



**AUTORIZZAZIONE INTEGRATA AMBIENTALE**  
**ALLEGATO D11: ANALISI DI RISCHIO**  
**PER LA PROPOSTA IMPIANTISTICA**  
**PER LA QUALE SI RICHIEDE**  
**L'AUTORIZZAZIONE**

*RAFFINERIA DI GELA*

# **INDICE**

<b>1. ADOZIONE DI MISURE PER PREVENIRE GLI INCIDENTI E LIMITARE LE CONSEGUENZE.....</b>	<b>3</b>
1.1 RISULTATI DELLA VALUTAZIONE .....	3

## **1. ADOZIONE DI MISURE PER PREVENIRE GLI INCIDENTI E LIMITARE LE CONSEGUENZE**

Il presente documento riporta in maniera sintetica il quadro aggiornato dell'analisi di rischio relativa alla Raffineria di Gela, a seguito dell'applicazione alle seguenti categorie:

- movimentazione e trasporto all'interno del sito produttivo;
- stoccaggi in serbatoi;
- operazioni di processo;
- emissioni derivanti dal processo;
- aspetti di sicurezza in generale;

L'identificazione degli scenari incidentali è stata derivata dalla valutazione condotta e riportata nel Rapporto di Sicurezza per la raffineria ai sensi dell'art.6 del D.Lgs. 334/99.

Nei paragrafi che seguono sono riportate, categoria per categoria, le informazioni relative a:

- identificazione dell'evento incidentale;
- frequenza di accadimento dell'evento;
- indicazione dei possibili scenari incidentali associati all'evento;
- frequenza di accadimento di ciascun scenario incidentale;
- durata dello scenario incidentale;
- distanze di danno in funzione delle soglie di riferimento applicabili (DM 09.05.2001)

In generale, un evento è stato ritenuto credibile è pertanto si è proceduto alla analisi dei possibili scenari associati ed alle relative conseguenze in accordo ai criteri indicati in tabella.

Eventi incidentali	Frequenza di accadimento superiore a $1,0 \cdot 10^{-5}$ eventi/anno
Scenari incidentali	Frequenza di accadimento superiore a $1,0 \cdot 10^{-5}$ eventi/anno

### **1.1 Risultati della valutazione**

Dall'analisi condotta e descritta in dettaglio nell'allegato tabellare (Tabella D 3.2 C), il criterio di soddisfazione relativo al rischio indica che il rischio risulta sempre accettabile.

**TABELLA D 3.2 C**

**Nota metodologica**

L'elaborazione della stima delle conseguenze degli scenari incidentali credibili individuati è stata effettuata utilizzando codici di calcolo unificati.

I modelli utilizzati per la modellazione sono i seguenti:

I modelli utilizzati per la modellazione dei TOP impianto sono i seguenti:

- o ALOHA (EPA)
- o CHEMS (ADL)
- o EFFECT (TNO);
- o FRED (Shell International)
- o SIRIO (Eidos)

Come valori di riferimento atti a caratterizzare i risultati della modellazione degli effetti pericolosi in termini di estensione dell'area soggetta a determinare intensità di rischio, sono stati adottati quelli previsti dai DM LL.PP. 9 Maggio 2001, DM Ambiente del 15 Maggio 1986 e DM Ambiente del 20 Ottobre 1998, sintetizzati nella seguente tabella:

**Tabella 3 – Valori di riferimento adottati per la stima degli effetti degli scenari incidentali**

Scenario incidentale	Soglie di danno a persone e strutture				
	Elevata letalità	Inizio letalità	Lesioni irreversibili	Lesioni reversibili	Danni alle strutture/Effetto domino
Incendio (radiazione termica stazionaria)	12,5 kW/m <sup>2</sup>	7 kW/m <sup>2</sup>	5 kW/m <sup>2</sup>	3 kW/m <sup>2</sup>	12,5 kW/m <sup>2</sup>
Flash-fire (radiazione termica istantanea)	LFL	LFL/2	-	-	-
UVCE/CVE (sovrapressione di picco)	0,3 bar (0,6 bar spazi aperti)	0,14 bar	0,07 bar	0,03 bar	0,3 bar
BLEVE/fireball (radiazione termica variabile)	Raggio fireball	350 kJ/m <sup>2</sup>	200 kJ/m <sup>2</sup>	125 kJ/m <sup>2</sup>	200-800 m (*)
Rilascio tossico	LC50 (30 min, hmn)	-	IDLH	-	-

Di seguito si riporta l'analisi di rischio effettuata sugli eventi incidentali con frequenza di accadimento superiore a  $1,0 \times 10^{-5}$  eventi/anno

## 5.2.2 Eventi incidentali credibili Raffineria di Gela

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE			RILASCIO TOSSICO			SOVRAPRESSIONE					
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Acido solforico	9	Perdita da linea ricezione idrogeno solforato da impianti di raffineria	3.0E-5	0.26	2F	---	---	---	---	---	---	---	---	3.0E-5	Mai	65	---	---	---	---	---
					5D		---	---	---	---		---	Mai		85	---		---	---	---	
Alchilazione	19	Perdita da linea ricezione GPL da HIB	1.5E-5	1.21	2F	1.8E-6	10	12	13	15	1.5E-6	68	99	---	---	---	---	---	---	---	---
					5D		10	12	13	15		41	59		---	---		---	---		
Alchilazione	20	Perdita da linea invio propano liquido a Parco GPL	2.0E-4	1.28	2F	8.3E-5	14	17	18	22	7.8E-5	73	105	---	---	---	---	---	---	---	---
					5D		15	18	20	22		43	63		---	---		---	---		
Alchilazione	21	Rottura di stacchi/dreni/spurghi	1.0E-5	5.8 [Gpl] 0.12 [HF]	2F	4.1E-6	28	32	37	43	3.9E-6	133	193	5.9E-6	334	691	(1)	16	67	88	171
					5D		28	32	35	41		79	114		93	183		10	42	54	106
Blow-Down/Torce	4	Perdita dal circuito di Blow Down	N/A	2.7	2F	---	---	---	---	---	N/A	42	61	---	---	---	---	---	---	---	---
					5D		---	---	---	---		25	36		---	---		---	---		
Blow-Down/Torce	5	Rottura di accoppiamento flangiato per dilatazione termica	N/A	2.7	2F	---	---	---	---	---	N/A	42	61	---	---	---	---	---	---	---	---
					5D		---	---	---	---		25	36		---	---		---	---		
Blow-Down/Torce	6	Infragilimento da freddo rete collettore Blow Down	N/A	2.7	2F	---	---	---	---	---	N/A	42	61	---	---	---	---	---	---	---	---
					5D		---	---	---	---		25	36		---	---		---	---		
Butamer	1	Rilascio in atmosfera da colonna C1	3.1E-1	30.00	2F	3.5E-2	Mai	Mai	Mai	Mai	2.9E-2	10	38	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	41		16	17		---	---		---	---		
Butamer	2	Rilascio in atmosfera da colonna C2	3.0E-1	30.00	2F	3.5E-2	Mai	Mai	Mai	Mai	2.9E-2	10	38	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	41		16	17		---	---		---	---		

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
			W	F [Kg/s]	CA	IRRAGGIAMENTO				FLASH FIRE			RILASCIO TOSSICO		SOVRAPRESSIONE						
						W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Butamer	3	Rilascio in atmosfera da colonna C3	5.7E-5	30.00	2F	6.8E-6	Mai	Mai	Mai	Mai	5.6E-6	10	38	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	41		16	17		---	---		---			
Butamer	6	Rilascio in atmosfera da accumulatore pre-reattori	2.9E-1	12.88	2F	2.1E-2	Mai	17	32	48	1.5E-2	<10	12	---	---	---	---	---	---	---	---
					5D		12	30	37	52		<10	21		---	---		---			
Butamer	7	Rilascio in atmosfera da reattori	2.9E-1	20.00	2F	3.5E-2	Mai	23	38	51	2.9E-2	13	14	---	---	---	---	---	---	---	---
					5D		21	35	41	57		18	19		---	---		---			
Butamer	8	Perdita da linea ricezione idrogeno	6.1E-5	0.21	2F	6.1E-5	Mai	Mai	Mai	5	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	8		---	---		---	---		---			
Butamer	9	Perdita da linea ricezione GPL	7.2E-5	8.4	2F	2.8E-5	64	84	93	116	2.7E-5	159	231	---	---	---	1.4E-6	19	83	108	211
					5D		53	62	72	82		94	138		---	---		---	12	51	66
Butamer	13	Apertura intempestiva PSV colonna C1	1.2E-4	30.00	2F	1.4E-5	Mai	Mai	Mai	Mai	1.2E-5	10	38	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	41		16	17		---	---		---			
Butamer	14	Apertura intempestiva PSV colonna C2	3.0E-5	30.00	2F	3.5E-6	Mai	Mai	Mai	Mai	2.9E-6	10	38	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	41		16	17		---	---		---			
Butamer	15	Apertura intempestiva PSV colonna C3	3.0E-5	30.00	2F	3.5E-6	Mai	Mai	Mai	Mai	2.9E-6	10	38	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	41		16	17		---	---		---			
Butamer	16	Apertura intempestiva PSV reattori	3.0E-5	20.00	2F	3.5E-6	Mai	23	38	51	2.9E-6	13	14	---	---	---	---	---	---	---	---
					5D		21	35	41	57		18	19		---	---		---			
Butamer	17	Perdita da linea d'invio pentani a BTX	1.5E-4	2.62	2F	6.1E-5	26	36	43	54	5.8E-5	99	144	---	---	---	---	---	---	---	---
					5D		36	44	50	58		59	86		---	---		---			
C101	5	Perdita linea arrivo carica da Merx 3	6.1E-5	3.49	2F	2.5E-5	30	36	40	50	2.4E-5	120	174	---	---	---	(1)	14	61	79	155
					5D		32	36	40	48		71	104		---	---		---	9	38	49





IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:						
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH	0.3	0.14	0.07	0.03	
Centrale Termoelettrica/ Snox/Parco Carbone Is. 29	1	Overfilling del serbatoio S44	2.2E-4	17.8	2F	4.7E-5	28	39	46	52	4.3E-5	11	16	---	---	---	---	---	---	---	---
					5D		41	43	53	61		9	12		---	---		---			
Centrale Termoelettrica/ Snox/Parco Carbone Is. 29	5	Apertura intempestiva PSV851	3.0E-5	0.59	2F	---	---	---	---	---	---	---	---	(1)	Mai	Mai	---	---	---	---	---
					5D		---	---	---	---		---	---		Mai	Mai		---	---	---	
Deposito interno	1	Affondamento del tetto S14 per incastramento del tetto	N/A	N/A	2F	N/A	Mai	29	35	44	N/A	25	39	---	---	---	---	---	---	---	---
					5D		24	36	42	50		11	19		---	---		---			
Deposito interno	3	Trabocco di benzina dal tetto del serbatoio S14	2.0E-4	N/A	2F	8.2E-5	24	37	48	64	7.8E-5	71	104	---	---	---	---	---	---	---	---
					5D		38	57	63	76		29	44		---	---		---			
Deposito interno	4	Tetto del serbatoio S14 in appoggio	2.0E-4	N/A	2F	4.3E-5	Mai	29	35	44	3.9E-5	25	39	---	---	---	---	---	---	---	---
					5D		24	36	42	50		11	19		---	---		---			
Deposito interno	5	Allagamento bacino di contenimento del serbatoio S14	2.0E-5	N/A	2F	8.2E-6	24	37	48	64	7.8E-6	71	104	---	---	---	---	---	---	---	---
					5D		38	57	63	76		29	44		---	---		---			
Deposito interno	6	Affondamento del tetto S14 per presenza di colonna d'acqua	N/A	N/A	2F	N/A	Mai	29	35	44	N/A	25	39	---	---	---	---	---	---	---	---
					5D		24	36	42	50		11	19		---	---		---			
Deposito interno	7	Affondamento del tetto S14 per impossibilità di galleggiamento	N/A	N/A	2F	N/A	Mai	29	35	44	N/A	25	39	---	---	---	---	---	---	---	---
					5D		24	36	42	50		11	19		---	---		---			
Deposito interno	10	Fuoriuscita gasolio dalla valvola di respirazione serbatoio S13	2.0E-4	10	2F	1.4E-5	24	36	48	64	9.7E-6	8	12	---	---	---	---	---	---	---	---
					5D		39	57	64	77		7	10		---	---		---			



IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:						
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH	0.3	0.14	0.07	0.03	
Desolforazione flussanti	15	Perdita su linea invio H2S ad impianto Zolfo o Acido Solforico	9.0E-5	0.26	2F	1.8E-6	10	13	15	17	4.4E-6	Mai	Mai	8.4E-5	Mai	65	---	---	---	---	---
					5D		8	11	13	15		Mai	Mai		Mai	85		---	---	---	---
Desolforazione flussanti	17	Perdita da dreni, stacchi, spurghi	1.0E-5	0.26	2F	2.0E-7	10	13	15	17	4.9E-7	Mai	Mai	9.3E-6	Mai	65	---	---	---	---	---
					5D		8	11	13	15		Mai	Mai		Mai	85		---	---	---	---
Desolforazione gasoli	18	Perdita da linea ricezione idrogeno da impianto Purificazione idrogeno	2.4E-5	0.37	2F	2.4E-5	12	15	16	18	---	---	---	---	---	---	---	---	---	---	---
					5D		10	13	14	16		---	---		---	---		---	---	---	
Desolforazione gasoli	19	Perdita da linea invio corrente 104	5.4E-5	0.22	2F	5.4E-5	8	11	13	15	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	11	13		---	---		---	---		---	---		
Desolforazione gasoli	20	Perdita da linea invio H2S al Claus	9.0E-5	0.26	2F	1.8E-6	10	13	15	17	4.4E-6	Mai	Mai	8.4E-5	Mai	65	---	---	---	---	---
					5D		8	11	13	15		Mai	Mai		Mai	85		---	---	---	---
Desolforazione gasoli	24	Perdita da dreni, stacchi, spurghi	1.0E-5	0.26	2F	2.0E-7	10	13	15	17	4.9E-7	Mai	Mai	9.3E-6	Mai	65	---	---	---	---	---
					5D		8	11	13	15		Mai	Mai		Mai	85		---	---	---	---
Diga foranea/Pontile/Pontiletto e Campo Boe	1	Perdita di benzina presso la Diga	4.2E-2	12	2D	N/A	24	31	34	38	---	---	---	---	---	---	---	---	---	---	
Diga foranea/Pontile/Pontiletto e Campo Boe	2	Perdita di GPL presso la Diga	2.2E-2	4	2D	---	---	---	---	---	---	---	---	---	---	N/A	15	60	---	100	



IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE			RILASCIO TOSSICO		SOVRAPRESSIONE						
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:						
			12.5	7	5		3	LFL	½ LFL	LC <sub>50</sub>		IDLH	0.3		0.14	0.07	0.03				
Frazionamento aria	2	Apertura PSV 103 e rilascio di NH3	9.6E-5	6	2F	---	---	---	---	---	---	---	(1)	Mai	Mai	---	---	---	---	---	
					5D	---	---	---	---	---	---	---		Mai	Mai	---	---	---	---	---	
Frazionamento aria	12	Uscita di O2 liquido da valvola sfioratrice PCV 104	8.9E-5	N/A	2F	N/A	40	---	---	---	---	---	---	---	---	---	---	---	---	---	
					5D	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Frazionamento aria	15	Apertura intempestiva PSV97 (a protezione FT309A)	3.0E-5	2.06	2F	---	---	---	---	---	---	---	(1)	Mai	Mai	---	---	---	---	---	
					5D	---	---	---	---	---	---	---		Mai	Mai	---	---	---	---	---	
Frazionamento benzine	3	Perdita da linea ricezione benzina da PIS	1.5E-5	0.3	2F	3.3E-6	20	24	27	32	2.9E-6	26	37	---	---	---	---	---	---	---	
					5D	---	17	19	21	24	---	15	22	---	---	---	---	---	---	---	
Frazionamento benzine	7	Apertura intempestiva PSV colonna C102	6.0E-5	10.7	2F	---	---	---	---	---	(1)	Mai	Mai	---	---	---	---	---	---	---	
					5D	---	---	---	---	---		Mai	Mai	---	---	---	---	---	---	---	
Frazionamento benzine	4	Perdita da linea invio benzina a PGS	1.2E-4	5.03	2F	4.9E-5	24	37	46	61	4.7E-5	123	179	---	---	---	(1)	16	68	89	173
					5D	---	37	46	53	59	---	42	106	---	---	---		10	42	55	107
Frazionamento benzine	6	Rottura di stacchi o spurghi	1.1E-5	2.21	2F	4.5E-6	14	17	19	22	4.3E-6	94	136	---	---	---	---	---	---	---	---
					5D	---	15	17	18	21	---	56	81	---	---	---	---	---	---	---	---

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
			W	F [Kg/s]	CA	IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
						W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima con sovrappressione pari a:					
			12.5	7	5	3	LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03					
Frazionamento BTX	2	Perdita da linea ricezione benzina da impianti MF o BTX	2.5E-5	2.32	2F	1.0E-5	25	37	43	55	9.6E-6	81	118	---	---	---	(1)	11	46	59	116
					5D		33	39	43	49		48	70		---	---		---	7	28	37
Frazionamento BTX	3	Perdita da linea invio benzina a stoccaggio	2.5E-5	2.32	2F	1.0E-5	25	37	43	55	9.6E-6	81	118	---	---	---	(1)	11	46	59	116
					5D		33	39	43	49		48	70		---	---		---	7	28	37
Gofiner HDS	10	Perdita linea ricezione gasolio	1.8E-5	0.12	2F	1.2E-6	33	50	64	91	8.8E-7	9	13	---	---	---	---	---	---	---	---
					5D		36	64	83	103		7	10		---	---		---	---	---	---
Gofiner HDS	11	Perdita linea H2 da Texaco	3.0E-5	0.70	2F	3.0E-5	Mai	Mai	Mai	11	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	7	14		---	---		---	---		---	---	---	
Gofiner HDS	13	Perdita linea invio gasolio leggero	1.8E-5	12.7	2F	1.2E-6	33	50	64	91	8.82E-7	9	13	---	---	---	---	---	---	---	---
					5D		36	64	83	103		7	10		---	---		---	---	---	
Gofiner HDS	14	Perdita linea invio gasolio gofinato	3.0E-5	12.7	2F	2.1E-6	33	50	64	91	1.5E-6	9	13	---	---	---	---	---	---	---	---
					5D		36	64	83	103		7	10		---	---		---	---	---	
Gofiner HDS	15	Perdita da linea trasferimento gas	3.6E-5	2.25	2F	3.6E-5	Mai	Mai	12	25	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	16	23		---	---		---	---		---	---		
Gofiner HDS	16	Perdita da linea invio gas	2.4E-5	2.25	2F	2.4E-5	Mai	Mai	12	25	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	16	23		---	---		---	---		---	---		
Gofiner HDS	17	Rottura di stacchi o spurghi	1.5E-5	0.17	2F	3.0E-7	Mai	Mai	Mai	5	7.4E-7	Mai	Mai	1.4E-5	Mai	50	---	---	---	---	---
					5D		Mai	Mai	Mai	4		Mai	Mai		Mai	65		---	---	---	---
HIB	3	Perdita da linea ricezione idrogeno	8.0E-5	0.2	2F	8.0E-5	Mai	10	12	14	---	---	---	---	---	---	---	---	---	---	---
					5D		5	9	10	12		---	---		---	---		---			
HIB	4	Perdita da linea invio GPL	1.5E-5	1.96	2F	6.2E-6	42	53	60	74	5.9E-6	99	144	---	---	---	(1)	12	53	69	134
					5D		35	41	45	52		59	86		---	---		---	8	33	43

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Imbottigliamento GPL	2	Fessurazione braccio di carica ATB	9.8E-5	2.47	2F	4.0E-5	27	31	37	44	3.8E-5	99	144	---	---	---	---	---	---	---	---
					5D		29	33	35	41		29	59		---	---		---			
Imbottigliamento GPL	5	Perdita da linea di trasferimento GPL da Raffineria	1.9E-5	11.9	2F	8.2E-6	50	62	71	87	7.8E-6	205	289	---	---	---	---	---	---	---	---
					5D		53	62	70	82		67	101		---	---		---			
Imbottigliamento GPL	14	Apertura intempestiva di una PSV su uno dei serbatoi di stoccaggio	3.0E-5	14.8	2F	2.1-6	Mai	Mai	25	46	1.5E-6	Mai	Mai	---	---	---	---	---	---	---	---
					5D		Mai	30	38	52		Mai	Mai		---	---		---			
Lavaggio gas	3	Rilascio di prodotto in atmosfera dalla PSV della C303A	2.0E-3	2.21	2F	2.0E-3	Mai	Mai	Mai	Mai	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	Mai		---	---		---	---		---			
Lavaggio gas	6	Perdita da linea invio gas a impianto Purificazione Idrogeno	3.1E-5	0.7	2F	3.1E-5	Mai	Mai	Mai	11	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	7	14		---	---		---	---		---			
Lavaggio gas	7	Perdita da linea invio gas a impianto HDS	3.07E- 5	0.7	2F	3.1E-5	Mai	Mai	Mai	11	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	7	14		---	---		---	---		---			

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI														
			W	F [Kg/s]	CA	IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE						
						W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima con sovrappressione pari a:				
12.5	7	5	3	LFL	½ LFL	LC <sub>50</sub>	IDLH	0.3	0.14	0.07	0.03									
Magazzini	1	Perdita di prodotto tossico (percloroetilene) a seguito di danneggiamento del contenitore per urto con carrello elevatore	1E-3	N/A	3F	---	---	---	---	---	---	---	N/A	10	60	---	---	---	---	---
					5D	---	---	---	---		---	---		---	---		---	---		
Magazzini	2	Perdita di prodotto tossico (percloroetilene) a seguito di danneggiamento del contenitore per caduta	5E-4	N/A	3F	---	---	---	---	---	---	---	N/A	10	60	---	---	---	---	---
					5D	---	---	---	---		---	---		---	---		---			
Magazzini	3	Perdita di prodotto tossico (percloroetilene) a seguito di danneggiamento del contenitore per difetto intrinseco	1E-3	N/A	3F	---	---	---	---	---	---	---	N/A	10	60	---	---	---	---	---
					5D	---	---	---	---		---	---		---	---		---			
Magazzini	4	Perdita di prodotto infiammabile (dimetidisolfuro) a seguito di danneggiamento del contenitore per urto con carrello elevatore e successivo innesco	1E-5	N/A	3F	---	---	---	---	N/A	20	30	---	---	---	---	---	---	---	---
					5D	---	---	---	---		---	---		---	---		---	---		



IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
			W	F [Kg/s]	CA	IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
						W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima con sovrappressione pari a:					
12.5	7	5	3	LFL	½ LFL	LC <sub>50</sub>	IDLH	0.3	0.14	0.07	0.03										
Magazzini	5	Perdita di prodotto infiammabile (dimetildisolfuro) a seguito di danneggiamento del contenitore per caduta e successivo innesco	5E-6	N/A	3F	---	---	---	---	N/A	20	30	---	---	---	---	---	---	---	---	
					5D	---	---	---	---		---	---		---	---		---	---	---		
Magazzini	6	Perdita di prodotto infiammabile (dimetildisolfuro) a seguito di danneggiamento del contenitore per difetto intrinseco e successivo innesco	1E-5	N/A	3F	---	---	---	---	N/A	20	30	---	---	---	---	---	---	---	---	
					5D	---	---	---	---		---	---		---	---		---	---			
Merox 1/4	12	Perdita linea ricezione benzina da FCC	1.2E-5	2.57	2F	4.9E-6	23	29	34	40	4.7E-6	86	124	---	---	---	(1)	11	48	63	122
					5D	---	26	30	32	38		51	74		---	---		---	7	30	39
Merox 5/6	1	Trascinamento di soda verso lo stoccaggio GPL	3.0E-4	2.93	---	1.2E-4	50	62	69	83	1.2E-4	97	141	---	---	---	(1)	12	52	68	131
							40	45	50	58		58	83		---	---		---	8	32	42
Merox 5/6	8	Perdita di GPL da linea verso isola 8	7.3E-5	2.93	---	3.0E-5	50	62	69	83	2.8E-5	97	141	---	---	---	(1)	12	52	68	131
							40	45	50	58		58	83		---	---		---	8	32	42
MTBE/TAME	2	Perdita da linea ricezione benzina da impianto FCC	6.0E-5	3.13	---	2.5E-5	23	36	44	56	2.4E-5	95	139	---	---	---	(1)	12	54	69	136
							35	42	46	52		57	83		---	---		---	8	33	43
MTBE/TAME	3	Perdita da linea invio GPL a Parco GPL	9.0E-5	5.8	---	3.5E-5	31	39	44	53	3.4E-5	157	228	---	---	---	1.7E-6	18	79	103	200
							35	39	44	51		94	135		---	---		---	11	49	64

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI														
						IRRAGGIAMENTO				FLASH FIRE			RILASCIO TOSSICO		SOVRAPRESSIONE					
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:					
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH	0.3	0.14	0.07	0.03
MTBE/TAME	4	Perdita da linea invio MTBE a stoccaggio	4.5E-4	2.5	2F	1.8E-4	25	38	46	59	1.8E-4	71	102	---	---	(1)	10	42	55	106
					5D		37	45	49	56		42	61		---		---	6	26	34
MTBE/TAME	5	Perdita da linea ricezione metanolo da serbatoio	1.1E-5	0.52	2F	1.3E-6	21	24	26	30	1.1E-6	18	26	9.7E-6	11	---	---	---	---	---
					5D		21	23	25	28		15	22		10		30	---	---	---
Parco Generale Serbatoi	1	Affondamento del tetto S110 per incastramento	N/A	N/A	2F	N/A	Mai	Mai	Mai	97	N/A	272	403	---	---	---	---	---	---	
					5D		Mai	96	126	161		93	142		---		---	---	---	
Parco Generale Serbatoi	2	Miscela esplosiva nel serbatoio S110	N/A	N/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
					---		---	---	---	---		---	---		---		---	---		
Parco Generale Serbatoi	4	Tetto del serbatoio S110 in appoggio	2.0E-4	N/A	---	---	Mai	Mai	Mai	97	---	---	---	---	---	---	---	---	---	
					---		Mai	96	126	161		---	---		---		---	---	---	
Parco Generale Serbatoi	5	Allagamento bacino di contenimento S110	2.0E-5	N/A	2F	8.2E-6	Mai	68	82	103	7.8E-6	241	356	---	---	---	---	---	---	
					5D		67	93	106	122		81	126		---		---	---	---	
Parco Generale Serbatoi	6	Affondamento del tetto S110 per presenza di colonna d'acqua	N/A	N/A	2F	N/A	Mai	Mai	Mai	97	N/A	272	403	---	---	---	---	---	---	
					5D		Mai	96	126	161		93	142		---		---	---	---	
Parco Generale Serbatoi	7	Affondamento del tetto S110 per impossibilità di galleggiamento	N/A	N/A	2F	N/A	Mai	Mai	Mai	97	N/A	272	403	---	---	---	---	---	---	
					5D		Mai	96	126	161		93	142		---		---	---	---	
Parco Generale Serbatoi	8	Affondamento del tetto S314 per incastramento	N/A	N/A	2F	N/A	Mai	Mai	Mai	75	N/A	184	267	---	---	---	---	---	---	
					5D		Mai	61	90	121		59	91		---		---	---	---	

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
			W	F [Kg/s]	CA	IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
						W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima con sovrappressione pari a:					
12.5	7	5	3	LFL	½ LFL	LC <sub>50</sub>	IDLH	0.3	0.14	0.07	0.03										
Parco Generale Serbatoi	10	Trabocco benzina dal tetto del serbatoio S314	2.0E-4	N/A	2F	8.2E-5	Mai	61	70	92	7.8E-5	207	306	---	---	---	---	---	---	---	---
					5D		59	85	95	112		67	103		---	---		---	---		
Parco Generale Serbatoi	11	Tetto del serbatoio S314 in appoggio	2.0E-4	N/A	8.2E-5	Mai	Mai	Mai	75	7.8E-5	184	267	---	---	---	---	---	---	---	---	
						Mai	61	90	121		59	91		---	---		---	---			
Parco Generale Serbatoi	12	Allagamento bacino di contenimento S314	2.0E-5	N/A	2F	8.2E-6	Mai	61	70	92	7.8E-6	207	306	---	---	---	---	---	---	---	---
					5D		59	85	95	112		67	103		---	---		---	---		
Parco Generale Serbatoi	13	Affondamento del tetto S314 per presenza di colonna d'acqua	N/A	N/A	2F	N/A	Mai	Mai	Mai	75	N/A	184	267	---	---	---	---	---	---	---	---
					5D		Mai	61	90	121		59	91		---	---		---	---		
Parco Generale Serbatoi	14	Affondamento del tetto S314 per impossibilità di galleggiamento	N/A	N/A	2F	N/A	Mai	Mai	Mai	75	N/A	184	267	---	---	---	---	---	---	---	---
					5D		Mai	61	90	121		59	91		---	---		---	---		
Parco Generale Serbatoi	15	Fuoriuscita di benzina dal tetto S314 per diversa composizione colaggio	N/A	N/A	2F	N/A	Mai	61	70	92	N/A	207	306	---	---	---	---	---	---	---	---
					5D		59	85	95	112		67	103		---	---		---	---		
Parco Generale Serbatoi	16	Affondamento del tetto S318 per incastramento	N/A	N/A	2F	N/A	Mai	Mai	Mai	75	N/A	184	267	---	---	---	---	---	---	---	---
					5D		Mai	61	90	121		59	91		---	---		---	---		
Parco Generale Serbatoi	18	Trabocco di virgin naphta dal tetto del serbatoio S318	2.0E-4	N/A	2F	8.2E-5	Mai	61	70	92	7.8E-5	207	306	---	---	---	---	---	---	---	---
					5D		59	85	95	112		67	103		---	---		---	---		

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
			W	F [Kg/s]	CA	IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
						W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima con sovrappressione pari a:					
12.5	7	5	3	LFL	½ LFL	LC <sub>50</sub>	IDLH	0.3	0.14	0.07	0.03										
Parco Generale Serbatoi	19	Tetto del serbatoio S318 in appoggio	2.0E-4	N/A		8.2E-5	Mai	Mai	Mai	75	7.8E-5	184	267	---	---	---	---	---	---	---	---
							Mai	61	90	121		59	91		---	---		---	---	---	---
Parco Generale Serbatoi	20	Allagamento bacino di contenimento S318	2.0E-5	N/A	2F	8.2E-6	Mai	61	70	92	7.8E-6	207	306	---	---	---	---	---	---	---	---
					5D		59	85	95	112		67	103		---	---		---	---	---	
Parco Generale Serbatoi	21	Affondamento del tetto S318 per presenza di colonna d'acqua	N/A	N/A	2F	N/A	Mai	Mai	Mai	75	N/A	184	267	---	---	---	---	---	---	---	---
					5D		Mai	61	90	121		59	91		---	---		---	---	---	
Parco Generale Serbatoi	22	Affondamento del tetto S318 per impossibilità di galleggiamento	N/A	N/A	2F	N/A	Mai	Mai	Mai	75	N/A	184	267	---	---	---	---	---	---	---	---
					5D		Mai	61	90	121		59	91		---	---		---	---	---	
Parco Generale Serbatoi	23	Fuoriuscita di benzina dal tetto S318 per diversa composizione colaggio	N/A	N/A	2F	N/A	Mai	61	70	92	N/A	207	306	---	---	---	---	---	---	---	---
					5D		59	85	95	112		67	103		---	---		---	---	---	
Parco Generale Serbatoi	24	Affondamento del tetto S108 per incastramento	N/A	N/A	2F	N/A	Mai	Mai	50	77	N/A	16	23	---	---	---	---	---	---	---	---
					5D		Mai	67	85	109		9	13		---	---		---	---	---	
Parco Generale Serbatoi	26	Trabocco di gasolio dal tetto del serbatoio S108	2.0E-4	N/A	2F	2.3E-5	Mai	61	72	92	1.9E-5	13	18	---	---	---	---	---	---	---	---
					5D		62	87	96	115		11	16		---	---		---	---	---	
Parco Generale Serbatoi	27	Tetto del serbatoio S108 in appoggio	2.0E-4	N/A		2.3E-5	Mai	Mai	50	77	1.9E-5	16	23	---	---	---	---	---	---	---	---
							Mai	67	85	109		9	13		---	---		---	---	---	---

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Parco Generale Serbatoi	28	Allagamento bacino di contenimento S108	2.0E-5	N/A	2F	2.3E-6	Mai	61	72	92	1.9E-6	13	18	---	---	---	---	---	---	---	---
					5D		62	87	96	115		11	16		---	---		---	---		
Parco Generale Serbatoi	29	Affondamento del tetto S108 per presenza di colonna d'acqua	N/A	N/A	2F	N/A	Mai	Mai	50	77	N/A	16	23	---	---	---	---	---	---	---	---
					5D		Mai	67	85	109		9	13		---	---		---	---		
Parco Generale Serbatoi	30	Affondamento del tetto S108 per impossibilità di galleggiamento	N/A	N/A	2F	N/A	Mai	Mai	50	77	N/A	16	23	---	---	---	---	---	---	---	---
					5D		Mai	67	85	109		9	13		---	---		---	---		
Parco Generale Serbatoi	31	Affondamento del tetto S400 per incastramento	N/A	N/A	2F	N/A	Mai	26	38	52	N/A	31	45	---	---	---	---	---	---	---	---
					5D		25	46	52	61		19	27		---	---		---	---		
Parco Generale Serbatoi	33	Trabocco di MTBE dal tetto del serbatoio S400	2.0E-4	N/A	2F	8.2E-5	35	46	53	61	7.8E-5	53	77	---	---	---	---	---	---	---	---
					5D		51	55	62	69		32	46		---	---		---	---		
Parco Generale Serbatoi	34	Tetto del serbatoio S400 in appoggio	2.0E-4	N/A		4.3E-5	Mai	26	38	52	3.9E-5	31	45	---	---	---	---	---	---	---	---
							25	46	52	61		19	27		---	---		---	---		
Parco Generale Serbatoi	35	Allagamento bacino di contenimento S400	2.0E-5	N/A	2F	8.2E-6	35	46	53	61	7.8E-6	53	77	---	---	---	---	---	---	---	---
					5D		51	55	62	69		32	46		---	---		---	---		

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:						
				12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03			
Parco Generale Serbatoi	36	Affondamento del tetto S400 per presenza di colonna d'acqua	N/A	N/A	2F	N/A	Mai	26	38	52	N/A	31	45	---	---	---	---	---	---	---	---
					5D		25	46	52	61		19	27		---	---		---	---		
Parco Generale Serbatoi	37	Affondamento del tetto S400 per impossibilità di galleggiamento	N/A	N/A	2F	N/A	Mai	26	38	52	N/A	31	45	---	---	---	---	---	---	---	---
					5D		25	46	52	61		19	27		---	---		---	---		
Parco Generale Serbatoi	38	Affondamento del tetto S1004 per incastramento	N/A	N/A	2F	N/A	Mai	Mai	29	35	N/A	10	16	---	23	52	---	---	---	---	---
					5D		Mai	26	31	38		<10	11		15	30		---	---	---	---
Parco Generale Serbatoi	40	Trabocco di metano dal tetto del serbatoio S1004	2.0E-4	N/A	2F	2.3E-5	42	45	47	52	1.9E-5	11	20	1.7E-4	30	64	---	---	---	---	---
					5D		43	45	46	49		<10	11		19	36		---	---	---	---
Parco Generale Serbatoi	41	Tetto del serbatoio S1004 in appoggio	2.0E-4	N/A		2.3E-5	Mai	Mai	29	35	1.9E-5	10	16	---	---	---	---	---	---	---	---
							Mai	26	31	38		<10	11		---	---		---	---		
Parco Generale Serbatoi	42	Allagamento bacino di contenimento S1004	2.0E-5	N/A	2F	2.3E-6	42	45	47	52	1.9E-6	11	20	---	---	---	---	---	---	---	---
					5D		43	45	46	49		<10	11		---	---		---	---		
Parco Generale Serbatoi	43	Affondamento del tetto S1004 per presenza di colonna d'acqua	N/A	N/A	2F	N/A	Mai	Mai	29	35	N/A	10	16	---	23	52	---	---	---	---	---
					5D		Mai	26	31	38		<10	11		15	30		---	---	---	---

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:						
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH	0.3	0.14	0.07	0.03	
Parco Generale Serbatoi	44	Affondamento del tetto S1004 per impossibilità di galleggiamento	N/A	N/A	2F	N/A	Mai	Mai	29	35	N/A	10	16	---	23	52	---	---	---	---	---
					5D		Mai	26	31	38		<10	11		15	30		---	---	---	---
Parco Generale Serbatoi	45	Affondamento del tetto S958 per incastramento	N/A	N/A	2F	N/A	Mai	27	40	57	N/A	25	38	N/A	46	157	---	---	---	---	---
					5D		23	45	56	65		11	19		22	93		---	---	---	---
Parco Generale Serbatoi	47	Trabocco di benzolo dal tetto del serbatoio S958	2.0E-4	N/A	2F	4.3E-5	34	45	50	61	3.9E-5	33	48	1.5E-4	54	194	---	---	---	---	---
					5D		45	53	58	64		14	22		27	113		---	---	---	---
Parco Generale Serbatoi	48	Tetto del serbatoio S958 in appoggio	2.0E-4	N/A	2F	4.3E-5	Mai	27	40	57	3.9E-5	25	38	1.5E-4	46	157	---	---	---	---	---
					5D		23	45	56	65		11	19		22	93		---	---	---	---
Parco Generale Serbatoi	49	Allagamento bacino di contenimento S958	2.0E-5	N/A	2F	4.3E-6	34	45	50	61	3.9E-6	33	48	1.6E-5	54	194	---	---	---	---	---
					5D		45	53	58	64		14	22		27	113		---	---	---	---
Parco Generale Serbatoi	50	Affondamento del tetto S958 per presenza di colonna d'acqua	N/A	N/A	2F	N/A	Mai	27	40	57	N/A	25	38	N/A	46	157	---	---	---	---	---
					5D		23	45	56	65		11	19		22	93		---	---	---	---
Parco Generale Serbatoi	51	Affondamento del tetto S958 per impossibilità di galleggiamento	N/A	N/A	2F	N/A	Mai	27	40	57	N/A	25	38	N/A	46	157	---	---	---	---	---
					5D		23	45	56	65		11	19		22	93		---	---	---	---

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI																			
			W	F [Kg/s]	CA	IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE											
						W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima con sovrappressione pari a:									
							12.5	7	5	3		LFL		½ LFL		LC <sub>50</sub>	IDLH	0.3	0.14	0.07	0.03				
Parco Generale Serbatoi	55	Fuoriuscita olio dalla valvola di respirazione di S803	2.0E-4	N/A	2F	1.4E-5	Mai	60	69	88	9.7E-6	4	5	---	---	---	---	---	---	---	---	---	---	---	
					5D		57	82	93	107		2	3												---
Parco Generale Serbatoi	58	Fuoriuscita gasolio dalla valvola di respirazione di S660	2.0E-4	N/A	2F	1.4E-5	36	48	55	67	9.7E-6	6	8	---	---	---	---	---	---	---	---	---	---	---	---
					5D		48	58	61	71		5	8												
Parco Generale Serbatoi	59	Perdita da linea ricezione benzina da impianto Frazionamento benzine	1.2E-4	5	2F	4.9E-5	24	38	47	61	4.7E-5	123	179	---	---	---	(1)	16	68	89	173	---	---	---	---
					5D		37	45	49	56		42	106					---	---	---	10				
Parco Generale Serbatoi	60	Perdita da linea ricezione MTBE da impianto MTBE/TAME	4.5E-4	2.5	2F	1.8E-4	25	38	46	59	1.8E-4	71	102	---	---	---	(1)	10	42	55	106	---	---	---	---
					5D		37	45	49	56		42	61					---	---	---	6				
Parco Generale Serbatoi	61	Perdita da linea ricezione benzina da impianto Frazionamento BTX	2.5E-5	2.32	2F	1.0E-5	25	37	45	53	9.6E-6	81	118	---	---	---	(1)	11	46	59	116	---	---	---	---
					5D		33	37	42	48		48	70					---	---	---	7				



IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE			RILASCIO TOSSICO		SOVRAPRESSIONE						
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Parco Generale Serbatoi	62	Perdita da linea invio carica fredda ad impianto FCC	6.0E-5	5.5	2F	1.3E-5	37	49	59	78	1.2E-5	21	30	---	---	---	---	---	---	---	---
					5D		50	65	87	103		9	19		---	---		---			
Parco Generale Serbatoi	63	Perdita da linea invio greggio a topping 1	3.6E-5	1.87	---	1.5E-5	26	38	51	70	1.4E-5	74	108	---	---	---	(1)	10	42	55	106
							38	52	60	69		44	64		---	---		---	6	26	34
Parco GPL	5	Rilascio in atmosfera di propano gassoso da sigaro orizzontale	2.3E-5	46.8	2F	1.5E-6	Mai	42	58	83	1.1E-6	6	17	---	---	---	---	---	---	---	---
					5D		35	57	69	90		9	23		---	---		---			
Parco GPL	9	Apertura intempestiva di una PSV su sfera S240	6.0E-5	16.6	2F	4.1E-6	Mai	Mai	Mai	37	2.9E-6	5	14	---	---	---	---	---	---	---	---
					5D		20	55	71	97		7.5	18		---	---		---			
Parco GPL	10	Apertura intempestiva di una PSV del sigaro orizzontale S205	3.0E-5	<46.8	2F	2.1E-6	Mai	42	58	83	1.5E-6	6	17	---	---	---	---	---	---	---	---
					5D		35	57	69	90		9	23		---	---		---			
Parco GPL	11	Apertura intempestiva di un PSV del sigaro verticale S213	3.0E-5	48.5	2F	3.5E-6	Mai	25	55	87	2.9E-6	7	18	---	---	---	---	---	---	---	---
					5D		35	57	69	90		12	25		---	---		---			
Parco GPL	15	Perdita da linea invio GPL ad impianto Butamer	7.2E-5	8.4	2F	2.8E-5	64	84	93	116	2.7E-5	159	231	---	---	---	1.4E-6	19	83	108	211
					5D		53	62	72	82		94	138		---	---		---	12	51	66

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Parco GPL	16	Perdita da linea ricezione GPL da impianto MTBE/TAME	9.0E-5	5.8	2F	3.5E-5	31	39	44	53	3.4E-5	157	228	---	---	---	1.8E-6	18	79	103	200
					5D		35	39	44	51		94	135					---	---	---	11
Parco serbatoi intermedi	1	Affondamento tetto S84 per incastramento	N/A	N/A	2F	N/A	Mai	25	40	58	N/A	56	83	---	---	---	---	---	---	---	---
					5D		<5	48	58	69		23	35					---	---	---	---
Parco serbatoi intermedi	3	Trabocco di benzina dal tetto del S84	2.0E-4	3	2F	8.2E-5	29	40	45	54	7.8E-5	65	95	---	---	---	---	---	---	---	---
					5D		39	46	55	56		26	41					---	---	---	---
Parco serbatoi intermedi	4	Tetto del serbatoio S84 in appoggio	2.0E-4	N/A	2F	8.2E-5	Mai	25	40	58	7.8E-5	56	83	---	---	---	---	---	---	---	---
					5D		<5	48	58	69		23	35					---	---	---	---
Parco serbatoi intermedi	5	Allagamento bacino di contenimento del serbatoio S84	2.0E-5	N/A	2F	8.2E-6	29	40	45	54	7.8E-6	65	95	---	---	---	---	---	---	---	---
					5D		39	46	55	56		26	41					---	---	---	---
Parco serbatoi intermedi	6	Affondamento del tetto S84 per presenza di colonna d'acqua	N/A	N/A	2F	N/A	Mai	25	40	58	N/A	56	83	---	---	---	---	---	---	---	---
					5D		<5	48	58	69		23	35					---	---	---	---
Parco serbatoi intermedi	7	Affondamento del tetto S84 per impossibilità di galleggiamento	N/A	N/A	2F	N/A	Mai	25	40	58	N/A	56	83	---	---	---	---	---	---	---	---
					5D		<5	48	58	69		23	35					---	---	---	---
Parco serbatoi intermedi	8	Fuoriuscita gasolio dalla valvola di respirazione del S 88	2.0E-4	40	2F	2.3E-5	<10	62	74	95	1.9E-5	12	18	---	---	---	---	---	---	---	---
					5D		60	86	97	115		7	11					---	---	---	---

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima al suolo con conc. pari a:	W <sub>e</sub>	Distanza massima con sovrappressione pari a:					
				12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03			
Parco serbatoi intermedi	9	Fuoriuscita benzina dal tetto del S84 per diversa composizione colaggio	N/A	N/A	2F	N/A	29	40	45	54	N/A	65	95	---	---	---	---	---	---	---	---
					5D		39	46	55	56		26	41		---	---		---	---		
Pensiline carburanti	2	Fessurazione braccio di carica ATB	9.8E-5	2.5	2F	4.1E-5	27	31	37	44	3.8E-5	99	144	---	---	---	---	---	---	---	---
					5D		29	33	35	41		29	59		---	---		---	---		
Pensiline carburanti	4	Perdita di prodotti petroliferi bianchi per rottura braccio di carico	2.0E-4	1	2F	8.2E-5	22	33	38	48	7.8E-5	57	84	---	---	---	---	---	---	---	---
					5D		28	36	46	48		34	50		---	---		---	---		
Platfining	13	Apertura intempestiva PSV4 testa colonna C2	3.0E-5	24.6	2F	2.1E-6	Mai	Mai	Mai	50	1.5E-6	Mai	Mai	---	---	---	---	---	---	---	---
					5D		Mai	Mai	40	61		Mai	Mai		---	---		---	---		
Platfining	14	Apertura intempestiva PSV testa colonna C1	3.0E-5	24.6	2F	2.1E-6	Mai	Mai	Mai	50	1.5E-6	Mai	Mai	---	---	---	---	---	---	---	---
					5D		Mai	Mai	40	61		Mai	Mai		---	---		---	---		
Platfining	15	Perdita da linea ricezione H2	3.1E-5	0.2	2F	3.1E-5	Mai	10	12	14	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	9	10	12		---	---		---	---		---	---		
Platfining	16	Perdita da linea invio benzina	1.5E-4	3.1	2F	6.2E-5	24	37	42	55	5.9E-5	94	137	---	---	---	---	---	---	---	---
					5D		33	41	44	51		56	81		---	---		---	---		
Platfining	17	Perdita da linea ricezione butene	7.3E-5	2.7	2F	3.0E-5	43	55	62	76	2.8E-5	97	141	---	---	---	(1)	12	52	67	131
					5D		35	40	45	53		58	83		---	---		---	8	32	42
Platfining	18	Perdita da linea da V4 a colonna depropanizzatrice	1.5E-4	2.5	2F	6.2E-5	41	51	59	69	5.9E-5	94	136	---	---	---	---	---	---	---	---
					5D		34	40	45	52		55	81		---	---		---	---	---	

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE			RILASCIO TOSSICO			SOVRAPRESSIONE					
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Platfining	19	Perdita da linea da C2 a C21 presso imp. Frazionamento BTX	2.4E-5	3.2	2F	1.0E-5	25	37	45	57	9.5E-6	97	141	---	---	---	---	---	---	---	---
					5D		36	42	48	54		58	84		---	---		---			
Platforming BTX	15	Perdita su linea H <sub>2</sub> di make-up	4.2E-5	0.61	2F	4.2E-5	18	19	21	24	---	---	---	---	---	---	---	---	---	---	---
					5D		15	17	18	21		---	---		---	---		---			
Platforming BTX	16	Perdita linea ricezione H <sub>2</sub> di make-up	1.8E-5	0.61	2F	1.8E-5	18	19	21	24	---	---	---	---	---	---	---	---	---	---	---
					5D		15	17	18	21		---	---		---	---		---			
Platforming BTX	17	Perdita da linea invio GPL	5.0E-5	2.13	2F	2.1E-5	16	19	22	26	1.9E-5	92	134	---	---	---	---	---	---	---	---
					5D		16	19	21	24		55	80		---	---		---			
Platforming BTX	18	Perdita da linea GPL	2.0E-5	2.13	2F	8.3E-6	16	19	22	26	7.9E-6	92	134	---	---	---	---	---	---	---	---
					5D		16	19	21	24		55	80		---	---		---			
Platforming BTX	19	Perdita da linea invio pentani ad impianto Recupero Gas	3.0E-5	2.57	2F	1.2E-5	25	36	44	54	1.2E-5	97	141	---	---	---	(1)	12	51	66	129
					5D		34	43	48	57		58	84		---	---		---	7	32	41
Platforming BTX	21	Perdita da linea invio pentani ad impianto Frazionamento Benzine	3.0E-5	2.57	2F	1.2E-5	25	36	44	54	1.2E-5	97	141	---	---	---	(1)	12	51	66	129
					5D		34	43	48	57		58	84		---	---		---	7	32	41

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Platforming BTX	22	Perdita da linea trasferimento pentani a limite di batteria	1.2E-5	2.57	2F	5.1E-6	25	36	44	54	4.8E-6	97	141	---	---	---	---	---	---	---	---
					5D		34	43	48	57		58	84		---	---		---	---		
Platforming BTX	23	Perdita da linea trasferimento benzina a C21 (presso impianto Frazionamento Aromatici)	4.8E-5	2.1	2F	2.0E-5	24	35	41	51	1.9E-5	77	112	---	---	---	---	---	---	---	---
					5D		31	36	39	46		46	66		---	---		---	---		
Platforming BTX	24	Perdita da linea trasferimento benzina a limite di batteria	1.2E-5	2.1	2F	5.1E-6	24	35	41	51	4.8E-6	77	112	---	---	---	---	---	---	---	---
					5D		31	36	39	46		46	66		---	---		---	---		
Platforming BTX	25	Perdita da linea trasferimento idrogeno a limite di batteria	1.2E-5	0.61	2F	1.2E-5	18	19	21	24	---	---	---	---	---	---	---	---	---	---	---
					5D		15	17	18	21		---	---		---	---		---	---		
Platforming BTX	26	Perdita di linea invio idrogeno ad impianto Purificazione Idrogeno	4.8E-5	0.61	2F	4.8E-5	18	19	21	24	---	---	---	---	---	---	---	---	---	---	---
					5D		15	17	18	21		---	---		---	---		---	---		

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Platforming MF	19	Rottura di stacchi o dreni o spurghi	1.0E-5	8	2F	4.1E-6	36	44	50	62	3.9E-6	187	272	---	---	---	(1)	19	82	106	207
					5D		39	45	50	58		111	161					---	---	---	13
Platforming MF	20	Perdita da linea ricezione benzina da PIS tratto da 8"	1.4E-5	0.7	2F	5.6E-6	24	31	36	43	5.3E-6	42	61	---	---	---	---	---	---	---	---
					5D		23	24	28	33		25	37					---	---	---	---
Platforming MF	21	Perdita da linea ricezione benzina da PIS tratto da 3"	3.6E-5	0.57	2F	7.9E-6	23	29	33	39	7.2E-6	38	55	---	---	---	---	---	---	---	---
					5D		22	26	28	32		23	33					---	---	---	---
Platforming MF	24	Perdita da linea invio benzina ad isola 12	4.5E-5	1.38	2F	1.8E-5	25	34	39	48	1.8E-5	61	89	---	---	---	---	---	---	---	---
					5D		29	33	36	41		36	53					---	---	---	---
Platforming MF	25	Perdita da linea invio GPL ad impianto BTX	4.1E-5	1.91	2F	1.7E-5	24	29	33	40	1.6E-5	87	126	---	---	---	---	---	---	---	---
					5D		26	29	32	38		52	75					---	---	---	---
Platforming MF	26	Perdita da linea corrente 104 ad impianto Recupero Gas	5.4E-5	0.22	2F	5.4E-5	Mai	Mai	Mai	5	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	5		---	---					---	---	---	---

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE			RILASCIO TOSSICO			SOVRAPRESSIONE					
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
Recupero Gas	9	Perdita da linea ricezione gas da impianto Coking 1	2.5E-5	0.22	2F	1.7E-6	Mai	5	10	13	1.2E-6	4	8	---	---	---	---	---	---	---	---
					5D		Mai	7	9	11		4	9		---	---		---			
Recupero Gas	10	Perdita da linea ricezione corrente 104 da Isola 8	5.4E-5	0.22	2F	5.4E-5	Mai	Mai	Mai	5	---	---	---	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	5		---	---		---	---		---			
Recupero Gas	11	Perdita da linea ricezione gas da impianto FCC	5.0E-5	1.10	2F	3.5E-6	Mai	Mai	Mai	Mai	2.4E-6	2	3	---	---	---	---	---	---	---	---
					5D		Mai	Mai	5	11		3	6		---	---		---			
Recupero Gas	12	Perdita da linea invio butano liquido a parco GPL	1.2E-4	2.45	2F	4.9E-5	41	51	59	71	4.7E-5	93	135	---	---	---	(1)	12	50	65	126
					5D		35	40	46	50		55	80		---	---		---	7	31	40
Stoccaggio ammoniacca	3	Apertura intempestiva PSV di V305	3.0E-5	6.3	2F	---	---	---	---	---	---	---	---	(1)	Mai	Mai	---	---	---	---	---
					5D		---	---	---	---		---	---		---	---		---	---		
Stoccaggio ammoniacca	4	Perdita di ammoniacca liquida su linea da pensilina	4.8E-5	2.0	2F	2.0E-5	47	64	68	72	1.9E-5	44	63	2.8E-5	652	1400	---	---	---	---	---
					5D		33	44	48	52		13	19		166	313		---	---	---	---
Stoccaggio ammoniacca	5	Perdita di ammoniacca gassosa su linea a pensilina	4.8E-5	0.17	2F	---	---	---	---	---	---	---	---	(1)	Mai	Mai	---	---	---	---	---
					5D		---	---	---	---		---	---		---	---		---	---		

IMPIANTO	#	DESCRIZIONE	EVENTI PRIMARI			EVENTI CONSEGUENTI															
						IRRAGGIAMENTO				FLASH FIRE		RILASCIO TOSSICO		SOVRAPRESSIONE							
			W	F [Kg/s]	CA	W <sub>e</sub>	Distanza massima al suolo con irraggiamento pari a:				W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima al suolo con conc. pari a:		W <sub>e</sub>	Distanza massima con sovrappressione pari a:			
							12.5	7	5	3		LFL	½ LFL		LC <sub>50</sub>	IDLH		0.3	0.14	0.07	0.03
SWS-COX	1	Trabocco di testa dal serbatoio V1601	1.9E-4	0.001	2F	---	---	---	---	---	---	---	---	1.9E-4	11	41	---	---	---	---	---
					5D		---	---	---	---		---	---		<10	<10		---	---	---	---
Texaco	6	Perdita da linea ricezione metano da limite di batteria stabilimento	6.1E-5	1.26	2F	7.1E-6	19	20	22	24	5.9E-6	12	28	---	---	---	---	---	---	---	---
					5D		16	17	18	20		15	30		---	---		---	---	---	
Topping 1	4	Perdita da linea ricezione greggio da PGS	3.6E-5	1.87	2F	1.5E-5	Mai	38	51	70	1.4E-5	74	108	---	---	---	(1)	10	42	55	106
					5D		38	52	60	69		44	64		---	---		6	26	34	66
Topping 2	7	Perdita da mandata pompa P1A/B	3.0E-5	20.7	2F	2.1E-6	38	60	77	99	1.5E-6	116	169	---	---	---	---	---	---	---	---
					5D		48	74	90	105		100	146		---	---		---	---		
Topping 2	11	Rottura di stacchi o spurghi	1.0E-5	4.37	2F	4.1E-6	25	38	47	60	3.9E-6	123	178	---	---	---	(1)	16	68	89	173
					5D		39	53	61	70		77	112		---	---		10	44	58	113
Vacuum	7	Perdita da linea ricezione carica da Topping	1.2E-5	7.0	2F	1.2E-5	43	58	68	84	---	---	---	---	---	---	---	---	---	---	---
					5D		57	76	85	96		---	---		---	---		---	---		
Vacuum	12	Apertura intempestiva PSV colonna C1	3.0E-5	2.7	2F	2.1E-6	Mai	Mai	Mai	Mai	1.5E-6	Mai	Mai	---	---	---	---	---	---	---	---
					5D		Mai	Mai	Mai	Mai		Mai	Mai		---	---		---	---		

(1) Valore non disponibile