

SE PPE Grid																							
Task	Chemical	Hazard	Pathway of Exposure and Affected Body Part	Degree of Exposure	Eyes/Face		Misc		RESPIRATORY				Body			FEET		Hand					General Comments : The list of PPE noted is considered to be the minimum PPE required to perform each of the given tasks. Higher levels of PPE may be used if desired. Standard FRC (Nomex) is issued to all Dow and in-house Maintenance employees. Due to the variability in business and block requirements, higher levels of PPE may be required. This will be addressed during the Safe Work Permit process or by consulting your Local EH&S Delivery contact if appropriate.
					Chemical Goggles (Monogoggles)	Face Shield	Double Hearing Protection	Fall Protection	Half-Face with Organic Vapor cartridges	Full-Face (air purifying via cartridge)	Airline respirator or SCBA	Dust mask	Tyvek suit	Saranex suit	Aluminized Suit	Chemical protection & Flame retardant suit	Chemical Resistant boots	Di-electric rubber boots	Cut Resistance Gloves/Stainless steel glove	Cut Resistance Sleeves	Nitrile glove (plant type)	Heat Resistant (GLOVE CRUSADER FLEX) temp < 200 oC	

Minimum PPE for SE : Safety Glass, Safety Shoe, Hard hat, FRC suit, Ear plug/ear muff and Leather glove

01. Fresh Solvent & Purification																					
Loading/ Unloading (isotank)	Solvent (C7-C8 n-Parfin)	Highly flammable, Irritating to skin, may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness	Inhalation and skin	High	X	X	**	X												X	Cartridge#1053 Dispose after used (Not using carriage more than 3 Hrs.)
Line/Equipment Openings - not verified free of contaminants (i.e. initial breaking and entering) Includes hot bolting	Solvent (C7-C8 n-Parfin)	Highly flammable, Irritating to skin, may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness	Inhalation and skin	Moderate to high during line breaks.																X	RPE can be downgraded when exposure below OEL
Line/Equipment Openings - verified free of contaminants	Solvent (C7-C8 n-Parfin)	Highly flammable, Irritating to skin, may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness	Inhalation and Skin	Low	X*	X*															
02.Ethylene Feed & Purification Unit, 14. Recycle Ethylene																					
Line/Equipment Openings - not verified free of contaminants (i.e. initial breaking) Includes hot bolting	Ethylene and Fuel Gas	Extremely Flammable, Asphyxiant, Anesthetic at high concentrations	Inhalation, full body exposure to flash fire hazard	Moderate																X	RPE can be downgraded when exposure below OEL
	DOWTHERM* SR-1 Heat Transfer Fluid	Primarily irritation to skin, eyes and possibly respiratory tract.	Inhalation/skin contact with vapors or liquids.	Moderate																X	RPE can be downgraded when exposure below OEL
Line/Equipment Openings - verified free of contaminants and /or or working with small quantities that can't be cleared	Ethylene and Fuel Gas	Extremely Flammable, Asphyxiant, Anesthetic at high concentrations	Inhalation, full body exposure to flash fire hazard	Low	X*	X*															
	DOWTHERM* SR-1 Heat Transfer Fluid, Dyed	Primarily irritation to skin, eyes and possibly respiratory tract.	Inhalation/skin contact with vapors or liquids.	Low	X*	X															
Equipment maintenance (Includes filter changes)	Ethylene and Fuel Gas	Extremely Flammable, Asphyxiant, Anesthetic at high concentrations	Inhalation, full body exposure to flash fire hazard	Low																	

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					Chemical Goggles (Monogoggles)	Face Shield	Double Hearing Protection	Fall Protection	Half-Face with Organic Vapor cartridges	Full-Face (air purifying via cartridge)	Airline respirator or SCBA	Dust mask	Tyvek suit	Saranex suit	Aluminized Suit	Chemical protection & Flame retardant suit	Chemical Resistant boots	Di-electric rubber boots	Cut Resistance Gloves/Stainless steel glove	Cut Resistance Sleeves	Nitrile glove (plant type)	Heat Resistant (GLOVE CRUSADER FLEX) temp < 200 oC	
Take sample	Ethylene and Fuel Gas	Extremely Flammable, Asphyxiant, Anesthetic at high concentrations	Inhalation, full body exposure to flash fire hazard	Low	X*	X*																	
03. Butene Feed & Purification Unit																							
Line and equipment opening- Not verified free of contaminants	Butene	Extremely flammable	Inhalation	Moderate to high during line breaks.																	X	RPE can be downgraded when exposure below OEL	
Line and equipment opening- Verified free of contaminants	Butene	Extremely flammable	inhalation	Low	X*	X*																	
04. Octene Feed & Purification, 05. Octene Terminal Unit																							
Line/Equipment Openings - not verified free of contaminants (i.e. initial breaking and entering - Includes hot bolting)	Octene			Moderate																	X	RPE can be downgraded when exposure below OEL	
Line/Equipment Openings - verified free of contaminants and /or or working with small quantities that can't be cleared	Octene	Irritating to skin and respiratory tract. Inhalation produces CNS effects. Flammable.	Inhalation of vapors and skin contact with liquid.	Low	X*	X*																	
Equipment maintenance (Includes filter changes)	Octene			Low																			
Sample Collection	Octene			Low	X*	X*															X		
06. Slurry Additive																							
Unloading/loading	PEGAO 2254, IRGANOX B 973 FF, IRGANOX 1010, IRGANOX 1076, Calcium stearate,	Potential irritation to skin and respiratory tract. Potential sensitizer in some cases.	Potential irritation to skin and respiratory tract. Potential sensitizer in some cases.	Potentially high depending on controls in place.	X																		
Line/Equipment Openings - not verified free of contaminants	PEGAO 2254, IRGANOX B 973 FF, IRGANOX 1010, IRGANOX 1076, Calcium stearate,	Potential irritation to skin and respiratory tract. Potential sensitizer in some cases.	Potential irritation to skin and respiratory tract. Potential sensitizer in some cases.	Low																	X	RPE can be downgraded when exposure below OEL	
Line/Equipment Openings - verified free of contaminants	PEGAO 2254, IRGANOX B 973 FF, IRGANOX 1010, IRGANOX 1076, Calcium stearate,	Potential irritation to skin and respiratory tract. Potential sensitizer in some cases.	Potential irritation to skin and respiratory tract. Potential sensitizer in some cases.	Low	X	X																	
Sample Collection	PEGAO 2254, IRGANOX B 973 FF, IRGANOX 1010, IRGANOX 1076, Calcium stearate,	Potential irritation to skin and respiratory tract. Potential sensitizer in some cases.	Potential irritation to skin and respiratory tract. Potential sensitizer in some cases.	Low	X	X			X												X	Cartridge#1053/#1050 Change filters when dirty, damaged, or increased breathing resistance is noticed	

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					Chemical Goggles (Monogoggles)	Face Shield	Double Hearing Protection	Fall Protection	Half-Face with Organic Vapor cartridges	Full-Face (air purifying via cartridge)	Airline respirator or SCBA	Dust mask	Tyvek suit	Saranex suit	Aluminized Suit	Chemical protection & Flame retardant suit	Chemical Resistant boots		Di-electric rubber boots	Cut Resistance Gloves/Stainless steel glove	Cut Resistance Sleeves	Nitrile glove (plant type)	Heat Resistant (GLOVE CRUSADER FLEX) temp < 200 oC	PVC glove	Neoprene_Neox glove (protect corrosive chemicals and oil)	Aluminized glove				
07. Hydrogen System																														

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Line/Equipment Openings - not verified free of contaminants	DOC 6114	Severe irritation, burning with contact skin and eyes. High concn. Of vapor may cause narcosis and anesthesia or death	Skin and inhalation	Moderate to high																	X	RPE can be downgraded when exposure below OEL					
Line/Equipment Openings - verified free of contaminants	DOC 6114		Skin and inhalation	Low	X*	X*																					
Sample Collection	DOC 6114		Skin and inhalation	Low	X	X																	Leather glove could be used for catching pyrophoric sample				
Unloading/ loading	DOC-5215	Harmful if inhaled Causes skin irritation Causes serious eye irritation	Skin, Eye and Inhalation	Low potential for exposure but consequences are severe.	X	X				X												X	Cartridge#1053 Change filters when use 40 hrs or 2 mth whichever come first.				
Line/Equipment Openings - not verified free of contaminants				Moderate potential with severe consequences																					X	RPE can be downgraded when exposure below OEL	
Line/Equipment Openings - verified free of contaminants				Low potential for exposure but consequences are severe.	X*	X*																					
Sample Collection				Low potential for exposure but consequences are severe.	X	X																					Leather glove could be used for catching pyrophoric sample
Unloading/loading chemical	RIB-2	This materail may be harmful if swallowed, inhaled, or injected into skin. High concn. Of vapor may cause nacrosis and anethersia or death	Skin and inhalation	Moderate to high	X																		X				
Line/Equipment Openings - not verified free of contaminants	RIB-2	This materail may be harmful if swallowed, inhaled, or injected into skin. High concn. Of vapor may cause nacrosis and anethersia or death	Skin and inhalation	Moderate to high																			X	RPE can be downgraded when exposure below OEL			
Line/Equipment Openings - verified free of contaminants	RIB-2	This materail may be harmful if swallowed, inhaled, or injected into skin. High concn. Of vapor may cause nacrosis and anethersia or death	Skin and inhalation	low	X	X																					
Sample Collection	RIB-2	This materail may be harmful if swallowed, inhaled, or injected into skin. High concn. Of vapor may cause nacrosis and anethersia or death	Skin and inhalation	low	X					X														- Cartridge#1053 Change filters when use 2 hrs or 2 mth whichever come first. - Leather glove could be used for catching pyrophoric sample			
Unloading/loading chemical	HEC	This materail may be harmful if swallowed, inhaled, or injected into skin. High concn. Of vapor may cause drowsiness and dizziness.	Skin and inhalation	Moderate to high	X	X																					
Line/Equipment Openings - not verified free of contaminants	HEC	This materail may be harmful if swallowed, inhaled, or injected into skin. High concn. Of vapor may cause drowsiness and dizziness.	Skin and inhalation	Moderate to high																				RPE can be downgraded when exposure below OEL			
Line/Equipment Openings - verified free of contaminants	HEC	This materail may be harmful if swallowed, inhaled, or injected into skin. High concn. Of vapor may cause drowsiness and dizziness.	Skin and inhalation	low	X*	X*																		Cartridge#1053 Change filters when use 5 hrs or 2 mth whichever come first.			

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Sample Collection	HEC	This material may be harmful if swallowed, inhaled, or injected into skin. High concn. Of vapor may cause drowsiness and dizziness.	Skin and inhalation	low	X	X			X									X				Cartridge#1053 Change filters when use 5 hrs or 2 mth whichever come first.			
Unloading/loading chemical	TEA	When mixed with solvents not necessarily pyrophoric, but still highly reactive with air and moisture. Decom products flammable. Produces severe thermal and chemical burns.	Damaging to skin, eyes, and respiratory tract. Avoid inhalation and/or skin contact.	Low potential for exposure but consequences are severe.	X	X			X						X						X	Cartridge#1053 Change filters when use 40 hrs or 2 mth whichever come first.			
Line/Equipment Openings - not verified free of contaminants				Moderate potential with severe consequences										RA			X		X					X	RPE can be downgraded when exposure below OEL
Line/Equipment Openings - verified free of contaminants				Low potential for exposure but consequences	X*	X*														X					
Sample Collection				Low potential for exposure but consequences are severe.	X	X					X						X								- Cartridge#1053 Change filters when use 40 hrs or 2 mth whichever come first. - Leather glove could be used for catching pyrophoric sample