

METHANE (GAS) - PROCESSING

General accident information	
Class/Quality	***
Year	2008
Summary	Due to technical defect in engines in a generator Room at a biogas plant an explosion occurred Causing fire, damage and pollution
Country	D
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Methane (gas), Oil n.o.s.
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Defective-working, Explosion, Fire, Damage, Smoke-emission, Fire fighting/Emergency response, Fire fighting/Emergency response, Fire fighting/Emergency response, Block-of-system, Cooling, Release, Block-of-system, Clean-up
General accident information	
Class/Quality	***
Year	2006
Summary	One of more corroded bolts of lid on down-side Of a strainer caused loosening of the lid, Release of crack gas, pollution of air and Plant shut-down
Country	NL
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Butane, Ethane (gas), Hydrogen (gas), Methane (gas), Pentane, Propane, Propylene
Cause	Management-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Management-failure, Management-failure, Management-failure, Management-failure, Clean, Corrosion, Get-loose/Lose, Wrong-position, Release, Pollution/Contamination, Block-of-system, Fire fighting/Emergency response, Fire fighting/Emergency response, Fire fighting/Emergency response
General accident information	
Class/Quality	****
Year	2005
Summary	Gas containing carbon dioxide caused corrosion due To condensation of water in pipe transporting Hydrocarbons, release, stench and pollution
Country	NL
Activity	PROCESSING
Location	REFINERY
Chemicals	Carbon dioxide (gas), Ethane (gas), Ethene (pressurized), Ethylene oxide (eto), Hydrocarbons (gas), Methane (gas), Water
Cause	Management-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Management-failure, Management-failure, Condensation, Corrosion, Damage, Release, Pollution/Contamination, Stench-emission, Repair, Release, Repair

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General accident information	
Class/Quality	****
Year	2005
Summary	Fork truck with trailer pulled valve and pipe Causing release of propylene, ignition, explosion, Massive fire, evacuation, shelter in place, road Closure, extensive damage and 36 casualties
Country	USA
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Ethane (gas), Ethylene (pressurized), Hydrocarbons (gas), Methane (gas), Propane, Propylene, Propylene, Propylene
Cause	Management-failure
Fatalities/Injuries	1 / 36
Occurrences or events	Management-failure, Management-failure, Management-failure, Management-failure, Management-failure, Management-failure, Management-failure, Management-failure, Management-failure, Management-failure, Drive, Drive, Drive, Collision, Damage, Damage, Release, Vaporize, Stench-emission, Evacuation, Safety-measures, Block-of-system, Wrong-action, Safety-measures, Block-of-system, Block-of-system, Ignition, Explosion, Blow-away, Fire, Safety-measures, Evacuation, Shelter-in-place, Traffic-interruption, Fire, Fire fighting/Emergency response, Collapse/Destroy, Damage, Overheating, Burst/Rupture, Damage, Release, Fire fighting/Emergency response, Fire fighting/Emergency response, Fire fighting/Emergency response, Damage
General accident information	
Class/Quality	***
Year	2004
Summary	Equipment (compressor) failure caused release of Hydrogen sulphide into air, pollution at refinery During shutdown for maintenance
Country	USA
Activity	PROCESSING
Location	REFINERY
Chemicals	Hexane, Hydrogen sulphide (h2s), Methane (gas)
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Block-of-system, Mechanical failure, Release, Safety-measures, Pollution/Contamination
General accident information	
Class/Quality	****
Year	2002
Summary	Inerting gas pipeline with natural gas failed Because natural gas was transferred to Blast furnace instead of cokes oven gas Causing release, explosion and 29 casualties
Country	B
Activity	PROCESSING
Location	FACTORY
Chemicals	Carbon monoxide (co), Cokes gas, Cokes gas, Hydrogen (gas), Methane (gas), Natural gas (pressurized), Natural gas (pressurized), Nitrogen (gas)
Cause	Management-failure

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Fatalities/Injuries	3 / 26
Occurrences or events	Management-failure, Management-failure, Insufficient/Miscommunication, Insufficient/Miscommunication, Block-of-system, Clean, Maintenance, Replace, Wrong-position, Clean, Burn, Switch, Overpressure, Defective-working, Release, Wrong-action, Ignition, Explosion
General accident information	
Class/Quality	****
Year	2002
Summary	Failure of crank mechanism of cylinder in Compressor caused mechanical rupture, release of Inflammable mixture and benzene, pollution of air, Jet fire and heavy damage
Country	I
Activity	PROCESSING
Location	REFINERY
Chemicals	Benzene/Benzol, Benzine (fp<21/C) (gasoline), Butane, Ethane (gas), Hydrogen (gas), Methane (gas), Propane
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Defective-working, Mechanical failure, Burst/Rupture, Blow-away, Release, Pollution/Contamination, Ignition, Fire, Fire, Release, Smoke-emission, Block-of-system, Safety-measures, Fire fighting/Emergency response, Fire fighting/Emergency response, Safety-measures, Block-of-system, Block-of-system, Fire fighting/Emergency response, Fire fighting/Emergency response, Damage, Collapse/Destroy
General accident information	
Class/Quality	***
Year	2002
Summary	Refinery fined for repeatedly releasing too much Toxic pollution into air causing smoke, stench Emission and air pollution
Country	USA
Activity	PROCESSING
Location	REFINERY
Chemicals	Carbon black, Carbon monoxide (co), Hydrocarbons (gas), Methane (gas), Propane, Sulphur, Sulphur
Cause	Management-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Block-of-system, Burn, Release, Smoke-emission, Stench-emission, Pollution/Contamination
General accident information	
Class/Quality	****
Year	2002
Summary	Contaminated chemicals in chlorine dioxide Generator at pulp mill caused explosions of pipe, Releases of chlorine dioxide and chlorine, air Pollution, evacuation and damage
Country	USA
Activity	PROCESSING
Location	CHEMICAL FACTORY

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Chemicals	Chlorides, Chlorine, Chlorine, Chlorine dioxide, Chlorine dioxide, Chlorine dioxide, Hydrogen chloride, Hydrogen chloride, Methane (gas), Oxygen (gas), Oxygen (gas), Sulphuric acid (sfa)
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Pollution/Contamination, Wrong-composition, Wrong-composition, Chemical reaction, Overpressure, Break, Release, Safety-measures, Evacuation, Explosion, Disperse/Spread, Wrong-action, Wrong-position, Evacuation, Block-of-system, Fire fighting/Emergency response, Dilute, Condensation, Overpressure, Explosion, Release, Traffic-interruption, Explosion, Release, Pollution/Contamination, Fire fighting/Emergency response, Repair
General accident information	
Class/Quality	****
Year	2001
Summary	Operator did not identify toxic hazard of hydrogen Sulphide and inappropriate design of installation And maintenance procedure caused pollution of air And 2 casualties
Country	F
Activity	PROCESSING
Location	FACTORY
Chemicals	Hydrogen sulphide (h2s), Methane (gas)
Cause	Management-failure
Fatalities/Injuries	2 / 1
Occurrences or events	Management-failure, Management-failure, Management-failure, Natural event, Chemical reaction, Release, Pollution/Contamination, Maintenance, Defective-working, Draining, Remove, Mount/Connect, Human-operations, Replace, Wrong-action, Safety-measures, Fire fighting/Emergency response
General accident information	
Class/Quality	***
Year	1999
Summary	While proving liquid ethane meter Hose ruptured causing release, Ignition, explosions, fires, evacuation And 15 casualties
Country	CDN
Activity	PROCESSING
Location	GAS (PROCESS) PLANT
Chemicals	Ethane (gas), Methane (gas)
Cause	Technical-failure
Fatalities/Injuries	1 / 15
Occurrences or events	Maintenance, Defective-working, Safety-measures, Burst/Rupture, Release, Ignition, Explosion, Fire, Smoke-emission, Evacuation, Traffic-interruption, Fire fighting/Emergency response
General accident information	
Class/Quality	****
Year	1999
Summary	Deflagration occurred in a Power cogeneration plant Causing temperature in silos Increased and fire

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Country	D
Activity	PROCESSING
Location	POWER STATION/PLANT
Chemicals	Carbon monoxide (co), Inflammable gas, Methane (gas), Nitrogen (pressurized)
Cause	Unknown-cause
Fatalities/Injuries	1 / 1
Occurrences or events	Explosion, Overheating, System-operations, Wrong-composition, Overfill/Overload, Explosion, Fire, Smoke-emission, Switch, System-operations, Safety-measures, Fire, Defective-working, Fire fighting/Emergency response, Fire fighting/Emergency response, Pollution/Contamination, Collapse/Destroy, Damage, Clean

General accident information

Class/Quality	***
Year	1999
Summary	Employees were filling storage Tank with asphalt when an Explosion occurred causing Fire, pollution and evacuation
Country	USA
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Asphalt, Hydrocarbons (gas), Methane (gas), Paraffin
Cause	Unknown-cause
Fatalities/Injuries	1 / 1
Occurrences or events	Fill, Explosion, Fire, Smoke-emission, Disperse/Spread, Pollution/Contamination, Stench-emission, Evacuation, Fire fighting/Emergency response, Fire fighting/Emergency response, Fire fighting/Emergency response

General accident information

Class/Quality	*****
Year	1997
Summary	Explosion occurred in distillation column of air Separation unit (asu) at ethylene plant causing Extensive material damage and at least 35 casualties
Country	CN
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Aluminium, Aluminium, Carbon dioxide (gas), Ethylene (cooled), Ethylene (pressurized), Methane (gas), Nitrogen (gas), Nitrogen (pressurized), Oxygen (gas)
Cause	Management-failure
Fatalities/Injuries	4 / 31-50
Occurrences or events	Management-failure, Management-failure, Management-failure, System-operations, Natural event, Pollution/Contamination, Release, Pollution/Contamination, Wrong-composition, Ignition, Explosion, Blast-wave, Fall, Blow-away, Blow-away, Collapse/Destroy

General accident information

Class/Quality	***
Year	1996
Summary	During repairs work cokes gas released from A cooking plant on a gasholder causing fire

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	And evacuation
Country	F
Activity	PROCESSING
Location	FACTORY
Chemicals	Carbon dioxide (gas), Carbon monoxide (co), Cokes gas, Hydrogen (gas), Methane (gas)
Cause	Human-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Repair, Release, Fire, Evacuation, Fire fighting/Emergency response

General accident information

Class/Quality	***
Year	1996
Summary	Wrong welding caused incipient crack inside Separator during start-up of cryogenic unit Forcing bursting and releasing hydrocarbons
Country	D
Activity	PROCESSING
Location	REFINERY
Chemicals	Ethane (gas), Ethylene (pressurized), Hydrocarbons (gas), Hydrogen (gas), Methane (gas)
Cause	Management-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Maintenance, Deformation, Physical effects, Physical effects, Corrosion, Crack, Burst/Rupture, Release, Safety-measures, Evacuation, Safety-measures

General accident information

Class/Quality	*****
Year	1996
Summary	Decomposition caused release And explosion after start up Of Idpe autoclave reactor and 1 casualty
Country	NL
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Butene, Carbon black, Carbon black, Ethylene (pressurized), Ethylene (pressurized), Ethylene (pressurized), Ethylene (pressurized), Glycol, Hydrogen (gas), Hydrogen (gas), Methane (gas), Methane (gas), Nitrogen (gas), Nitrogen (pressurized), Propylene
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Maintenance, Human-operations, Purging, System-failure, Wrong-composition, Pump-over, Wrong-composition, System-operations, Mechanical failure, Chemical reaction, Overheating, Overpressure, Emergency-stop, System-operations, Release, Burst/Rupture, System-failure, Static-electricity, Ignition, Ignition, Chemical reaction, Explosion, Blast-wave, Fire, Evacuation, Fire fighting/Emergency response, Emergency-stop, Block-of-system, Fire fighting/Emergency response, Fire fighting/Emergency response, Fire fighting/Emergency response, Release, Purging, Fire fighting/Emergency response

METHANE (GAS) - PROCESSING

General accident information	
Class/Quality	****
Year	1993
Summary	Degassing line of a filter of a hyam reactor At a caprolactam plant was ruptured due to An explosion (detonation)
Country	NL
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Hydrogen (gas), Hydroxylaminephosphate (hyam), Methane (gas), Nitrogen (gas), Nitrogen oxide, Nitrogen oxide
Cause	Unknown-cause
Fatalities/Injuries	1 / 1
Occurrences or events	System-operations, System-operations, Human-operations, Defective-working, Defective-working, Chemical reaction, Ignition, Detonation, Explosion, Break

General accident information	
Class/Quality	****
Year	1993
Summary	Corrosion of line caused a Guillotine fracture, release And fire in spite of regulary 2/Years ultrasonic inspection
Country	D
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Carbon disulphide, Carbon disulphide, Methane (gas), Sulphur, Sulphur dioxide
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Heating, Chemical reaction, Corrosion, Burst/Rupture, Release, Fire, Smoke-emission, Release, Emergency-stop, Block-of-system, Fire fighting/Emergency response, Traffic-interruption

General accident information	
Class/Quality	****
Year	1992
Summary	Spontaneous rupture in curve in cracking unit at Refinery caused vapour/Gas explosion, flash fire In desulphurization unit, evacuation of the Installation and traffic interruption
Country	B
Activity	PROCESSING
Location	REFINERY
Chemicals	Crude oil, Hydrogen (gas), Hydrogen sulphide (h2s), Inflammable gas, Methane (gas), Petroleum, Process gas
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Crack, Burst/Rupture, Release, Explosion, Fire, Evacuation, Block-of-system, El-power-brake, Traffic-interruption, Fire fighting/Emergency response

General accident information

METHANE (GAS) - PROCESSING

Class/Quality	***
Year	1989
Summary	Crack in line caused release And fire; a lot of damage
Country	D
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Benzene/Benzol, Hydrogen (gas), Methane (gas), Toluene (toluol/Methylbenzene)
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	El-power-brake, System-operations, Block-of-system, Underheating, Crack, Release, Fire, Fire fighting/Emergency response, Block-of-system, Cooling, Purify, Safety-measures

General accident information	
Class/Quality	***
Year	1989
Summary	A by-pass valve erroneously Left open & gas could enter Inside a furnace causing an Explosion and 3 casualties
Country	I
Activity	PROCESSING
Location	REFINERY
Chemicals	Methane (gas)
Cause	Human-failure
Fatalities/Injuries	1 / 2
Occurrences or events	No-action, Operators error, Wrong-position, Release, Ignition, Explosion

General accident information	
Class/Quality	****
Year	1987
Summary	Pipe carrying synthesis gas Released hydrogen causing an Explosion and rupturing vent Header and other pipes
Country	IRL
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Ammonia, Hydrogen (gas), Hydrogen (gas), Methane (gas), Methane (gas), Synthesis gas
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Heating, Cooling, Fatigue, Wrong-action, Corrosion, Crack, Mechanical failure, Repair, Wrong-position, Burst/Rupture, Release, Explosion, Fire, Burst/Rupture, Release, Fire, Fall, Release, Disperse/Spread, Fire, Blow-away, Fire fighting/Emergency response, Block-of-system, Emergency-stop, Damage

General accident information

Class/Quality	****
Year	1987

METHANE (GAS) - PROCESSING

Summary	Oil refinery was struck by explosion and fireball Causing toxic release and at least 2 casualties
Country	USA
Activity	PROCESSING
Location	REFINERY
Chemicals	Butane, Hydrofluoric acid (hfa), Hydrofluoric acid (hfa), Hydrogen fluoride (hf), Methane (gas), Potassium hydroxide, Propane
Cause	Unknown-cause
Fatalities/Injuries	1 / 2-3
Occurrences or events	Wrong-composition, Chemical reaction, Explosion, Fall, Damage, Block-of-system, Release, Fire, Fireball, Release, Pollution/Contamination, Fire fighting/Emergency response
General accident information	
Class/Quality	* * * * *
Year	1985
Summary	Accumulation of frozen compressor oil caused Natural gas liquefaction plant to shut down, welds In patch plate on small vessel to fail, release, Ignition, fire and 6 casualties
Country	USA
Activity	PROCESSING
Location	GAS (PROCESS) PLANT
Chemicals	Liquified natural gas (Ing), Liquified natural gas (Ing), Methane (gas), Natural gas liquids (ngl), Oil thermic
Cause	Management-failure
Fatalities/Injuries	1 / 6
Occurrences or events	Management-failure, Management-failure, Management-failure, Release, No-action, Solidify/Icing, Human-operations, Draining, Deformation, Burst/Rupture, Blow-away, Release, Blow-away, Infiltrate/Seep/Migrate, Ignition, Fire, Defective-working, Defective-working, Fire fighting/Emergency response
General accident information	
Class/Quality	
Year	1984
Summary	The use of wrong steel caused Corrosion and release
Country	ET
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Carbon dioxide (gas), Hydrogen (gas), Hydrogen (gas), Methane (gas), Water
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Chemical reaction, Chemical reaction, Corrosion, Crack, Release
General accident information	
Class/Quality	* * *
Year	1982
Summary	Rupture of weld of pipeline Of compressor at methanol Plant
Country	USA

METHANE (GAS) - PROCESSING

Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Carbon dioxide or monoxide, Hydrogen (gas), Methane (gas), Synthesis gas
Cause	Technical-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Burst/Rupture, Release, Mix, Ignition, Explosion, Fire, Repair
General accident information	
Class/Quality	
Year	1982
Summary	Shell rupture of a secondary Reformer
Country	F
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Air, Methane (gas), Synthesis gas
Cause	Human-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Crack, Release, Mix, Overheating, Burst/Rupture, Release, Emergency-stop, Repair
General accident information	
Class/Quality	
Year	1981
Summary	Product run via bottom drain Of column and insufficient Heat caused overpressure and Release through safety valve
Country	NL
Activity	PROCESSING
Location	REFINERY
Chemicals	Hydrocarbons (gas), Methane (gas)
Cause	Human-failure
Fatalities/Injuries	1 / 1
Occurrences or events	Human-operations, Wrong-action, Underheating, Overpressure, Release, Disperse/Spread, Pollution/Contamination
General accident information	
Class/Quality	* * *
Year	1975
Summary	Explosion and fire in a gas Reforming plant caused 14 casualties
Country	ZA
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Methane (gas), Oxygen (gas), Steam
Cause	Human-failure
Fatalities/Injuries	7 / 7
Occurrences or events	Human-operations, Wrong-action, Underpressure, Human-operations, Wrong-action, Wrong-action, Explosion, Fire, Emergency-stop

METHANE (GAS) - PROCESSING

General accident information	
Class/Quality	* * *
Year	1975
Summary	Overhating of reactor and Outlet line caused rupture of Outlet line, spill, ignition, Fire and 212 casualties
Country	D
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Acetylene, Ethylene (pressurized), Hydrogen (gas), Methane (gas)
Cause	Unknown-cause
Fatalities/Injuries	2 / 10
Occurrences or events	Overheating, Overheating, Burst/Rupture, Release, Ignition, Explosion, Fire
General accident information	
Class/Quality	* * *
Year	1975
Summary	Fire of product during repair of heat-exchanger At benzene plant caused 11 casualties
Country	J
Activity	PROCESSING
Location	CHEMICAL FACTORY
Chemicals	Hydrogen (gas), Methane (gas)
Cause	Human-failure
Fatalities/Injuries	1 / 11
Occurrences or events	Maintenance, Clean, Repair, Wrong-position, Wrong-composition, Release, Welding/Cutting, Ignition, Fire
General accident information	
Class/Quality	* * *
Year	1974
Summary	Coke-oven gas released from Leaking pipe into the open air And the gas cloud ignited and Exploded causing 16 casualties
Country	D
Activity	PROCESSING
Location	FACTORY
Chemicals	Carbon monoxide (co), Cokes gas, Hydrogen (gas), Methane (gas)
Cause	Technical-failure
Fatalities/Injuries	2 / 14
Occurrences or events	Mechanical failure, Release, Pollution/Contamination, Ignition, Explosion
General accident information	
Class/Quality	
Year	1974
Summary	Explosion in pipe system
Country	F
Activity	PROCESSING
Location	OTHER

METHANE (GAS) - PROCESSING

Chemicals	Hydrogen (gas), Methane (gas)
Cause	Unknown-cause
Fatalities/Injuries	1 / 1
Occurrences or events	Explosion