Fire Safety Concept Tree scenario worksheet (NFPA 550)

Company	: ICL Industrial Products	Behandelt door	:
Area	: BN1-opslag	Date	: 14-3-2012
Scenario nr.	: 1		:
Scenario title	: Plasbrand nabij IBC's binnen de opslag door operatorfout		

Scenario consequences		**Direct causes**	
Constructie	: Kalkzandsteen constructie 60 min brandwerend		:
Apparatuur	:		:
Kabels	:		:
Bluswaterleiding	:		:
Besmetting product	:		:
Sumps	:		:
Luchtleidingen	:		:
Koelwater systeem	:		:
Blankets, stikstofsysteem	:		:
	:		:
	:		:
	:		:

Preventive LOD's		**Securing LOD's**	
nr.		nr.	
1	: Hi-Ex inside air schuimblusinstallatie		:
2	: Omhulling 60 min WBDBO uitgevoerd		:
3	: Brandmeldinstallatie met volledige detectie		:
	:		:
	:		:
	:		:
	:		:
	:		:
	:		:

Concept checklist	Manage method	To be used	Control item	To be used	How	How (2nd level)	Acceptable/ Possible	Remarks
Manage fire	Control combustion process	☐	Control fuel	☐	Control fuel properties, **or**		☐	
			OR		Limit fuel quantity, **or**		☐	
					Control fuel distribution		☐	
			Control the environment	☐	Control physical properties of enviroment, **or**		☐	
	OR				Control chemical composition of enviroment		☐	
	Surpress fire	☑	Automaticaly surpress fire	☑	Detect fire, **and**		☑	Volledige detectie
			OR		Apply sufficient surpressant		☑	Hi-Ex inside air schuimblusinstallatie
			Manually surpress fire	☐	Detect fire, **and**		☑	Volledige detectie
					Communicate signal, **and**		☑	Akoestisch alarm
					Decide action, **and**		☐	
					Respond to site, **and**		☐	
					Apply sufficient surpressant, **and**		☐	
	OR				Accessable, **and**		☐	
					Workable		☐	
	Control fire by construction	☑	Control movement of fire **AND**	☑	Vent fire, **or**		☐	
					Confine/contain fire		☑	Brandcompartimenten < 1.000 m2
			Provide structural stability				☑	Compartiment 60 minuten brandwerend utigevoerd
Manage exposed	Limit amount exposed						☑	Vluchtafstand ruim binnen gestelde eis
	Safeguard exposed	☐	Defend exposed in place,	☐	Restrict movement of exposed, and		☐	
					Defend the place, **and** ☐	Defend against fire products, and	☐	
						Provide structural stability	☐	
			OR		Maintain essential enviroment		☐	
			Move exposed	☐	Cause movement of exposed, **and** ☐	Detect need, and	☐	
						Signal need, and	☐	
						Provide instructions	☐	
					Provide movement need ☐	Provide capacity, and	☐	
						Provide route completeness, and	☐	
						Provide protected path, and	☐	
						Provide route access	☐	
Prevent fire ignition	Control heat-energy sources	☐	Eliminate heat-energy sources, or				☐	
			Control rate of heat-energy release				☐	
	Control source-fuel interactions	☐	Control heat-energy source transport, **and**	☐	Provide separation, or		☐	
					Provide barrier		☐	
			Control heat-energy transfer processes, **and**	☐	Control conduction, **and**		☐	
					Control convection, **and**		☐	
					Control radiation		☐	
			Control fuel transport	☐	Provide barrier, **or**		☐	
					Provide separation		☐	
	Control fuel	☐	Eliminate fuel(s), or				☐	
			Control fuel ignitibility	☐	Control fuel properties, **or**		☐	
					Control the environment		☐	

Fire Safety Concept Tree scenario worksheet (NFPA 550)

Company	:	ICL Industrial Products	Behandelt door	:	[illegible]
Area	:	BN1-opslag	Date	:	14-3-2012
Scenario nr.	:	2		:	
Scenario title	:	Plasbrand nabij IBC's binnen de opslag door lekkage van IBC			

Scenario consequences			**Direct causes**		
Constructie	:	Kalkzandsteen constructie 60 min brandwerend		:	
Apparatuur	:			:	
Kabels	:			:	
Bluswaterleiding	:			:	
Besmetting product	:			:	
Sumps	:			:	
Luchtleidingen	:			:	
Koelwater systeem	:			:	
Blankets, stikstofsysteem	:			:	
	:			:	
	:			:	
	:			:	

Preventive LOD's			**Securing LOD's**		
nr.			nr.		
1	:	Hi-Ex inside air schuimblusinstallatie		:	
2	:	Omhulling 60 min WBDBO uitgevoerd		:	
3	:	Brandmeldinstallatie met volledige detectie		:	
	:			:	
	:			:	
	:			:	
	:			:	
	:			:	
	:			:	

Concept checklist	Manage method	To be used	Control item	To be used	How	How (2nd level)	Acceptable/ Possible	Remarks
Manage fire	Control combustion process	☐	Control fuel	☐	Control fuel properties, **or**		☐	
			OR		Limit fuel quantity, **or**		☐	
					Control fuel distribution		☐	
			Control the environment	☐	Control physical properties of enviroment, **or**		☐	
	OR				Control chemical composition of enviroment		☐	
	Surpress fire	☑	Automaticaly surprress fire	☑	Detect fire, **and**		☑	Volledige detectie
			OR		Apply sufficient surpressant		☑	Hi-Ex inside air schuimblusinstallatie
			Manually surpress fire	☐	Detect fire, **and**		☑	Volledige detectie
					Communicate signal, **and**		☑	Akoestisch alarm
					Decide action, **and**		☐	
					Respond to site, **and**		☐	
					Apply sufficient surpressant, **and**		☐	
	OR				Accessable, **and**		☐	
					Workable		☐	
	Control fire by construction	☑	Control movement of fire **AND**	☑	Vent fire, **or**		☐	
					Confine/contain fire		☑	Brandcompartimenten < 1.000 m2
			Provide structural stability				☑	Compartiment 60 minuten brandwerend utigevoerd
Manage exposed	Limit amount exposed						☑	Vluchtafstand ruim binnen gestelde eis
	Safeguard exposed	☐	Defend exposed in place,	☐	Restrict movement of exposed, and		☐	
					Defend the place, **and** ☐	Defend against fire products, and	☐	
						Provide structural stability	☐	
			OR		Maintain essential enviroment		☐	
			Move exposed	☐	Cause movement of exposed, **and** ☐	Detect need, and	☐	
						Signal need, and	☐	
						Provide instructions	☐	
					Provide movement need ☐	Provide capacity, and	☐	
						Provide route completeness, and	☐	
						Provide protected path, and	☐	
						Provide route access	☐	
Prevent fire ignition	Control heat-energy sources	☐	Eliminate heat-energy sources, or				☐	
			Control rate of heat-energy release				☐	
	Control source-fuel interactions	☐	Control heat-energy source transport, **and**	☐	Provide separation, or		☐	
					Provide barrier		☐	
			Control heat-energy transfer processes, **and**	☐	Control conduction, **and**		☐	
					Control convection, **and**		☐	
					Control radiation		☐	
			Control fuel transport	☐	Provide barrier, **or**		☐	
					Provide separation		☐	
	Control fuel	☐	Eliminate fuel(s), or				☐	
			Control fuel ignitibility	☐	Control fuel properties, **or**		☐	
					Control the environment		☐	

Fire Safety Concept Tree scenario worksheet (NFPA 550)

Company	:	ICL Industrial Products	Behandelt door	:	
Area	:	Loods 8-opslag	Date	:	14-3-2012
Scenario nr.	:	3		:	
Scenario title	:	Plasbrand nabij IBC's binnen de opslag door operatorfout			

Scenario consequences			**Direct causes**		
Constructie	:	Kalkzandsteen constructie 60 min brandwerend		:	
Apparatuur	:			:	
Kabels	:			:	
Bluswaterleiding	:			:	
Besmetting product	:			:	
Sumps	:			:	
Luchtleidingen	:			:	
Koelwater systeem	:			:	
Blankets, stikstofsysteem	:			:	
	:			:	
	:			:	
	:			:	

Preventive LOD's			**Securing LOD's**		
nr.			nr.		
1	:	Omhulling 60 min WBDBO uitgevoerd		:	
2	:	Brandmeldinstallatie met volledige detectie		:	
	:			:	
	:			:	
	:			:	
	:			:	
	:			:	
	:			:	
	:			:	

Concept checklist	Manage method	To be used	Control item	To be used	How	How (2nd level)	Acceptable/ Possible	Remarks
Manage fire	Control combustion process	☐	Control fuel	☐	Control fuel properties, **or**		☐	
			OR		Limit fuel quantity, **or**		☐	
					Control fuel distribution		☐	
			Control the environment	☐	Control physical properties of enviroment, **or**		☐	
	OR				Control chemical composition of enviroment		☐	
	Surpress fire	☐	Automaticaly surprress fire	☑	Detect fire, **and**		☑	Volledige detectie
			OR		Apply sufficient surpressant		☐	
			Manually surpress fire	☐	Detect fire, **and**		☑	Volledige detectie
					Communicate signal, **and**		☑	Akoestisch alarm
					Decide action, **and**		☐	
					Respond to site, **and**		☐	
					Apply sufficient surpressant, **and**		☐	
	OR				Accessable, **and**		☐	
					Workable		☐	
	Control fire by construction	☐	Control movement of fire **AND**	☐	Vent fire, **or**		☐	
					Confine/contain fire		☐	Brandcompartimenten > 1.000 m2
			Provide structural stability				☑	Compartiment 60 minuten brandwerend utigevoerd
Manage exposed	Limit amount exposed						☑	Vluchtafstand ruim binnen gestelde eis
	Safeguard exposed	☐	Defend exposed in place,	☐	Restrict movement of exposed, and		☐	
					Defend the place, **and** ☐	Defend against fire products, and	☐	
						Provide structural stability	☐	
			OR		Maintain essential enviroment		☐	
			Move exposed	☐	Cause movement of exposed, **and** ☐	Detect need, and	☐	
						Signal need, and	☐	
						Provide instructions	☐	
					Provide movement need ☐	Provide capacity, and	☐	
						Provide route completeness, and	☐	
						Provide protected path, and	☐	
						Provide route access	☐	
Prevent fire ignition	Control heat-energy sources	☐	Eliminate heat-energy sources, or				☐	
			Control rate of heat-energy release				☐	
	Control source-fuel interactions	☐	Control heat-energy source transport, **and**	☐	Provide separation, or		☐	
					Provide barrier		☐	
			Control heat-energy transfer processes, **and**	☐	Control conduction, **and**		☐	
					Control convection, **and**		☐	
					Control radiation		☐	
			Control fuel transport	☐	Provide barrier, **or**		☐	
					Provide separation		☐	
	Control fuel	☐	Eliminate fuel(s), or				☐	
			Control fuel ignitibility	☐	Control fuel properties, **or**		☐	
					Control the environment		☐	

Fire Safety Concept Tree scenario worksheet (NFPA 550)

Company	:	ICL Industrial Products	Behandelt door	:	
Area	:	Loods 8-opslag	Date	:	14-3-2012
Scenario nr.	:	4		:	
Scenario title	:	Plasbrand nabij IBC's binnen de opslag door lekkage van IBC			

Scenario consequences			**Direct causes**		
Constructie	:	Kalkzandsteen constructie 60 min brandwerend		:	
Apparatuur	:			:	
Kabels	:			:	
Bluswaterleiding	:			:	
Besmetting product	:			:	
Sumps	:			:	
Luchtleidingen	:			:	
Koelwater systeem	:			:	
Blankets, stikstofsysteem	:			:	
	:			:	
	:			:	
	:			:	

Preventive LOD's			**Securing LOD's**		
nr.			nr.		
1	:	Omhulling 60 min WBDBO uitgevoerd		:	
2	:	Brandmeldinstallatie met volledige detectie		:	
	:			:	
	:			:	
	:			:	
	:			:	
	:			:	
	:			:	
	:			:	
	:			:	

Concept checklist	Manage method	To be used	Control item	To be used	How	How (2nd level)	Acceptable/ Possible	Remarks
Manage fire	Control combustion process	☐	Control fuel	☐	Control fuel properties, **or**		☐	
			OR		Limit fuel quantity, **or**		☐	
					Control fuel distribution		☐	
			Control the environment	☐	Control physical properties of enviroment, **or**		☐	
	OR				Control chemical composition of enviroment		☐	
	Surpress fire	☐	Automaticaly surprress fire	☐	Detect fire, **and**		☑	Volledige detectie
					Apply sufficient surpressant		☐	
			OR					
			Manually surpress fire	☐	Detect fire, **and**		☑	Volledige detectie
					Communicate signal, **and**		☑	Akoestisch alarm
					Decide action, **and**		☐	
					Respond to site, **and**		☐	
					Apply sufficient surpressant, **and**		☐	
	OR				Accessable, **and**		☐	
					Workable		☐	
	Control fire by construction	☐	Control movement of fire **AND**	☐	Vent fire, **or**		☐	
					Confine/contain fire		☐	Brandcompartimenten > 1.000 m2
			Provide structural stability				☑	Compartiment 60 minuten brandwerend utigevoerd
Manage exposed	Limit amount exposed						☑	Vluchtafstand ruim binnen gestelde eis
	Safeguard exposed	☐	Defend exposed in place,	☐	Restrict movement of exposed, and		☐	
					Defend the place, **and** ☐	Defend against fire products, and	☐	
						Provide structural stability	☐	
			OR		Maintain essential enviroment		☐	
			Move exposed	☐	Cause movement of exposed, **and** ☐	Detect need, and	☐	
						Signal need, and	☐	
						Provide instructions	☐	
					Provide movement need ☐	Provide capacity, and	☐	
						Provide route completeness, and	☐	
						Provide protected path, and	☐	
						Provide route access	☐	
Prevent fire ignition	Control heat-energy sources	☐	Eliminate heat-energy sources, or				☐	
			Control rate of heat-energy release				☐	
	Control source-fuel interactions	☐	Control heat-energy source transport, **and**	☐	Provide separation, or		☐	
					Provide barrier		☐	
			Control heat-energy transfer processes, **and**	☐	Control conduction, **and**		☐	
					Control convection, **and**		☐	
					Control radiation		☐	
			Control fuel transport	☐	Provide barrier, **or**		☐	
					Provide separation		☐	
	Control fuel	☐	Eliminate fuel(s), or				☐	
			Control fuel ignitibility	☐	Control fuel properties, **or**		☐	
					Control the environment		☐	