorine*	Anytime piping is disconnected or a piece of equipment is removed and the operator requires on the permit either full face air supplied or dual cartridge respirator is requested.	"	CA Plant require Cl ₂ mouth bite respirator.
	HCl	"	"	-
	Caustic Soda	"	"	-
	Ethylene Dichloride	"	"	-
	ETPPI	Fresh air or neg. pressure respirator used as determined by work permit.	Scott Air Pak or fresh air stream in plant areas.	Respirator not required for evacuation.

MAINTENANCE - DPMC

LAM 004405

RESPIRATOR USE REQUIREMENTSJob CategoryPrimary ExposureRoutine UseEmergency ControlEvacuationBoilermaker
Maint.-S
(cont'd)Nitrogen in
SystemFresh air or neg. pressure
respirator used as determined
by work permit.Scott Air Pak or fresh
air system in plant
areas.Respirator not
required for
evacuation.

Glycidol Ethers

"

"

"

Mercaptans

"

"

"

BPA

Dust mask as determined by
work permit.

"

"

MIBK

Fresh air or neg. pressure
respirator used as determined
by work permit.

"

"

Oxitol

"

"

"

Epon Resins

May require dust mask.

"

"

DD

Both neg. pressure and supplied
air respirators used.

"

"

Acetonitrile

"

"

"

Syn Gas

Occasional use of fresh air
respirator when working on
equipment.

"

"

H₂S

"

"

"

Sulfur

"

"

"

VCM

"

"

"

DPMC-10480

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004406

3

DPMC-10481

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Boilermaker Maint. - S (cont'd)	Benzene	Occasional use of fresh air respirator when working on equipment.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
Pipefitters Maint. - S	Polycyclic Aromatics	-	"	"
	1,3-Butadiene	-	"	"
	Benzene	Fresh air required when blinding L.O. dryers and when changing filters on pyrolysis fractionator.	"	"
	Hydrogen Sulfide*	Fresh air required when turning blinds on H ₂ S system & when entering flare system.	"	"
	Polycyclic Aromatics	Fresh air required when blinding & opening pyrolysis fractionator, coke filters and strainers.	"	"
	1,3-Butadiene	Fresh air when blinding equipment containing 1,3 BD and ACN.	"	"
	Acetonitrile	"	"	"
	Syn Gas (Co)	Fresh air when blinding or opening any vessels, pumps or columns.	"	"
	Sulfur	"	"	"
	VCN (Site III)	"	"	"

MAINTENANCE - DPMC

LAM 004407

4

DPMC-10482

RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Pipefitters Maint. - S (cont'd)	ECH	Fresh air required when breaking into a line.	Scott Air Pak used in emergency conditions.	Respirator not required for evacuation.
	AC	"	"	"
	IPA	Fresh air required if needs arise to enter a piece of equipment that has not been purged of product or when required by operations on the permit.	"	"
	MEK	"	"	"
	DMK	"	"	"
	Chlorine*	Anytime piping is disconnected or a piece of equipment is removed and the operator requires on the permit either full face air supplied or dual cartridge respirator is requested.	"	CA Plant require Cl ₂ mouth bite respirator.
	HCl	"	"	-
	Caustic Soda	"	"	-
	Ethylene Dichloride	"	"	-
	DD	"	"	-
	MIBK	Fresh air or neg. pressure respirator used as determined by work permit.	Scott Air Pak or fresh air system in plant areas.	Respirator not required for evacuation.

MAINTENANCE - DPMC

LAM 004408

RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Pipefitter Maint. - S (cont'd)	Oxitol	Fresh air or neg. pressure respirator used as determined by work permit.	Scott Air Pak or fresh air system in plant areas.	Respirator not required for evacuation.
	Epon Resins	May require dust mask.	"	"
	ETPPI	"	"	"
	Nitrogen in System	"	"	"
	Glycidol Ethers	"	"	"
	Mercaptans	"	"	"
	BPA	Dust mask as determined by work permit.	"	"
Machinist Maint. - S	Syn Gas	Occasional use of fresh air respirator when working on contaminated equipment.	Scott Air Pak used in emergency situations.	"
	H ₂ S*	"	"	"
	Sulfur	"	"	"
	VCM	"	"	"
	Benzene	"	"	"
	Polycyclic Aromatics	"	"	"
	1,3 Butadiene	Occasional use of fresh air respirator when working on contaminated equipment.	"	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004409

6

DPMC-10484

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Machinist Maint. - S (cont'd)	Acetonitrile	Occasional use of fresh air respirator when working on contaminated equipment.	Scott Air Pak used in emergency situations.	Respirator not required for evacuation.
	MIBK	Fresh air or neg. pressure respirator used as determined by work permit.	"	"
	MEK	"	"	"
	Oxitol	"	"	"
	Epon Resins	May require dust mask.	"	"
	ETPPI	"	"	"
	ECH	"	"	"
	Nitrogen in System	"	"	"
	AC	Fresh air required when breaking into a line that has a regulated product.	"	"
	IPA	Fresh air required if needs arise to enter a piece of equipment that has not been purged of product or when required by operations on the permit.	"	"
	IPE	"	"	"
	DMK	"	"	"
	HCl	"	"	"

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004410

7

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Machinist
Maint. - S
(cont'd)

Caustic Soda

Fresh air required if need arise to enter a piece of equipment that has not been purged of product or when required by operations on the permit.

Scott Air Pak used in emergency conditions.

Respirator not required for evacuation.

Ethylene Dichloride

"

"

"

DD

"

"

"

Glycidol Ethers

Fresh air or neg. pressure respirators may be required.

"

"

Mercaptans

"

"

"

BPA Dust

Dust mask as determined by work permit.

"

"

Electrician
Maint. - S

Syn Gas

Occasional use of fresh air respirator when working on equipment.

"

"

H₂S

"

"

"

Sulfur

"

"

"

VCM

"

"

"

PBC (in transformer)

"

"

"

Benzene

-

"

"

Polycyclic
Aromatics

-

"

"

1,3-Butadiene

-

"

"

Acetonitrile

-

"

"

LAM 00441

DPMC-10486

MAINTENANCE - DPMC
RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Electrician Maint. - 3 (cont'd)	ECH	-	Scott Air Pak used in emergency situations.	Respirator not required for evacuation.
	AC	-	"	"
	IPA	-	"	"
	IPE	-	"	"
	MEK	-	"	"
	DMK	-	"	"
	Chlorine	-	"	CA Plant require Cl ₂ mouth bite respirator.
	HCl	-	"	Respirator not required for evacuation.
	Caustic Soda	-	"	"
	Ethylene Dichloride	-	"	"
	DD	-	"	"
	VCM	-	"	"
	MIBK	-	"	"
	Oxitol	-	"	"
	Epon Resins	May require dust mask.	"	"
	ETPPI	-	"	"

MAINTENANCE - DPIC

RESPIRATOR USE REQUIREMENTS

LAM 004412

9

Job Category

Primary Exposure

Routine Use

Emergency Control

Evacuation

Electrician
Maint. - S
(cont'd)

Glycidol Ethers

-

Scott Air Pak used in
emergency conditions.

Respirator not
required for
evacuation.

Mercaptans

-

"

"

BPA

-

"

"

Instrument Man
Maint. - S

Syn Gas

Occasional use of fresh air
respirator when working on
contaminated equipment.

"

"

H₂S*

"

"

"

Sulfur

"

"

"

VCM

"

"

"

Benzene

-

"

"

Polycyclic

-

"

"

1,3-Butadiene

-

"

"

Acetonitrile

-

"

"

ECH

-

"

"

AC

-

"

"

IPA

-

"

"

IPE

-

"

"

MEK

-

"

"

DMK

-

"

"

MAINTENANCE - DPMC

LAM 004413

10

RESPIRATOR USE REQUIREMENTS

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Instrument Man Maint. - S (cont'd)	Chlorine	Occasional use of fresh air respirator.	Scott Air Pak used in emergency conditions.	CA Plant require C12 mouth bite respirator.
	HCl	-	"	Respirator not required for evacuation.
	Caustic Soda	-	"	"
	Ethylene Dichloride	-	"	"
	DD	-	"	"
Painters Maint. - S	All chemical plant products	Uses neg. pressure respirator while spray painting.	"	"
Insulator Maint. - S	Asbestos	Use air purifying respirator if possible exposure to asbestos exists.	"	"
Carpenters Maint. - S	Transite	Use air purifying respirator and wet transite while cutting. Dust masks used when sanding or cutting wood.	"	"
Heavy Equipment Operator Medium Equipment Operator Truck Driver Maint. - S	Benzene, as well as other chemical plant products. Hydrogen Sulfide Polycyclic Aromatics	Respirator protection may be required when working with contaminated equipment. " " -	Unlikely but possible use of SCBA. " " "	" " "

MAINTENANCE - DPMC

RESPIRATOR USE REQUIREMENTS

LAM 004414

11

<u>Job Category</u>	<u>Primary Exposure</u>	<u>Routine Use</u>	<u>Emergency Control</u>	<u>Evacuation</u>
Heavy Equipment Operator Medium Equipment Operator Truck Driver Maint. - S (cont'd)	1,3-Butadiene Acetonitrile	- -	Unlikely but possible use of SCBA. "	Respirator not required for evacuation. "
Brickmason Maint. - S	All chemical plant products	Respirator may be required in isolated cases (sewer work).	-	"
Riggers (work with pipefitters/boilermakers in field) Maint. - S	All chemical plant products	Respirator protection may be required when working with contaminated equipment.	Scott Air Pak used in emergency conditions.	"
Welders Maint. - S	All chemical plant products & welding fumes	May be required to use either air supplied or neg. pressure respirator.	"	"
Tinners Maint. - S	All chemical plant products & welding fumes	"	"	"