

1321430 November 2000

Source : YAHOO NEWS, NOVEMBER 30, 2000, (<http://www.uk.news.yahoo.com>)

Location : Northampton, UK

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. Two carriages of a freight train derailed, fortunately the wagons stayed upright although the track was damaged in the incident. One wagon was carrying a freight container and another a 100 tonne flask, contents unknown. An investigation is underway into the cause of the derailment. Cost of repairs is estimated at £750,000 (2000).  
[derailment - consequence, chemicals unknown]

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**Lessons**

[None Reported]

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Source : YAHOO NEWS, NOVEMBER 30, 2000, (<http://www.uk.news.yahoo.com>)

Location : Bristol, UK

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. An empty coal train derailed on its way from a power station spilling red diesel fuel onto nearby wetlands injuring many birds. No one was injured in the incident although it is reported that the driver was in shock. An investigation is underway to find the cause of the derailment.

[derailment - consequence, freight train, spill, environmental]

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**Lessons**

[None Reported]

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Source : CNN INTERACTIVE, NOVEMBER 2, 2000, (<http://www.cnn.com>).

Location : Arizona, USA

Injured : 3      Dead : 1

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**Abstract**

A rail transportation incident. Two freight trains, one containing hazardous materials and the other diesel fuel collided causing several carriages to derail. A fire and small explosion occurred as a result. It is reported that three crewmembers were injured and one killed in the incident. Nearby residents were evacuated as a consequence. Fortunately no hazardous materials were released.

An investigation into the incident is being carried out.

[collision, derailment - consequence, fire - consequence, evacuation, injury, fatality]

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**Lessons**

[None Reported]

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Source : CNN.COM, NOVEMBER 23, 2000, (<http://www.cnn.com>).

Location :

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. A freight train carrying containers on flat bed cars derailed. It is reported that one of the containers was carrying chlorine. One of the cars carrying containers slid in the shallow parts of a river. Fortunately no spillage occurred.

[derailment - consequence]

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**Lessons**

[None Reported]

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**Source :** BBC NEWS, 31 OCTOBER, 2000, 1 NOVEMBER, 2000, (<http://www.bbc.co.uk>).; CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD, 31 OCTOBER, 2000, (<http://www.chemsafety.gov>). Disclaimer: The Chemical Incident Reports Center (CIRC) is an information service provided by the U.S. Chemical Safety and Hazard Investigation Board (CSB). Users of this service should note that the contents of the CIRC are not intended to be a comprehensive listing of all incidents that have occurred; many incidents go unreported or are not entered into the database. Therefore, it is not appropriate to use the CIRC database to perform statistical analysis that extends conclusions beyond the content of the CIRC. Also, although the CSB never knowingly posts inaccurate information, the CSB is unable to independently verify all information that it receives from its various sources, much of which is based on initial reports. CIRC users should also note that the CSB receives more comprehensive reports about incidents that occur in the U.S.; comparisons made between U.S. incidents and those in other nations should take this fact into consideration.

**Location :** English Channel, Off Alderney,

**Injured :** 0      **Dead :** 0

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**Abstract**

A marine transportation incident. A marine tanker containing mainly styrene, a colourless, clear, odourless toxic liquid, sank in gale force winds after running aground. Other materials onboard included isopropanol, alcohol and methyl ethyl ketone. Fourteen crewmembers were winched to safety onboard a helicopter. It has been reported that styrene had been seen leaking from the vessel as it sank.

Styrene is a carcinogenic, is slightly soluble in water and very corrosive. There are concerns that the spillage may cause environmental and ecological damage to sea life and nearby coastlines.

[sinking, spill, strong winds, ship ran aground]

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**Lessons**

[None Reported]

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Source : CNN.COM, SEPTEMBER 25, 2000, (<http://www.cnn.com>).

Location : Florida, USA

Injured : 2      Dead : 0

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**Abstract**

A rail transportation incident. A cargo train carrying sugar cane and potash collided with two parked cargo trains triggering a fire. As a result of the collision six cars and three locomotives derailed injuring two people. It was reported that no hazardous materials were onboard at the time of the incident.  
[freight train, collision, fire - consequence, derailment - consequence, injury]

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**Lessons**

[None Reported]

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Source : CNN.COM, SEPTEMBER 7, 2000, (<http://www.cnn.com>).

Location : Bilbao, SPAIN

Injured : -      Dead : 4

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**Abstract**

A rail transportation incident. A collision occurred between two cargo trains causing one to derail and fall into a nearby river. Both trains were carrying aluminium coils at the time of the incident. Four people were killed in the incident.  
[freight train, derailment - consequence, fatality]

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**Lessons**

[None Reported]

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Source : ALTAVISTA, 5 SEPTEMBER, 2000, (<http://www.altavista.com>).

Location : Lefkandi, GREECE

Injured : 4      Dead : 1

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**Abstract**

A bulk cargo ship broke in half during loading operations resulting in the immediate sinking of the ship. One person was killed and four others injured in the incident.

An estimated 200 to 500 tonnes of fuel was on board.

A large scale clean up is underway to mop up the spilled fuel oil from the tanker. It is thought that local environmental damage will occur as a result of the spill.

[marine transport, fatality, injury]

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**Lessons**

[None Reported]

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Source : HAZARDOUS CARGO BULLETIN, OCTOBER 2000.

Location : Montana, USA

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. Seven cars of a freight train, three containing carbon disulphide and two containing titanium dioxide, derailed. Fortunately no spillage occurred although a number of small fires were reported. Nearby residents were evacuated.

[derailment - consequence, fire - consequence, evacuation]

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**Lessons**

[None Reported]

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**1292102 August 2000**

**Source** : BBC NEWS, 2 AUGUST, 2000, (<http://www.bbc.co.uk>).

**Location** : Northern England, UK

**Injured** : 0      **Dead** : 0

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**Abstract**

A rail transportation incident. A freight train carrying nuclear waste derailed. The train was carrying four containers of low-level waste when it came off the track.

Fortunately no one was injured and no structural damage to the containers occurred in the incident.

Rail services in the area were disrupted.

[derailment - consequence, radioactive]

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**Lessons**

[None Reported]

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1287019 July 2000

Source : BBC NEWS, 20 JULY, 2000, (<http://www.bbc.co.uk>).

Location : , INDIA OFFSHORE

Injured : 0      Dead : 0

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**Abstract**

A marine transportation incident. A cargo ship ran aground, caught fire and sank off the coast of West Bengal.

Operations of a nearby port are likely to be affected but environmental damage has been ruled out.

The crew of the ship were safely taken ashore by coast guards.

[fire - consequence, ship ran aground, sinking]

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**Lessons**

[None Reported]

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**Source** : BBC NEWS, 26 JUNE, 2000, (<http://www.bbc.co.uk>).

**Location** : , SOUTH AFRICA - OFFSHORE

**Injured** : 0      **Dead** : 0

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**Abstract**

A marine transportation incident. A bulk carrier developed a hole in her hull as she was being towed and eventually sank as a result. A large quantity of oil leaked from the sinking vessel causing an oil slick which threatening a colony of penguins.

[sinking, spill, ecological damage, material of construction failure]

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**Lessons**

[None Reported]

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1253225 May 2000

**Source** : BBC NEWS, 25 MAY, 2000, (<http://www.bbc.co.uk>).

**Location** : Paris, FRANCE

**Injured** : 1      **Dead** : 1

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**Abstract**

An air transportation incident. An airliner carrying 150 people collided with a cargo plane on a runway killing the cargo plane's co-pilot and injuring the pilot. The incident occurred as the passenger plane was about to take off when it collided with the cargo plane which was waiting for clearance on a side runway. An investigation is underway into the cause of the collision.

[fatality, injury]

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**Lessons**

[None Reported]

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**Source** : HAZARDOUS CARGO BULLETIN, JULY 2000,; REUTERS.

**Location** : Cherkassy Region, UKRAINE

**Injured** : 0      **Dead** : 0

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**Abstract**

A rail transportation incident. Six tank cars of a freight train derailed after heavy rains flooded the track, approximately 100 tonnes of ammonia solution spilt. Nearby residents were evacuated as a precaution. No injuries occurred.

[derailment - consequence, rain, spill, evacuation]

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**Lessons**

[None Reported]

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**Source :** CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD, 24 APRIL, 2000, (<http://www.chemsafety.gov>),

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**Location :** Georgia, USA

**Injured :** 0      **Dead :** 0

**Abstract**

A road transportation incident. An explosion occurred when a car collided with a road tanker carrying diesel fuel, which collided with a tractor-trailer carrying a farm chemical.

No injuries were reported.

[collision, unknown chemicals]

**Lessons**

[None Reported]

**Source :** BBC NEWS, 5 APRIL, 2000, ([www.bbc.co.uk](http://www.bbc.co.uk)); CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD, 5 APRIL, 2000, (<http://www.chemsafety.gov>),

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**Location :** Lillestroem, NORWAY

**Injured :** 0      **Dead :** 0

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**Abstract**

A rail transportation incident. Two freight trains collided when it is thought that one of the trains brakes failed. Two cars of one of the trains contained approximately 90 tonnes of propane gas. The surrounding area was evacuated as a precaution due to a fire that broke out which threatened the cargo of propane.

Firemen used a remote-controlled water cannon to pump thousands of water per minute onto the tank cars to cool them without dousing the flames.

[near miss, collision, brakes faulty, evacuation, fire - consequence]

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**Lessons**

[None Reported]

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**Source :** CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD, 28 MARCH, 2000, (<http://www.chemsafety.gov>)

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**Location :** Orangeburg, USA**Injured :** 0      **Dead :** 0**Abstract**

A rail transportation incident. A rail tanker containing isobutylene derailed and overturned forcing the evacuation of the surrounding area. The incident occurred when the rail tanker was being moved to a siding rail to allow another train to pass on the main line, when one of the wheels fell off. Isobutylene is a colourless liquid used in the manufacture of synthetic rubber and resins.

[derailment - consequence, wheel broken]

**Lessons**

[None Reported]

**Source :** CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD, FEBRUARY 15, 2000. (<http://www.chemsafety.gov>).

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**Location :** Baxter, USA

**Injured :** 0      **Dead :** 0

**Abstract**

A rail transportation incident. A train consisting of propane tank cars derailed in the middle of a town. Residents within a three quarter mile radius were evacuated.

Fortunately there were no reports of injuries or leaks.

[derailment - consequence, evacuation]

**Lessons**

[None Reported]

**Source** : HAZARDOUS CARGO BULLETIN, MAY 2000.

**Location** : Cardenas, CUBA

**Injured** : 0      **Dead** : 3

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**Abstract**

A marine transportation. Three crewmembers were killed when an explosion occurred on board a marine tanker whilst manoeuvring to load a cargo of crude oil. The vessel broke in two and one part sank. Slight pollution occurred.  
[fatality, sinking]

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**Lessons**

[None Reported]

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130392000

**Source** : ALTAVISTA, 2 SEPTEMBER, 2000, (<http://www.altavista.com>).

**Location** : Manila Bay, MANILA

**Injured** : -      **Dead** : -

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**Abstract**

A marine transportation incident. A cargo vessel and barge collided. The incident occurred as the 732-tonne barge containing gravel and sand was being towed by another tub boat. The barge sank as a result. Four crew-members are reported to be missing.

An investigation into the incident is being carried out.

[collision, sinking]

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**Lessons**

[None Reported]

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8093 12 December 1999

Source : BBC NEWS, 20 DECEMBER, 1999, (<http://www.bbc.co.uk>).

Location : , BAY OF BISCAY

Injured : 0      Dead : 0

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**Abstract**

A marine transportation incident. A marine tanker containing more than 20,000 tonnes of diesel oil, split in two. More than 10 million litres of oil was spilled causing severe environmental damage. The sunken wreckage still contains approximately 23 million litres. So far approximately 100,000 birds have been killed. 'An ecological catastrophe'.

[sinking]

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**Lessons**

[None Reported]

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**Source** : HAZARDOUS CARGO BULLETIN, JANUARY 2000.

**Location** : Milwaukee, USA

**Injured** : 0      **Dead** : 0

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**Abstract**

A rail transportation incident. A 144-car freight train derailed due to a worn wheel bearing. An uncertain amount of acid leaked from one car carrying 5.5 tonnes of product. A nearby residential area was evacuated.

[derailment - consequence, bearing failure, spill, evacuation]

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**Lessons**

[None Reported]

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9685 19 November 1999

Source : CNN.COM, U.S. NEWS, NOVEMBER 19, 1999, (<http://www.cnn.com>).

Location : Northwest Iowa, USA

Injured : 1+    Dead : 2

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**Abstract**

A rail transportation incident. A freight train collided with an empty grain train, killing a conductor and the driver of a van that was parked by the tracks. Six of the freight cars derailed and four others overturned. A fire occurred from a diesel spill from the engine but was quickly extinguished.

The grain train was parked on the main tracks when the freight train collided with it at the junction with a side track.

An investigation is being carried out as to why the freight train didn't go on to the side track.

[collision, derailment - consequence, fire - consequence, fatality]

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**Lessons**

[None Reported]

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Source : BBC NEWS, NOVEMBER 8, 1999, (<http://www.bbc.co.uk>).

Location : , UK

Injured : 0      Dead : 0

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**Abstract**

A marine transportation incident. A cargo ship carrying bananas and pineapples collided with a tower causing a 26m gash in its side and five tonnes of lubricating oil to spill into the sea. The vessel also held approximately 440 tonnes of heavy fuel oil and 70 tonnes of diesel. It was not thought that the ship was in danger of sinking.

[container ship, collision]

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**Lessons**

[None Reported]

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**1195205 October 1999**

**Source** : BBC NEWS, OCTOBER 5, 1999, (<http://www.bbc.co.uk>).

**Location** : Ladbroke Grove, Paddington, UK

**Injured** : 150+ **Dead** : 31

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**Abstract**

A rail transportation incident. At least 30 people were killed and over 150 were injured when two passenger trains collided. The force of the collision caused carriages to derail and one train burst into flames.

An investigation is underway, but it is thought that one of the trains ran through a red light.

[collision, fire - consequence, fatality, derailment - consequence, injury]

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**Lessons**

[None Reported]

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Source : BBC NEWS, SEPTEMBER 20, 1999, (<http://www.bbc.co.uk>).

Location : , UK

Injured : 13    Dead : 0

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**Abstract**

A road transportation incident. Thirteen people were injured in a head on collision involving a minibus and a road tanker. The tanker was carrying low hazard liquid fertiliser. No spillage occurred. Cause is not known.

[injury]

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**Lessons**

[None Reported]

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1187314 September 1999

Source : BBC NEWS, SEPTEMBER 15, 1999, (<http://www.bbc.co.uk>).

Location : Aberdeen, Scotland, UK

Injured : 2+    Dead : 0

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**Abstract**

A rail transportation incident. A train derailed when a mechanical digger being used on road works was left on the tracks, where it was hit by a passenger train carrying approximately 100 people. No one was seriously injured. Possible cause: vandalism.

[derailment - consequence, collision, bulldozer/jcb/digger, injury]

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**Lessons**

[None Reported]

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**1210127 August 1999**

**Source** : CHEMICAL HAZARDS IN INDUSTRY, DECEMBER 1999,; SAFETY ONLINE, 30 AUG 1999, (<http://www.safetyon-line.com/>),; HAZARDOUS CARGO BULLETIN, NOVEMBER 1999.

**Location** : Ontario, USA

**Injured** : 0      **Dead** : 0

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**Abstract**

A rail transportation incident. Six cars of a rail tanker containing flammable liquid derailed. This led to the evacuation of hundreds of people. One of the cars rolled past a steel stopper at the end of a storage line, spilling a large amount of recovered alcohol into a car park. A temporary dyke of sand was created to stop the flow of liquid. Some material entered a storm drain. The incident is under investigation.  
[derailment - consequence]

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**Lessons**

[None Reported]

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Source : CNN.COM, U.S. NEWS, AUGUST 9, 1999, (<http://www.cnn.com>).

Location : , INDONESIA

Injured : 0      Dead : 10

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**Abstract**

A marine transportation incident. An oil tanker collided with a tug boat in a thick haze.

The incident occurred in low visibility. Oil leaked from the tanker and caught fire engulfing a nearby cargo ship. Ten of the tanker's crew died.

It is thought that the thick haze is caused by farmers, plantations and timber firms clearing forest areas at the start of the dry season.

[collision, weather effects, human causes, fire - consequence, fatality]

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**Lessons**

[None Reported]

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**Abstract**

A rail transportation incident. A chemical tanker of a freight train derailed spilling flammable liquid for about eight hours before clean-up crews contained the leak. All but six cars that jumped the tracks were empty. The cars that derailed contained talc, liquefied petroleum gas, petroleum distillates and plastic pellets.

The leaking car carried approximately 18,000 gallons of petroleum distillates, it was not immediately known how much had been spilled.

A small grass fire started after the derailment but was quickly extinguished.

The cause of the derailment was being investigated.

[derailment - consequence, fire - consequence, spill, kerosene]

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**Lessons**

Distillates are petroleum liquids, such as kerosene, that are produced during the oil distillation process.

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1147202 August 1999

**Source** : BBC NEWS, AUGUST 2, 1999,  
(<http://www.bbc.co.uk>);; HAZARDOUS CARGO BULLETIN, NOVEMBER 1999.

**Location** : Gaisan, WEST BENGAL

**Injured** : 1000+**Dead** : 286+

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**Abstract**

A rail transportation incident. An express train collided with a mail train head on killing at least 250 people and injuring at least 1000. Explosions were heard and initially a bomb attack was suspected, but investigations found that both trains ended up on the same track after a signal failure. One of the trains was carrying explosives in a military compartment which may have caused the trains to catch fire after the crash. The engine of the express train was blasted into the air by the impact of the explosion.

[collision, derailment - consequence, rail incidents, explosion, fire - consequence, fatality, explosive, injury]

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**Lessons**

[None Reported]

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1175524 July 1999

Source : CNN.COM, U.S. NEWS, JULY 25, 1999, (<http://www.cnn.com>).

Location : Palm Springs, USA

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. Eleven cars of a train derailed onto their sides forcing the evacuation of the area.

The train carrying 122 cars, including one containing chromium trioxide, a highly combustible substance when mixed with water and toxic if inhaled.

Fortunately, the car remained on the tracks.

No one was injured. The cause is under investigation.

[derailment - consequence, near miss]

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**Lessons**

[None Reported]

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1175424 July 1999

Source : CNN.COM, U.S. NEWS, JULY 25, 1999, (<http://www.cnn.com>).

Location : , USA

Injured : 16    Dead : 0

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**Abstract**

A rail transportation incident. A passenger train derailed as it approached a station. Three cars came off the tracks when the train collided into another train it was attempting to couple up to. Sixteen people were injured in the incident. The derailed cars included two passenger cars and a café car.

The cause of the incident is not known.

[derailment - consequence, collision, injury]

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**Lessons**

[None Reported]

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**Source** : HAZARDOUS CARGO BULLETIN, SEPTEMBER 1999.

**Location** : Texas, USA

**Injured** : 20    **Dead** : 0

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**Abstract**

A road transportation and rail transportation incident. A road tanker carrying oilfield waste was hit by a train on a crossing causing two engines and seven freight cars to derail. Twenty people were injured.

[collision, derailment - consequence, injury]

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**Lessons**

[None Reported]

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**Source** : HAZARDOUS CARGO BULLETIN, SEPTEMBER 1999.

**Location** : California, USA

**Injured** : 0      **Dead** : 0

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**Abstract**

A rail transportation incident. Two freight trains collided head on at low speed. Over 37,000 l of diesel was spilled when more than a dozen engines and cars derailed.

[derailment - consequence, collision]

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**Lessons**

[None Reported]

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**Source :** HAZARDOUS CARGO BULLETIN, SEPTEMBER 1999.

**Location :** , SINGAPORE

**Injured :** 0      **Dead :** 0

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**Abstract**

A marine transportation incident. A bulk carrier sank after colliding with a tanker in ballast. Damage occurred to the tanker. Bunkers leaked potash fertiliser from the bulk carrier. None toxic.

[sinking, collision, damage to equipment, spill]

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**Lessons**

[None Reported]

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**Source** : HAZARDOUS CARGO BULLETIN, SEPTEMBER 1999.

**Location** : Massachusetts, USA

**Injured** : 0      **Dead** : 0

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**Abstract**

A rail transportation incident. Thousands of gallons of latex spilled into a river when several cars of a train derailed. The cause of the incident is thought to have been due to hot weather buckling the rails.

[derailment - consequence]

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**Lessons**

[None Reported]

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**Source :** HAZARDOUS CARGO BULLETIN, SEPTEMBER 1999.

**Location :** , PAKISTAN

**Injured :** 0      **Dead :** 0

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**Abstract**

A rail transportation incident. Eight tank cars containing oil derailed. At least two cars spilled oil. The cause is not known.  
[derailment - consequence]

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**Lessons**

[None Reported]

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1147312 April 1999

**Source** : CNN.COM, U.S. NEWS, APRIL 12, 1999,  
(<http://www.cnn.com>).

**Location** : Wuppertal, GERMANY

**Injured** : 52    **Dead** : 2

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**Abstract**

A rail transportation incident. An elevated passenger train derailed and plunged into a river killing 2 people and injuring 52. The train apparently hit a platform left by track workers.

The train fell approximately 30 feet into the water, rescue officials pulled victims from water about 2 feet deep.

[derailment - consequence, fatality, injury]

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**Lessons**

[None Reported]

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Source : CNN.COM, U.S. NEWS, MAR 23, 1999, (<http://www.cnn.com>).

Location : Illinois, USA

Injured : 3      Dead : 0

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**Abstract**

A rail transportation incident. A train hauling auto parts collided with a freight train at an intersection, flinging boxcars off the tracks. Fortunately the crew on the trains suffered only minor injuries.

Police began to evacuate the nearby town but stopped after it was determined that no hazardous materials had been spilled and that there was no danger of an explosion from spilled diesel.

However, there was concern that fuel spilled into the nearby creek would reach the nearby river, a source of drinking water for 80,000 people in the area.

A supply of sand was used to dam the creek and contain the spilled oil.

Apparently both trains were moving considerably slower than the 50 miles per hour limit allowed at the intersection at the time of the incident. Investigations are under way as to the cause of the incident.

[collision, derailment - consequence, evacuation, near miss, injury]

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**Lessons**

[None Reported]

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**1051917 March 1999**

**Source** : BBC NEWS, MAR 17, 1999,  
(<http://www.bbc.co.uk>).

**Location** : Chicago, USA

**Injured** : 120+ **Dead** : 14+

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**Abstract**

A rail transportation incident. A passenger train derailed when it collided with a road truck on a crossing. Several carriages derailed and burst into flames after the train crashed into the tractor trailer, which was carrying a heavy load of steel. More than 200 passengers were on the train. Investigations are being made into whether the gates and lights at the crossing were working at the time of the incident.  
[derailment - consequence, collision, road transport, fire - consequence, explosion, fatality]

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**Lessons**

[None Reported]

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1187415 March 1999

Source : CNN.COM, U.S. NEWS, SEPTEMBER 13, 1999, (<http://www.cnn.com>);; CNN.COM, U.S. NEWS, SEPTEMBER 14, 1999, (<http://www.cnn.com>).

Location : Bourbonnias, USA

Injured : 11    Dead : 122

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**Abstract**

A rail transportation and road transportation incident. A collision between a passenger train and a road truck occurred on a railroad crossing, killing 11 passengers and injuring 122. The crash derailed several cars behind the locomotives. Many of the dead were in a sleeping car which was totally destroyed by a diesel fire. It is not yet known the exact cause of the incident.

The crash caused more than £14 million (1999) in damage.

[derailment - consequence, fire - consequence, damage to equipment, fatality, injury]

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**Lessons**

[None Reported]

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1080718 December 1998

Source : 1998 ABC NEWS AND STARWAVE.

Location : , HUNGARY

Injured : 1      Dead : 10

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**Abstract**

A rail transportation incident. A train derailed after colliding with a grain truck which had gone through red lights of a railroad crossing.  
[derailment - consequence, collision, human causes]

---

**Lessons**

[None Reported]

---

Source : 1998 CABLE NEWS NETWORK.

Location : , INDIA

Injured : 260 Dead : 192+

---

**Abstract**

A rail transportation incident. A passenger train derailed when it collided with a mail train minutes after it had jumped the tracks.

A total of 1,700 passengers were aboard both trains. In all 16 cars were damaged in the incident.

[derailment - consequence, collision, damage to equipment]

---

**Lessons**

[None Reported]

---

10446 November 1998

Source : CNN.COM, U.S. NEWS, 1998, (<http://www.cnn.com>).

Location : , INDIA

Injured : 260 Dead : 192+

---

**Abstract**

A rail transportation incident. A passenger train derailed when it collided with a mail train minutes after it had jumped the tracks.

A total of 1,700 passengers were aboard both trains. In all 16 cars were damaged in the incident.

[derailment - consequence, collision, fatality, damage to equipment]

---

**Lessons**

[None Reported]

---

1044806 June 1998

Source : CNN.COM, U.S. NEWS, 1998,  
(<http://www.cnn.com>).

Location : , GERMANY

Injured : -      Dead : 102

---

**Abstract**

A rail transportation incident. A high speed train crash killed 102 people. Evidence suggests that a wheel that might have broken from material fatigue could have caused the carriage directly behind the locomotive to derail. Parts of a broken wheel were found some six kilometres (four miles) ahead of the bridge. The train is believed to have derailed at a switch 300 metres (yards) before the bridge.

The locomotive uncoupled from the train, which then hurtled into a road bridge as the cars behind jack-knifed into one another. The road bridge collapsed on several cars, crushing the passengers inside.

[metal fatigue, wheel broken, derailment - consequence]

---

**Lessons**

[None Reported]

---

Source : ICHEME

Location : , GERMANY

Injured : -      Dead : 102

---

**Abstract**

A rail transportation incident. A high speed train crash killed 102 people. Evidence suggests that a wheel that might have broken from material fatigue could have caused the carriage directly behind the locomotive to derail. Parts of a broken wheel were found some six kilometres (four miles) ahead of the bridge. The train is believed to have derailed at a switch 300 metres (yards) before the bridge. The locomotive uncoupled from the train, which then hurtled into a road bridge as the cars behind jack-knifed into one another. The road bridge collapsed on several cars, crushing the passengers inside.

[derailment - consequence, wheel broken, fatality, material of construction failure]

---

**Lessons**

[None Reported]

---

104151998

Source : LOSS PREVENTION BULLETIN, 140, 23.; CNN.COM, U.S. NEWS, 15 FEBRUARY 1998.

Location :

Injured : 150 Dead : 0

---

**Abstract**

A rail transportation incident. More than 150 people suffered burns, 120 critically, after huge flames swept through a crowd of people following the collision of two petroleum tanker trains.

Most of the people were soaked in petrol because, prior to the explosion, they were carrying buckets laden with petrol to and from their houses. Some witnesses suggested the source of ignition was a cigarette from one of the crowd.

The cause of the collision of the two trains is not immediately clear.

[fire - consequence, gasoline]

---

**Lessons**

[None Reported]

---



114881998

**Source** : BBC NEWS, JULY 6, 1999,  
(<http://www.bbc.co.uk>).

**Location** : , UK

**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. A train carrying more than 1,000 tonnes of coal derailed. Fourteen wagons left the track, blocking the main east coast railway line and causing major disruption to passenger services for four days. No one was injured.

A fault in the track is thought to have been the main reason for the accident.

[derailment - consequence, rail incidents]

---

**Lessons**

[None Reported]

---

**1040128 December 1997**

**Source :** LOSS PREVENTION BULLETIN, 139, 23.; THE WESTERN MAIL, 29 DECEMBER 1997.; CEEFAX, 28 DECEMBER 1997, 9 JANUARY. THE CHEMICAL ENGINEER, 15 JANUARY 1998.

**Location :** , UK

**Injured :** 0      **Dead :** 0

---

**Abstract**

A rail transportation incident. Around 1000 people were evacuated from their homes following a derailment of a freight train wagon carrying sixty tonnes liquid vinyl chloride monomer (VCM). The wagon was the last of nine being taken to the docks, when it derailed while going over manually operated points and turned on its side.

Although the wagon survived the impact intact and there was no leak, forty-eight fire fighters and twenty one employees were required to provide the necessary support during the operation to pump out the wagon.

The residents within a 300 m radius were evacuated as a precaution, during the decanting procedure in case of leakage, which was due to the flammable nature of VCM could have easily ignited.

The cause of the incident was due to human error.

[evacuation, human causes, derailment - consequence, spill]

---

**Lessons**

[None Reported]

---

**1040609 December 1997**

**Source :** LOSS PREVENTION BULLETIN, 139, 22-23. THE CHEMICAL ENGINEER, 15 JANUARY 1998. CEEFAX, 9 DECEMBER.; CNN.COM, U.S. NEWS, 9 DECEMBER 1997.

**Location :** , GERMANY

**Injured :** 100 **Dead :** 0

---

**Abstract**

A rail transportation incident. A freight train and passenger train collided injuring some one hundred people, two critically.

Three tanker cars loaded with diesel exploded during the collision. Fire fighters took two hours to extinguish the flames, and prevented the fire from spreading to the remaining nineteen tanker cars on the freight train. The cause of the collision has not yet been identified.

[fire - consequence, explosion, injury]

---

**Lessons**

[None Reported]

---

Source : COPYRIGHT 1996, THE DAILY IOWAN.

Location : , USA

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. A railroad train derailed due to striking a truck on a crossing spilling almost 100 tonnes of . All three locomotives and eight of the train's 53 car jumped the tracks.

Warning lights on the crossing were working at the time of the derailment.

[derailment - consequence, collision]

---

**Lessons**

[None Reported]

---

8837 01 October 1997

Source : HAZARDOUS CARGO BULLETIN, 1997, NOV. LLOYDS LIST.

Location : , ENGLISH CHANNEL

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. 800-900 tonnes of palm oil leaked from a tank following a collision with a cargo ship in fog.  
[spill]

---

**Lessons**

[None Reported]

---

Source : HAZARDOUS CARGO BULLETIN, 1997, NOV. REUTER.

Location : , MALAYSIA

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A bulk carrier sank following a collision with an OBO carrier.

[sinking]

---

**Lessons**

[None Reported]

---

10810September 1997

Source : BBC NEWS 1998, (<http://www.bbc.co.uk>).

Location : , UK

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. A railway maintenance company is facing a charge of negligence following an accident in which a quarter of a mile of track was destroyed and lines were disrupted for several days.

The accident occurred in September 1997, when the maintenance company was rectifying track that had become waterlogged through drainage problems.

A 21 wagon freight train was partly derailed and eight wagons hit a bridge, showering bricks onto a road.

The company was accused of having failed to maintain a safe method of repairing the track and of failing to ensure that rail passengers were not exposed to the risk of injury.

[derailment - consequence, human causes]

---

**Lessons**

[None Reported]

---

**Source :** LOSS CONTROL NEWSLETTER, 1997.

**Location :** , INDONESIA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A blowout and subsequent fire resulted in an offshore platform catching fire and later sinking into the sea. Two nearby fields were shutdown as a precaution.  
[fire - consequence, plant shutdown]

---

**Lessons**

[None Reported]

---



Source : HAZARDOUS CARGO BULLETIN, 1997, SEP. LLOYDS LIST.

Location : , INDIA

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. An anchored cargo ship laden with 4,200 tonnes of sulphur took on water in high winds causing the engines to fail and the ship to sink. All crew rescued.

[weather effects, sinking]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS CARGO BULLETIN, 1997, SEP. REUTER.

**Location :** , INDIAN OCEAN

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. A bulk carrier laden with iron ore was in collision with a sea mount, sever keel damage occurred, fortunately there was no pollution.

[damage to equipment]

---

**Lessons**

[None Reported]

---

**Source :** LOSS CONTROL NEWSLETTER, 1997.

**Location :** , USA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A self-elevating drilling platform broke loose from her moorings and collided with an offshore supply vessel, with spillage of 3,500 gallons of diesel oil. The platform then drifted against two double hulled barges.  
[inadequate mooring, collision, marine transport]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS CARGO BULLETIN, 1997, AUG. REUTER.

**Location :** , INDIA

**Injured :** 0      **Dead :** 24

---

**Abstract**

A marine transportation incident. A bulker with 12,700 tonnes of sulphur and 200 tones of fuel/diesel oil on board sank in rough seas, nine of the crew were rescued.

[weather effects, sinking]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS CARGO BULLETIN, 1997, AUG.

**Location :** Calcutta, INDIA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A river transportation incident. A cargo ship carrying 5,700 tones of steel, collided with a tug and sank causing a spill of fuel oil which polluted river banks.  
[pollution, sinking]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS CARGO BULLETIN, 1997, AUG. LLOYDS LIST.

**Location :** , SOUTH AFRICA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. A cargo ship carrying 4,000 tonnes of fishmeal, lost power and sank in very heavy seas, 20 crew members were rescued.  
[sinking, weather effects]

---

**Lessons**

[None Reported]

---

Source : CHEMICAL HAZARDS IN INDUSTRY, 1997, NOV.

Location :

Injured : 2      Dead : 1

---

**Abstract**

A rail transportation incident. A transportation freight train carrying hazardous chemicals crashed into a coal train. The freight train burst into flames as its two engines and 13 of its cars derailed. Homes within a half-mile radius of the crash site were evacuated for 24 hours. One freight crew member was killed and two were injured but there were no injuries on the coal carrier.

Tank cars carrying bleach, sulphuric acid and ammonium nitrate were initially reported to be on fire at the scene. The sulphuric acid was transferred and a car partially loaded with hydrogen peroxide was removed.

A tank car carrying acetaldehyde continued burning through to the next day.

[fire - consequence, collision, derailment - consequence, evacuation, fatality, injury]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN, 1997, AUG. FAIR PLAY.

**Location** : Nanjing, CHINA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A fire and explosion occurred on a marine tanker with 19,700 tonnes of crude being unloaded. The tanker and one barge sank at anchorage.  
[fire - consequence, unloading, sinking]

---

**Lessons**

[None Reported]

---



Source : HAZARDOUS CARGO BULLETIN, 1997, AUG. LLOYDS LIST.

Location : , JAPAN

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. An liquefied natural gas (LNG) carrier collided with a fishing vessel causing damage to the port side and bulwark.  
[collision, damage to equipment]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS CARGO BULLETIN, 1997, AUG. LLOYDS LIST.

**Location :** , SOUTH KOREA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. A container ship collided with a 2,850 gt cargo ship and then sank with 48 containers on board.

[sinking]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS CARGO BULLETIN, 1997, AUG. LLOYDS LIST.

**Location :** , SOUTH CHINA SEA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. A fire occurred when a coastal tanker carrying gasoline collided with a cargo ship and sank shortly afterwards. Eight crew rescued.

[fire - consequence, collision, sinking]

---

**Lessons**

[None Reported]

---

**Source :** CHEMICAL HAZARDS IN INDUSTRY, 1997, OCT.

**Location :** , FRANCE

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. One hundred and twenty tonnes of fuel oil leaked into a dock when a tanker hit the quay while trying to dock.  
[collision]

---

**Lessons**

[None Reported]

---

**Source** : CHEMICAL HAZARDS IN INDUSTRY, 1997, JULY.

**Location** : Cherbourg, FRANCE

**Injured** : 12    **Dead** : 2

---

**Abstract**

A marine transportation incident. A navy ship carrying explosives blew up and sank. About a dozen people were injured in the blast on board the 450 tonne support ship which had been carrying grenades. The explosion was heard up to 19 miles away.

[sinking, fatality, injury]

---

**Lessons**

[None Reported]

---

9067 02 April 1997

Source : ICHEME

Location : , FRANCE/GERMANY

Injured : 0      Dead : 0

---

**Abstract**

A train derailed carrying highly radioactive spent nuclear fuel. Three railcars loaded each carrying one shipping cask, which contained six spent fuel elements. The accident happened while the train was changing tracks at low speed.

---

**Lessons**

[None Reported]

---

9068 15 January 1997

Source : ICHEME

Location : ,

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. A railcar carrying a nuclear fuel cask derailed during a track change in front of a nuclear power plant.

[derailment - consequence]

---

**Lessons**

[None Reported]

---

**Source :** LOSS CONTROL NEWSLETTER, 1997.

**Location :** , JAPAN

**Injured :** 0      **Dead :** 1

---

**Abstract**

A marine transportation incident. Much of the cargo of 19,000 tonnes of fuel oil leaked from marine tanker when it broke in two in stormy weather. The 10 km wide spill has affected up to 450 km of coastline. The ship is believed to have sunk after colliding with semi-submerged object.  
[collision, sinking, fatality, pollution, heavy seas]

---

**Lessons**

[None Reported]

---



8655 05 December 1996

Source : LLOYDS LIST, 1996, DEC, 14.

Location : Florida, USA

Injured : 2      Dead : 0

---

**Abstract**

A rail transportation incident. 1,200 gallons of fuel spillage when youths operated a switching device which caused the derailment of a rail tanker. \$1 million (1996) damage done.

[derailment - consequence, damage to equipment]

---

**Lessons**

[None Reported]

---

Source : SEDGWICK LOSS CONTROL NEWSLETTER, ISSUE 1, 1996.

Location : , EGYPT

Injured : 0      Dead : 0

---

**Abstract**

Water started to enter the rig while it was being moved for reasons which are not yet clear. A salvage operation may be feasible. Offshore.

[sinking]

---

**Lessons**

[None Reported]

---

1302 26 January 1996

Source : LLOYDS LIST, 1996, JAN, 30.

Location : ,

Injured : 0      Dead : 0

---

**Abstract**

Jack-up oil platform sunk in Gulf of Suez while on the move.

[sinking, offshore]

---

**Lessons**

[None Reported]

---

Source : SEDGWICK LOSS CONTROL NEWSLETTER, ISSUE 4, 1995.

Location : , HONG KONG

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. Marine tanker rammed a jetty causing 20 tonne of crude oil spillage. No major pollution as leak was stopped and dispersant used.

[collision]

---

**Lessons**

[None Reported]

---

**Source :** SEDGWICK LOSS CONTROL NEWSLETTER, ISSUE 4, 1995.

**Location :** Pusan, SOUTH KOREA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. A 14 year old marine oil tanker carrying a full load of crude oil had been refloated after going onto rocks. The tanker was refloated but sank again while on tow causing pollution.

[sinking]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN, 1995, OCT.

**Location** : Off Vostorchnyy, RUSSIA

**Injured** : 1      **Dead** : 1

---

**Abstract**

A marine transportation incident. An explosion occurred in a marine product tanker at anchor. 400 tonnes of gasoline and diesel onboard burned for 13 hours. Vessel broke in two and sank. Fatality.  
[sinking, fire - consequence]

---

**Lessons**

[None Reported]

---

7613 17 July 1995

**Source** : HAZARDOUS CARGO BULLETIN, 1995, SEP.

**Location** : Nizhny Novgorod, RUSSIA

**Injured** : 0      **Dead** : 6

---

**Abstract**

A rail transportation incident. Collision between two trains caused 12 wagons to derail. Explosion of one of three rail tankers containing butadiene and ignited other rail wagons. Fatality.

[derailment - consequence]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN, 1995, JUN.

**Location** : Near Chita, Siberia, RUSSIA

**Injured** : 0      **Dead** : 3

---

**Abstract**

A rail transportation incident. A freight train collided with mechanical road digger near a station. 10 of 35 rail tanker wagons with crude oil derailed and caught fire. Fatality.

[derailment, fire - consequence, collision]

---

**Lessons**

[None Reported]

---



Source : HAZARDOUS CARGO BULLETIN, 1995, APR.

Location : , BRAZIL

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A chemical marine tanker struck an underwater object. 32 tonnes of styrene monomer spilt from port tank to sea. City and port area tainted by odour.

[collision, gas / vapour release, spill]

---

**Lessons**

[None Reported]

---

**Source** : SEDGWICK LOSS CONTROL NEWSLETTER, 3RD QUARTER, 1994.

**Location** : Uto Island, FINLAND

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. A marine tanker that sunk in 1947 started leaking oil at 3 cum per day. The vessel is believed to contain between 600 tonnes and 900 tonnes of oil.

[sinking, spill, pollution]

---

**Lessons**

[None Reported]

---

**Source** : SEDGWICK LOSS CONTROL NEWSLETTER, 2ND QUARTER, 1994.

**Location** : Saldanha Bay; Cape Town, SOUTH AFRICA

**Injured** : 0      **Dead** : 36

---

**Abstract**

A marine transportation incident. A marine tanker of crude oil sank causing a spill and pollution. Fatality.

[sinking]

---

**Lessons**

[None Reported]

---

6570 27 May 1994

**Source :** HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1994, JUL.

**Location :** , ADRIATIC SEA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. Explosion on a marine tanker at anchor after unloading monoethylene glycol on previous day. Vessel sank.  
[sinking]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1994, JUN.

**Location** : Kaohsiung, TAIWAN

**Injured** : 0      **Dead** : 0

---

**Abstract**

A river transportation incident. Water ingress in river tanker barge prior to bunkering vessel. Barge sank and diesel was spilled into river. Slick 300 by 330 metres.

[sinking]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1994, JUN.

**Location :** , NORTH SEA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. Heavy weather caused water ingress in no.1 hold of a cargo ship with ammonium nitrate in plastic bags. Vessel sank. Crew rescued.

[weather effects, spill, sinking]

---

**Lessons**

[None Reported]

---

6450 05 March 1994

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1994, MAY.

Location : , AEGEAN SEA

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. Engine breakdown in heavy weather caused vessel to sink with cargo of ammonium nitrate, leading to a spill.  
[sinking, weather effects]

---

**Lessons**

[None Reported]

---

6369 06 January 1994

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1994, MAR.

**Location** : Off Faro, PORTUGAL

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. Power loss and water ingress in engine room on LNG/LPG carrier. Vessel sank with 2900 tonnes of butane in 4 tanks.  
[sinking]

---

**Lessons**

[None Reported]

---



**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1994, JAN.

**Location** : Quingdao, CHINA

**Injured** : 0     **Dead** : 3

---

**Abstract**

Explosion and fire on marine tanker during loading of crude oil at oil jetty. Vessel broke in two and sank. Fire burned for 12 hours. Fatality.  
[fire - consequence, sinking]

---

**Lessons**

[None Reported]

---

6334 09 December 1993

Source : LLOYDS LIST, 1993, 10 DEC.; HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1994, JAN.

Location : English Channel, UK

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A marine tanker sustained a ballast tank rupture and pump failure in a storm leading to a spill of xylene. Vessel overturned and sank.

[weather effects, sinking]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1993, NOV.

**Location** : Off Aliaga, TURKEY

**Injured** : 0      **Dead** : 2

---

**Abstract**

A marine tanker sank 700 m off port after loading 1000 tonnes of phosphotungstic acid. Alleged misloading and delay in taking ballast.  
[sinking]

---

**Lessons**

[None Reported]

---

6131 24 June 1993

**Source** : SKY NEWS, 1993, 24 JUN.

**Location** : Moscow, RUSSIA

**Injured** : 8      **Dead** : 11

---

**Abstract**

A road transportation incident. A road tanker stopped at traffic lights and was hit in the rear by a lorry. Gasoline sprayed onto 3 buses and ignited. Fatality.  
[fire - consequence, collision]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1993, AUG.

**Location** : Buenos Aires, ARGENTINA

**Injured** : 2      **Dead** : 0

---

**Abstract**

Fire and explosion on marine tanker during loading of oil. Vessel sank.

[sinking]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1993, JUN.

**Location** : Busan, SOUTH KOREA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. Coastal marine tanker with 690 tonnes of bunker oil ran aground and sank.

[ship ran aground, sinking]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1993, JUN.

**Location** : New Orleans; Louisiana, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A river transportation incident. Double hull river tanker barge under tow struck bridge and caused a large fuel oil spill from ruptured barge.  
[collision]

---

**Lessons**

[None Reported]

---

5992 19 March 1993

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1993, JUN.

**Location** : Runcorn Near; Cheshire, UK

**Injured** : 0      **Dead** : 1

---

**Abstract**

A road transportation incident. Collision with car caused a road tanker carrying kerosene to plunge onto main rail line causing explosion and fire after rail power lines ignited fuel. Fatality.

---

**Lessons**

[None Reported]

---



5945 03 February 1993

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1993, APR.

Location : , INDIAN OCEAN

Injured : 0      Dead : 5

---

**Abstract**

A marine transportation incident. Water ingress on vessel, with 18000 tonnes of fertiliser on board, forced it to be abandoned and sink. Fatality.  
[sinking]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1993, JAN.

**Location** : Bombay, INDIA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. A marine tanker struck a wharf and punctured tank spilling 280 tonnes of crude oil.  
[collision]

---

**Lessons**

[None Reported]

---

5833 25 October 1992

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1992, DEC.

Location : , DUTCH COAST

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. Vessel with 2352 tonnes of lead concentrates sank in heavy seas. Salvage planned.

[weather effects, sinking]

---

**Lessons**

[None Reported]

---

5726 25 July 1992

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1992, OCT.

**Location** : Ghent, BELGIUM

**Injured** : 0      **Dead** : 0

---

**Abstract**

A river transportation incident. A river tanker ruptured bottom at lock and sank. 490 tonnes of sulphuric acid transhipped.

[sinking]

---

**Lessons**

[None Reported]

---

5687 20 June 1992

**Source** : LLOYDS LIST, 1992, 22 JUN.

**Location** : Port Kelang, SINGAPORE

**Injured** : 0      **Dead** : 13

---

**Abstract**

A marine transportation incident. Surveyors were determining the quantity of a cargo prior to discharging xylene when an explosion occurred. Fire damaged the terminal and two storage tanks. The marine tanker burnt out and sank. Fatality.

[sinking, fire - consequence]

---

**Lessons**

[None Reported]

---

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1992, JUN.

Location : , MOZAMBIQUE

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. Hull cracked on marine tanker with 60,000 tonnes of fuel oil and later broke in half under tow and sank. Large oil slick.  
[sinking, spill]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1992, JAN.

**Location** : Dublin Bay, EIRE

**Injured** : 0      **Dead** : 3

---

**Abstract**

A marine transportation incident. A container ship with 123 units capsized and sank after collision. Drums of butanoic acid and hydrogen iodide onboard. Fatality.  
[sinking]

---

**Lessons**

[None Reported]

---

5452 21 October 1991

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1991, DEC.

**Location** : Off Annaba, ALGERIA

**Injured** : 0      **Dead** : 5

---

**Abstract**

A marine transportation incident. A marine bulk carrier with 25,894 tonnes of phosphates sank in gale conditions. Fatality.  
[weather effects, sinking]

---

**Lessons**

[None Reported]

---



5393 27 July 1991

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1991, SEP.

**Location** : Oebisfelde, GERMANY

**Injured** : 21    **Dead** : 3

---

**Abstract**

A rail transportation incident. A freight train and passenger train were in collision resulting in the derailment of 11 petrol, gasoline, tankers and explosions. Fire burnt for 7 hours. Fatality.

[fire - consequence, derailment - consequence, injury]

---

**Lessons**

[None Reported]

---

5387 22 July 1991

**Source** : LLOYDS LIST, 1994, 26 OCT.

**Location** : Washington, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. Two marine vessels were in collision. One sank leading to a spill of 53,000 gallons of diesel oil and 120,000 gallons of fuel oil. Owners fined \$9m (1991).

[sinking]

---

**Lessons**

[None Reported]

---

5337 28 May 1991

**Source :** HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1991, JUL.

**Location :** , ATLANTIC OCEAN

**Injured :** 0      **Dead :** 5

---

**Abstract**

A marine transportation incident. An explosion and fire occurred on a marine tanker with 260,000 tonnes of crude oil. Ship sank and massive oil slick. Fatality.  
[sinking, spill, fire - consequence]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1991, JUN.; HAZARDOUS CARGO BULLETIN, 1991, JUN, 74 & 76.

**Location :** , NORTH SEA

**Injured :** 0      **Dead :** 0

---

**Abstract**

Four 24,000 litre tank containers were lost from a ferry in heavy seas and two carrying ethyl acetate floated 25 miles to the coast. The other two sank. One that was beached was found to be leaking leading to the evacuation of 200.

[spill, sinking]

---

**Lessons**

[None Reported]

---

5303 11 April 1991

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1991, MAY.; LLOYDS LIST, 1991, 15 APR.

Location : Off Genoa, ITALY

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A marine tanker with crude oil caught fire while anchored and burnt for three days before sinking and causing widespread pollution.

[fire - consequence]

---

**Lessons**

[None Reported]

---

5279 09 March 1991

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1991, MAY.

**Location** : Bordeaux, FRANCE

**Injured** : 0      **Dead** : 0

---

**Abstract**

An explosion and fire occurred when a vessel struck a wharf. Fuel, propane, gasoline and bitumen pipelines were ruptured. Fuels and gas burnt off under control.

[collision]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1991, FEB.; LLOYDS LIST, 1990, 20 DEC.

**Location** : South China Sea, OFF TAIWAN

**Injured** : 0      **Dead** : 2

---

**Abstract**

A marine transportation incident. Explosion on marine chemical tanker appeared to have occurred while work was in progress on venting empty tanks. Ship split in two and sank. Fatality.

[sinking, marine tanker, unknown chemicals]

---

**Lessons**

[None Reported]

---

5149 20 October 1990

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1990, DEC.

Location : , SOUTH PACIFIC

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. An explosion of an LPG cylinder forward on a cargo ship led to a fire that spread over drummed fuel cargo. Ship was abandoned and sank with large oil slick.

[sinking, fire - consequence, pollution]

---

**Lessons**

[None Reported]

---



5148 19 October 1990

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1990, DEC.

**Location** : Stainmore; Cumbria, UK

**Injured** : 0      **Dead** : 1

---

**Abstract**

A road transportation incident. Fireball when truck shunted car at temporary traffic lights and car driver killed. Exploding aerosol cans hindered rescue operations. Fatality.

[collision, fire - consequence, aerosol propellant]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1990, NOV.

**Location :** , KARIMARA STRAIT

**Injured :** 0      **Dead :** 18

---

**Abstract**

A marine transportation incident. A marine gas carrier with 1,300 tonnes of ammonia capsized and sank after collision with another marine vessel. Fatality.  
[sinking]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN, NOVEMBER 1999.

**Location** : Perth Amboy; New Jersey, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A road transportation incident. Approximately 380 l of acid was spilled when a truck carrying various chemicals collided with a car.  
[collision, loss of control]

---

**Lessons**

[None Reported]

---

5071 28 July 1990

**Source** : SEDGWICK LOSS CONTROL NEWSLETTER, 3RD QUARTER, 1990.

**Location** : Galveston Bay; Texas, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. Collision occurred at entrance to ship canal causing the sinking of 1 of 3 barges on tow spilling 500,000 gallons gas oil.

**Lessons**

[None Reported]

---

**Source :** SEDGWICK LOSS CONTROL NEWSLETTER, 3RD QUARTER, 1990.

**Location :** Saeyung, South Korea

**Injured :** 0      **Dead :** 4

---

**Abstract**

A marine transportation incident. A marine tanker of 3,000 tonnes of oil caught fire and sank after a gas tank explosion. The tanker was carrying 160 tonnes of oil, 20 tonnes of gasoline. Fatality.

[sinking]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1990, AUG.

**Location** : New Orleans; Louisiana, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A river transportation incident. Collision of river barges led to the spillage of 1,000 tonnes of fuel oil into a river.

---

**Lessons**

[None Reported]

---

4967 24 April 1990

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1990, JUL.

**Location** : Sault Ste Marie; Ontario, CANADA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. A freight train derailed due to the collapse of line from spring thaw. 20 000 litres of diesel spilled into a river.  
[weather effects, derailment - consequence]

---

**Lessons**

[None Reported]

---

4831 01 January 1990

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1990, MAY.

**Location** : Near Pittsburgh; Pennsylvania, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A river transportation incident. Early ice and rising water caused 62 river barges to scatter and drift. 30 barges sank spilling fuel, gasoline, into a river.  
[weather effects, sinking]

---

**Lessons**

[None Reported]

---



Source : LLOYDS LIST, 1989, NOV, 24.

Location : ,

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A marine tug was in difficulties in the Atlantic Ocean and subsequently sunk, three survivors were picked up by a nearby vessel. Master of the sunken vessel confirms only three persons on board.

[sinking]

---

**Lessons**

[None Reported]

---

Source : LLOYDS LIST, 1989, NOV, 18.

Location : ,

Injured : 8      Dead : 3

---

**Abstract**

A marine transportation incident. A 13,141 tonnes gross ferry collided with container ship in stormy weather. So far the cause of the collision has not been determined.

[fatality]

---

**Lessons**

[None Reported]

---

4762 31 October 1989

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1990, MAR.

**Location** : Off Shikoku, JAPAN

**Injured** : 0      **Dead** : 9

---

**Abstract**

A marine transportation incident. A marine chemical tanker hull ruptured after a collision and split in two and sank. Spill of isopropyl alcohol. Fatality.  
[sinking]

---

**Lessons**

[None Reported]

---

**Source** : TELEGRAPH, SEP, 19, 1989.

**Location** : Offshore, SCOTLAND

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. Two marine tankers collided off the eastern coast of Scotland, spilling 800 tonnes of crude oil.

An aerial spraying operation combined with prevailing winds and tides broke up the bulk of the slick and carried it away from an ecologically sensitive area.

The cause of the collision, which happened in calm seas in relatively good weather with visibility of up to three miles, is unclear.

---

**Lessons**

[None Reported]

---

Source : LLOYDS LIST, AUG 22, 1989, AUG 24, 1989, AUG 25 1989, AUG 26, 1989.

Location : London, UK

Injured : -      Dead : 63

---

**Abstract**

A river transportation incident. The pleasure boat (built in 1923) was hit in the stern by a dredger in the early hours of the morning, and sank within seconds.

The passenger ship was carrying about 150 partygoers (the exact number of people on board was not known).

The design of the dredger was such that, without a lookout stationed forward, the master could not have seen the pleasure boat. (The forward view was largely obscured by gravel grading plant). Bridge arches may also have obscured the smaller craft. Immediately after the collision, the crew of the dredger appear to have been unaware of the collision. The master of the boat would have been in no position to see the approaching dredger astern.

The boat was making slow headway against a flood tide, and the master of the dredger may have over-estimated its speed. The ship was cruising in the central channel - usually reserved for the largest vessels.

[fatality, sinking, poor visibility, navigation error, weather effects, collision]

---

**Lessons**

New regulations for pleasure boat operators were brought into force, requiring a record of passenger numbers to be left ashore.

Improved emergency drills and more frequent random vessel inspections were also instigated.

---

4642 13 July 1989

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, SEP.

**Location** : Near Ozaki Lighthouse, JAPAN

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. A marine tanker with 500 tonnes of hydrochloric acid sank after collision with bulk carrier. Spill.

[sinking]

---

**Lessons**

[None Reported]

---

**Source** : LOSS PREVENTION BULLETIN, 090, 11-12.; LLOYDS LIST, 1989, 24 AUG.; GUARDIAN, 1989, 5 JUN.; HAZARDOUS CARGO BULLETIN, 1989, AUG.

**Location** : Ufa; Siberia, RUSSIA

**Injured** : 706 **Dead** : 462

---

**Abstract**

Engineers in charge of an LPG pipeline carrying material from gas fields noticed a sudden drop in pressure at the pumping end of the pipeline. The pipeline was commissioned in 1985 to carry mixed LPG (propane, butane, pentane, methane and ethane) to feed an industrial city. Subsequently, it had been reported that there had been leaking for "several days" and that a heavy smell of gas had been reported a few hours before the explosions and fire. Instead of investigating the trouble, the engineers had responded by increasing the pumping rate in order to maintain the required pressure in the pipeline. The actual leakage point was about 890 miles down stream between two towns, where the pipeline was installed about 1/2 mile away to the side of a railway. The smell of escaping gas was reported from valley settlements in the area and it is also stated that the escaping liquefied gas formed two large pockets in low lying areas along the railway line. The gas cloud is reported to have drifted for a distance of 5 miles. Some hours later, two passenger trains, travelling in opposite directions, approached the area. Their turbulence mixed up LPG mist and vapour with the overlying air to form a flammable cloud section. One or the other train sparked off the cloud (electric overhead catenary wires for the locomotives) as an initial explosion.

Two explosions took place in quick succession followed by a wall of fire that was about 1 mile wide which raced down the railroad tracks in both directions. A considerable part of each train was derailed. Trees were flattened within a radius of 2 and a 1/2 miles from the explosion centre and windows were broken up to 8 miles away. Fatality.

[fire - consequence, operation inadequate, operator error, rail transportation, vapour cloud explosion, derailment - consequence, transportation, passenger train, injury]

---

**Lessons**

[None Reported]

---

4573 11 May 1989

**Source :** HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, AUG.

**Location :** , INDIAN OCEAN

**Injured :** 0      **Dead :** 18

---

**Abstract**

A marine transportation incident. A marine gas carrier turned upside down and later sank with cargo of vinyl chloride monomer (VCM). Fatality.

[sinking]

---

**Lessons**

[None Reported]

---



4565 03 May 1989

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, JUL.

**Location** : Sarnia; Ontario, CANADA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. Derailment of fifteen wagons following collision with another train causing fire involving ammonia residues. Evacuation of 250.  
[derailment - consequence, fire - consequence]

---

**Lessons**

[None Reported]

---

4517 26 March 1989

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, JUN.

**Location** : Juaymah, SAUDI ARABIA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. While berthing to load LPG a marine gas carrier hit trestle carrying gas pipelines from shore to loading manifold causing considerable damage.

[damage to equipment, collision]

---

**Lessons**

[None Reported]

---

4498 13 March 1989

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, MAY.

**Location** : Off Channel Islands, ENGLISH CHANNEL

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. A vessel sank in bad weather with pesticide cargo. Container of lindane floated free and taken in tow but subsequently lost.  
[weather effects, sinking]

---

**Lessons**

[None Reported]

---

4495 09 March 1989

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, MAY.

**Location** : M6 Motorway; Near Crewe, UK

**Injured** : 0      **Dead** : 4

---

**Abstract**

A road transportation incident. A road tanker and lorry skidded, collided and jackknifed. Other cars and lorries collided with the wreckage. The tanker began to spill diesel onto the road. Fatality.

[collision]

---

**Lessons**

[None Reported]

---

11589March 1989

**Source :** THE GUARDIAN, 20 MAR, 1989; INDEPENDENT, 22 MAR, 1989; THE GUARDIAN, 23 MAR, 1989; THE TELEGRAPH, 23 MAR, 1989.

**Location :** , OFFSHORE - CHANNEL ISLANDS

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation. A container of the toxic insecticide, lindane, was lost in the Channel, after a freighter on which it was being transported, sank off Guernsey.

The container was initially recovered by a French tug, but was lost during a storm as it was being towed to Cherbourg harbour.

Lindane, a toxic organochloride compound, lodges in the fatty tissue of animals and remains toxic for many years. The six tonnes of lindane in the container was therefore seen as a major threat to marine life in the Channel.

A major search, including French minesweepers, was undertaken to locate and recover the container, within a fifty square mile "exclusion zone".

Other toxic chemicals- permethrin and cypermethrine- were also being carried by the freighter when it sank. The British Government assumed responsibility for recovering these from the wreck of the freighter.

[container ship, sinking,

---

**Lessons**

[None Reported]

---

4482 26 February 1989

**Source** : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NUMBER NTSB HZM-90-02 PB90-917006;  
HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, APR.; HAZARDOUS CARGO BULLETIN, 1989, JUL., 78; LLOYDS LIST, 1989, 23 FEB.;  
THE BEACON JOURNAL, 1989, 27 FEB.

**Location** : Akron; Ohio, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. Faulty wheel assembly on sand hopper railcar caused derailment of 21 cars including 4 butane rail tankers, one of which ruptured. The subsequent fire caused the evacuation of 2 000 people. During cleanup operation two days later a second tanker tipped over and caught fire.  
[fire - consequence, derailment - consequence, rail incidents, explosion]

---

**Lessons**

[None Reported]

---

**1058301 February 1989**

**Source :** SCOTLAND ON SUNDAY, FEB 2, 1989.; TELEGRAPH, FEB 2, 1989.; TIMES, FEB 2, 1989.; INDEPENDANT, FEB 8, 1989.

**Location :** , ANTARCTICA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. An oceanography ship carrying more than 250,000 gallons of diesel oil, petrol and propane gas sank three days after running aground. A 10 mile oil slick ensued. Marine life was affected.

All 316 people on board, including 82 tourists were evacuated before the ship sank.

[sinking, ecological damage, spill, evacuation, gasoline]

---

**Lessons**

[None Reported]

---

**Source :** COMMUNITY DOCUMENTATION CENTRE ON INDUSTRIAL RISK, MAJOR ACCIDENT REPORTING SYSTEM LESSONS LEARNT FROM ACCIDENTS NOTIFIED, INSTITUTE FOR SYSTEMS ENGINEERING AND INFORMATICS, COMMISSION OF THE EUROPEAN COMMUNITIES JOINT RESEARCH CENTRE, 1991, ISBN 9282622894.

**Location :** ,

**Injured :** 8      **Dead :** 0

---

**Abstract**

A marine transport incident. During gasoline loading of a motorship at the refinery pier, the ship responsible mechanic requested the stopping of the loading to proceed with necessary repairs. 20 minutes after the interruption of loading a strong explosion occurred at the ship machinery shop, followed by a fire. The refinery fire fighting crew was mobilised within a few minutes, while 4 injured members of the ship's crew were transported to the hospital.

The ship was disconnected from the loading hoses and was transferred away from the pier (the fire did not spread to the refinery loading installations). Then fire fighting activities were undertaken using special fire fighting tags (water foam) supported by a crew from the special national fire fighting services. After 6 hours the fire was almost under control and the ship was about 1.5 km away from the refinery installation on the pier. However, the next morning the fire reached the first tank and spread with repeated explosions. 4 firemen were injured. Navigation in the gulf was interrupted and fire fighters tried to prevent the fire from spreading to nearby anchored ships. They tried to avoid environmental pollution by using a 400 m long boom. Finally the ship sank 48 hours after the first explosion.

[fire - consequence, sinking, environmental, damage to equipment, injury]

---

**Lessons**

1. The upgrading of pier fire fighting system.
  2. The crew of ships and especially tankers must be well trained in fire prevention and fire fighting. Fire fighting means for this type of tanker must be improved.
  3. Fire fighting tags must be equipped with large quantities of a foam compound.
-



4403 27 December 1988

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, MAR.

**Location** : Semidi Island; Alaska, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. A barge with 2 million USgal diesel foundered and was deliberately sunk. Spill.

[sinking]

---

**Lessons**

[None Reported]

---

4386 16 December 1988

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, FEB.

Location : , PUERTO RICO

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A supply vessel with propane and mixed cargo caught fire and capsized.

[fire - consequence, sinking]

---

**Lessons**

[None Reported]

---

4385 15 December 1988

Source : THE GLOBE AND MAIL, 1989, 14 SEP.

Location : , ATLANTIC

Injured : 0      Dead : 0

---

**Abstract**

An offshore oil rig was being towed to the North Sea when the tow rope broke and the oil rig sank in a heavy storm.

[weather effects, sinking]

---

**Lessons**

[None Reported]

---

4351 14 November 1988

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, JAN.

Location : , OFF COAST OF INDONESIA

Injured : 0      Dead : 3

---

**Abstract**

A marine transportation incident. A marine gas carrier laden with 413 tonnes of LPG sank in bad weather. Fatality.  
[weather effects, sinking]

---

**Lessons**

[None Reported]

---

**Source :** THE TULSA TRIBUNE, 1988, 10 NOV.; THE EVENING SUN, 1988, 11 NOV.; HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, JAN.

**Location :** , NORTH ATLANTIC

**Injured :** 0      **Dead :** 27

---

**Abstract**

A marine transportation incident. 17 year old marine tanker, laden with crude oil, sank in heavy weather after suspected explosion. Oil leaked to sea and ignited. Fatality.

[sinking, weather effects, fire - consequence]

---

**Lessons**

[None Reported]

---

4341 06 November 1988

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1989, JAN.

**Location** : Offshore, PHILIPPINES

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. A marine gas carrier carrying ethane grounded in typhoon, abandoned and believed sunk.

[weather effects, sinking]

---

**Lessons**

[None Reported]

---

Source : ICHEME

Location : ,

Injured : 0      Dead : 0

---

**Abstract**

Damage to a terminal due to road transport vehicle impact. Equipment involved: loading arm.  
[damage to equipment, collision]

---

**Lessons**

[None Reported]

---

4312 07 October 1988

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, DEC.

Location : Genoa, ITALY

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A fuel transfer line broke during bunkering lead to fire in engine room. This led to the sinking of the vessel by the Navy to prevent the fire spreading to polyvinyl chloride cargo and hazardous chemicals.

[fire - consequence, polyvinyl chloride (PVC)]

---

**Lessons**

[None Reported]

---



4304 04 October 1988

Source : THE EVENING SUN, 1988, 5 OCT.; NEW YORK TIMES

Location : Jennings; Louisiana, USA

Injured : 5      Dead : 0

---

**Abstract**

A road transportation incident. A road tanker with 4 600 USgal of toluene overturned and caught fire after avoiding another vehicle. Evacuation of 500. Other reports said there was a collision.

---

**Lessons**

[None Reported]

---

4286 08 September 1988

**Source** : RICHES P.A, AFTER PIPER ALPHA - THE INSURANCE ASPECTS, IN: OFFSHORE OPERATIONS POST PIPER ALPHA SYMPOSIUM, 6-8 FEBRUARY 1991, LONDON, INSTITUTE OF MARINE ENGINEERS, 1991, 2/1-2/9.

**Location** : South China Sea, OFF INDONESIA

**Injured** : 0      **Dead** : 1

---

**Abstract**

A marine transport incident. An exploration drill ship capsized and sank after blowout. Fatality.

[sinking]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, NOV.

**Location** : Offshore; Borneo, INDONESIA

**Injured** : 0      **Dead** : 4

---

**Abstract**

A marine transport incident. During exploration. A drilling vessel hit an uncontrollable natural gas stream. Subsequent explosion ignited the vessel and sank. Fatality.  
[sinking]

---

**Lessons**

[None Reported]

---

4278 06 September 1988

Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, NOV.

Location : Pireaus, GREECE

Injured : 0      Dead : 10

---

**Abstract**

A marine transportation. An explosion during repair work on a marine tanker caused it to break in two.

[sinking]

---

**Lessons**

[None Reported]

---

**4275 03 September 1988**

**Source :** THE SUN BALTIMORE, 1988, 4 SEP.; HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, NOV.

**Location :** New Orleans, USA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. A marine tanker spilt 23,000 barrels of carbon black feedstock oil which sank.  
[spill, shipping incidents, sinking]

---

**Lessons**

[None Reported]

---

Source : ICHEME

Location : ,

Injured : 0      Dead : 0

---

**Abstract**

Damage of a terminal jetty after collision.

[damage to equipment]

---

**Lessons**

[None Reported]

---

Source : OIL AND GAS JOURNAL, 1989, 23 SEP.

Location : , NORTH SEA

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A marine freighter was in collision with an offshore oil rig. The duty officer went to bed after setting the autopilot without leaving a look out.

[operator error]

---

**Lessons**

[None Reported]

---

4189 12 June 1988

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, OCT

**Location** : Lake Onega, USSR

**Injured** : 0      **Dead** : 0

---

**Abstract**

A river transportation incident. 100 tonnes fuel oil spilt following collision.

[spill]

---

**Lessons**

[None Reported]

---



Source : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, JUL.

Location : , NORTH SEA

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A 2,650 dwt tanker sank in 200 m of water after colliding with a 36,500 dwt container ship. The tanker was carrying 1,000m<sup>3</sup> of the industrial detergent dodecylbenzene, along with 700m<sup>3</sup> of acrylonitrile, which posed a particularly serious explosion and toxicity risk. A ten mile exclusion zone was established around the wreck while the ship was cut in two and some of the acrylonitrile was pumped to a lightening tanker on the surface. The forward section of the ship, with the remaining hazardous cargo still aboard, was eventually raised on to a semi-submersible barge and brought to the surface. The stern section was raised in the same way a few days later.

[collision, sinking]

---

**Lessons**

Technical problems and poor weather made the recovery operation more difficult and time-consuming than had been anticipated.

A full audit of the amount of cargo retrieved at the end of the salvage operation was required before the extent of any chemical leakage or danger to marine and human life could be established.

---

4149 22 April 1988

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, JUN.

**Location** : Offshore, EASTERN CANADA

**Injured** : 0      **Dead** : 29

---

**Abstract**

A marine transportation incident. A marine tanker with 27000 tonnes of unleaded petrol experienced explosion. Vessel ripped apart and lost. Fatality.  
[gasoline, sinking]

---

**Lessons**

[None Reported]

---

4146 18 April 1988

**Source :** HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, JUN.

**Location :** , SEA OF JAPAN

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. The cargo, copper sulphide, on a marine tanker moved causing list of ship which then sank.  
[sinking]

---

**Lessons**

[None Reported]

---

4128 18 March 1988

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, MAY.

**Location** : Palermo, SICILY

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. Gas carrier with 950 tonnes propylene began to list and sank in shallow water.

[sinking]

---

**Lessons**

[None Reported]

---

**4098 03 February 1988**

**Source :** HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, MAR.

**Location :** Off Coast, JAPAN

**Injured :** 0      **Dead :** 0

---

**Abstract**

A marine transportation incident. Coastal chemical marine tanker loaded with 800 tonnes of acetic acid listed 40 degrees and sank.  
[sinking]

---

**Lessons**

[None Reported]

---

Source : ICHEME

Location : , USSR

Injured : 55    Dead : 0

---

**Abstract**

A rail transportation incident. A train carry unknown chemicals derailed causing the release of triethylamine.

The incident occurred when the goods train unexpectedly left the rails on approach to a bridge over a river. The train derailed 150 m from the river bank, two goods wagons and three tank cars left the track causing one to rupture. Approximately 740 l of triethylamine was released. Three thousand people were evacuated from their homes.

Fifty five people were taken to hospital for treatment. The spillage did not reach the river.

[derailment - consequence, gas / vapour release, unidentified cause, injury]

---

**Lessons**

[None Reported]

---

4095 31 January 1988

**Source** : HAZARDOUS CARGO BULLETIN INCIDENT LOG, 1988, MAR.

**Location** : Near Puget Sound, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. A marine barge carrying 318,000 gallons of bunker oil listed and sank. 1 of 12 tanks leaking.  
[spill, sinking]

---

**Lessons**

[None Reported]

---

4043 15 December 1987

**Source** : LESSONS LEARNED FROM EMERGENCIES AFTER ACCIDENTS IN FRANCE INVOLVING DANGEROUS SUBSTANCES, EEC.

**Location** : Dax, FRANCE

**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. Last rail tanker derailed due to switching fault. The rail tanker was breached and caught fire.

[fire - consequence, derailment - consequence, mechanical equipment failure]

---

**Lessons**

[None Reported]

---



4023 29 November 1987

Source : LLOYDS LIST

Location : Niihama, JAPAN

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A chemical marine tanker carrying 150 tonnes sodium hydroxide solution in collision with ship and sank.

[sinking]

---

**Lessons**

[None Reported]

---

3944 07 July 1987

**Source** : FIRE PREVENTION 205, DECEMBER 1987,;  
HAZARDOUS CARGO BULLETIN, 1991, JAN., 66-67.; GUARDIAN, 1987, 9 JUL.

**Location** : Herbon, GERMANY

**Injured** : 38    **Dead** : 4

---

**Abstract**

A road transportation incident. A road tanker carrying 36,000 litres of petrol collided with a wall triggering a series of explosions in which four people died and thirty-eight were injured.

The incident occurred when the tanker failed to turn a corner and overturned, spilling petrol into channels for gas pipes and underground sewers.

The incident occurred due to the tanker's brakes being overheated and malfunctioned.

Total damage is estimated to be approximately £3.3 million (1987).

[fire - consequence, collision, brakes faulty, fatality, injury]

---

**Lessons**

[None Reported]

---

1100206 March 1987

Source : LLOYDS LIST, MAR 10, 1987,; NEW SCIENTIST, JUN 18, 1987.

Location : Zeebrugge, BELGIUM

Injured : -      Dead : 134

---

#### Abstract

A marine transportation incident. The Herald of Free Enterprise capsized just outside Zeebrugge harbour. The capsize was caused by an inrush of water through the open bow loading doors to the car deck. Inadequate operating practices also contributed to the accident.

There was no fail safe device to prevent the captain setting sail before the doors had been closed. The doors were not visible from the bridge and a radio link was needed to confirm that this had been done. However, there was no operational requirement for the crew to inform the captain that the doors were closed.

The ship capsized within seconds giving no time to make mayday calls or launch lifeboats. The freezing water increased the risk to people escaping from the ferry. The proximity of other ships helped to ensure that survivors could be rescued, despite the lack of time to make a mayday call or use life rafts. Measures were taken to stop chemicals in drums being washed out to sea, prior to salvage operations.

[shipping incidents, passenger ship, sinking, human causes, fatality, unknown chemicals, injury]

---

#### Lessons

All ferry doors must be closed before a ship enters open sea and a warning light must be installed on the bridge to show that this has been done.

---

Source : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON, D.C. 20594, VOL 7, NO. 2.

Location : , USA

Injured : 170 Dead : 16

---

**Abstract**

A rail transportation incident. A train of three locomotives went through a stop signal and intruded onto a high-speed rail line. Seconds later, a passenger train collided with the locomotives at a speed of 102 mph.

Three crewmembers of the locomotive train showed evidence of marijuana use, possibly coupled with the use of alcohol. The crewmembers had:

1. Failed to respond to restrictive signals.
2. Failed to resolve the problem of an inoperative radio.
3. Failed to make pre-departure tests of brakes and cab signals.
4. Exhibited delayed throttle responses.
5. Ignored wayside signals whilst preparing lunch.

[collision, fatality, safety procedures inadequate, drug misuse, design inadequate, injury]

---

**Lessons**

The NTSB issued a large number of recommendations to the two train operators involved, including:

1. Better methods of identifying employees who abuse alcohol and/or drugs.
  2. Installation of automatic train control on all locomotives.
  3. Improved crashworthiness of passenger cars.
-

3685 31 July 1986

**Source** : MARINE ACCIDENT REPORT, EXPLOSION ABOARD THE U.S. TANK BARGE..., NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NUMBER NTSB/MAR-87/05, 1987.

**Location** : Pascagoula; Mississippi, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. An explosion occurred while loading gasoline into a tank barge. The barge was partly filled with diesel, burnt, sank and spilled fuel into the bay. The fire spread under the pier rupturing pipelines. The cause of the first explosion was the high initial loading rate of the highly volatile and low conductivity gasoline which generated a static charge.

[fire - consequence, sinking]

---

**Lessons**

[None Reported]

---

Source : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON, D.C. 20594, VOL 6, NO. 7.

Location :

Injured : 3      Dead : 1

---

**Abstract**

A rail transportation incident. A freight train travelling at 40 mph collided with the rear of another freight train which was stopped on the same track, killing the brakeman in the 'caboose' and injuring three other crew members. The locomotive cab was destroyed on impact.

There was dense fog at the time, but the engineer of the first train apparently ignored speed restrictions (displayed in the cab) because of the large number of (spurious) speed restriction signals displayed on this and previous trips. He acknowledged the signals and thus over-rode the automatic train control system.

The NTSB said that 40 mph was too fast for the engineer to see and interpret wayside signals under the foggy conditions. Numerous rule violations were committed by the crews of both trains.

[fatality, collision, fog, operator error, safety procedures inadequate, design inadequate, injury]

---

**Lessons**

The NTSB called for:

1. Improved design and construction of locomotive operating compartments to provide adequate crash protection (this had been recommended 15 years earlier as a result of a previous crash).
  2. Better maintenance procedures to reduce the level of false speed restriction signals
  3. Better supervision of adherence to operating rules, including monitoring of speed tapes and event recorders.
  4. Installation of a train control system which would provide for positive separation of trains.
-

1130408 July 1986

Source : HAZARDOUS CARGO BULLETIN, OCTOBER, 1986.; THE TIMES, OCTOBER 1986.; THE TIMES, 10 JULY, 1986.; LLOYDS LIST, 11 JULY, 1986.

Location : , USA

Injured : 275 Dead : 0

---

#### Abstract

A rail transportation incident. Derailment of a freight train led to the exposure of a rail car load of 12,000 US gallons of white phosphorus to the atmosphere, which then ignited and later erupted explosively. Local residents had already been evacuated from the area, but shortly afterwards the evacuation of another 60,000 people was ordered. When the fire water sprays were reduced to allow salvage to start, the phosphorus erupted explosively again and released another cloud of phosphorus. The cloud was about 1 mile wide, 10-15 miles long and a thousand feet high. Another of the derailed rail cars contained sulphur, which gave cause for concern during the fire fighting. The main fire was extinguished on 10 July at which point it was found that only about 100 US gallons of white phosphorous remained. This was allowed to burn away in controlled manner over the next 4 days. A total of 275 people were treated for minor skin, eye and lung irritations over a two day period. The derailment was thought to be caused by the weld failure in one of the rail cars which left the track. A task force was appointed to recommend appropriate state responses and to determine whether a state notification scheme was required for the transport of hazardous substances.

[gas / vapour release, explosion, evacuation, fire - consequence, people]

---

#### Lessons

[None Reported]

---

1205402 July 1986

Source : THE TIMES, JUL 3, 1986;, LLOYDS LIST, JUL 4, 1986.

Location : , USA

Injured : 2      Dead : 3

---

**Abstract**

A rail transportation and road transportation incident. A freight train and a road tanker carrying propane collided. The resultant explosion and fire killed three and seriously injured two. The road tanker fire sent the tanker "shooting up like a missile". At least 13 cars of the southbound train, mostly carrying grain, were derailed. The fire was quickly brought under control.

[fire - consequence, collision, derailment - consequence, fatality, injury]

---

**Lessons**

Possible cause was human error. Police speculated that the road tanker driver was trying "to beat" the train.

---



Source : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON, D.C. 20594, VOL 6, NO. 4.

Location : , USA

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A bulk cargo ship collided with a fleet of moored barges on the Mississippi river causing \$1.4 million (1986) damage. The collision occurred on a clear night whilst the ship was southbound for New Orleans.

The pilot was attempting to overtake two tow-boats travelling abreast, on a bend where width was restricted, despite a caution from the operator of one of the tow-boats. In addition, although radar was available, inadequate use was made of it.

The pilot had had five accidents within two years - one of these involved excessive speed of the ship he was piloting.

[marine freighter, operator error, safety procedures inadequate, collision, damage to equipment]

---

**Lessons**

The NTSB said it was "concerned about oversight of pilot performance and its effect on navigation in US waters". It recommended that:

1. Effective use must be made of radar.
  2. The mooring of barge fleets on river bends should be prohibited.
  3. Pilots should avoid passing tows on river bends wherever practicable.
-

Source : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON, D.C. 20594, VOL 6, NO. 9.

Location : , USA

Injured : 177 Dead : 0

---

### Abstract

A rail transportation incident. A steam excursion train became de-railed after travelling over a section of line which had recently been repaired. The high number of injuries was partly attributed to the 'historic' rolling stock in use, some of which did not use 'tightlock' couplings between the carriages and were not fitted with safety glass or proper emergency exits. The absence of the 'tightlock' couplings increased the tendency of the carriages to jackknife.

The NTSB concluded that improper repairs, combined with track expansion in the heat of the day, caused a displacement of the rails at a track switch. The subsequent track inspection was inadequate (the relief track inspector had not performed that task for 9 years previously).

[rail transport, derailment - consequence, training inadequate, inspection inadequate, maintenance inadequate, injury]

---

### Lessons

The NTSB issued a total of 21 recommendations for improvements, covering:

1. Improved inspection procedures.
  2. Better training in, and control of maintenance procedures.
  3. Application of the same safety standards to excursion trains. (as to other trains)
-

Source : ICHEME

Location : Ontario, CANADA

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. A broken wheel resulted in 15 of the 36 tank cars of a freight train leaving the track. The train was hauling sulphuric acid and it derailed in a sparsely populated area. Several of the cars were breached and were thought to be leaking acid to a nearby lake. Official statements reported that one tank was almost totally submerged in the lake and two others were half submerged. It was estimated that 300 to 400 tonnes of sulphuric acid was lost. The authorities did not deem the situation critical enough to evacuate the nearest homes, about a mile away.

Emergency response teams took action effectively and provided equipment such as pumps, hose fittings, tools and empty tank cars to assist in the situation. The transfer operation of acid from the damaged cars into replacement ones was completed within five days. The rail operating company then began cleanup operations. Despite intensive monitoring of the lake, no traces of acid were found.

Although the accident was serious, the co-ordinator of the emergency response teams claimed that a similar accident two years earlier taught extremely helpful lessons, which helped control the current situation better, minimised the impact of the incident and prevented injuries to site personnel.

[wheel broken, derailment - consequence, spill]

---

**Lessons**

More control over the transfer operations, additional and more sophisticated response equipment, and the superior structure of the derailed cars all minimised the impact of the incident and prevented injuries to site personnel.

---

**3451 21 November 1985**

**Source :** RICHES P.A, AFTER PIPER ALPHA - THE INSURANCE ASPECTS, IN: OFFSHORE OPERATIONS POST PIPER ALPHA SYMPOSIUM, 6-8 FEBRUARY 1991, LONDON, INSTITUTE OF MARINE ENGINEERS, 1991, 2/1-2/9.

**Location :** , OFF SUADI ARABIA

**Injured :** 0      **Dead :** 3

---

**Abstract**

Cargo ship struck fixed platform and sank. Offshore. Fatality.

[sinking]

---

**Lessons**

[None Reported]

---

Source : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON, D.C. 20594, VOL 5, NO. 2.

Location : , USA

Injured : 2      Dead : 1

---

**Abstract**

A marine transportation incident. An explosion occurred on a marine tanker just after it had departed from the port. The force of the blast knocked the pilot and two crew members into the sea - one of the crew was not found and presumed dead. The vessel broke in two a few days later and the stern section sank. It was concluded that hydrogen gas formed after caustic soda leaked into the void space, where it reacted with zinc in the paint and galvanised piping. The source of ignition was not determined.

The ship's master had been alerted to the possibility of a leak 9 days before the incident, but had decided to delay inspection of the tank until it had been emptied and cleaned.

An examination showed that the hole between the cargo tank and the void space probably resulted from a flaw in the stainless steel clad bulkhead, allowing the caustic soda to corrode the underlying steel.

[marine transportation, fatality, sinking, corrosion, lining failure, inspection inadequate]

---

**Lessons**

The NTSB issued a number of recommendations, including procedures for 'sounding' or inspection when measurements indicate leaking cargo.

---

3408 01 October 1985

Source : LLOYDS LIST, 1985, 2 OCT.

Location : Elblag, POLAND

Injured : 24    Dead : 5

---

**Abstract**

A rail transportation incident. Rail tankers of oil in collision, with an express train, caught fire. Fatality.  
[fire - consequence]

---

**Lessons**

[None Reported]

---

1155117 July 1985

**Source :** LLOYDS LIST, 19 JUL, 1985, 22 JUL, 1985,; THE GUARDIAN, 19 JUL, 1985.

**Location :** , ECUADOR

**Injured :** 16    **Dead :** 6

---

**Abstract**

An empty oil tanker exploded while undergoing hot work alterations to cargo piping on deck. About 12 people were carrying out electrical work at the time of the blast. Six people were killed and another 16 injured.

The vessel started sinking immediately after the explosion. The deck plating for two tanks was blown off and the entire hull bent.

The tanks were said to have been tested for gas prior to welding commencing.

[marine transport, explosion, fatality, hot surface, injury]

---

**Lessons**

[None Reported]

---

1108508 July 1985

Source : GUARDIAN, 9 JUL, 1985.

Location : , FRANCE

Injured : 55    Dead : 8

---

**Abstract**

A rail transportation incident. An express train travelling at 100mph collided with a lorry which had become stranded on an automatic level crossing. Three carriages were derailed, and the lorry driver and seven train passengers were killed. While one witness alleged that the crossing warning lights had been out of order earlier that day, other witnesses said that the lorry driver had failed to notice a warning sign and had driven through descending safety barriers. [collision, road transport, road transportation, derailment - consequence, fatality, driver error, passenger train]

---

**Lessons**

[None Reported]

---



3333 24 June 1985

**Source** : RICHES P.A, AFTER PIPER ALPHA - THE INSURANCE ASPECTS, IN: OFFSHORE OPERATIONS POST PIPER ALPHA SYMPOSIUM, 6-8 FEBRUARY 1991, LONDON, INSTITUTE OF MARINE ENGINEERS, 1991, 2/1-2/9.

**Location** : , OFF KENYA

**Injured** : 0      **Dead** : 4

---

**Abstract**

A marine transportation incident. Drill ship hit supply vessel. Offshore.  
[collision]

---

**Lessons**

[None Reported]

---

Source : ICHEME

Location : ,

Injured : 4      Dead : 1+

---

**Abstract**

A marine transportation incident. A collision between two oil tankers, damaged one of the vessels and resulted in a slick of 1000 tonnes of oil, nearly 4 miles long. The damaged tanker was carrying 80,000 tonnes of crude oil at the time of the collision.

Holiday resorts along the coastline were not affected.

Repair work to the damaged vessel was hampered by rough seas, which also prevented tugs from towing the vessel to port.

When it appeared that the damaged vessel might stray on to rocks, the crew abandoned ship. Coast Guard officials later managed to tow the vessel back into deeper water, however the tanker began to list, pouring oil from two gashes in the side of the hull.

Following the collision, a fire broke out in the Bridge and accommodation areas and blazed for 24 hours before being extinguished by fire-fighters. This caused major damage to the vessel super-structure.

Naval vessels joined the search for two missing seamen and to spray solvents to disperse the slick. A private anti-pollution company also aided by dropping booms. A major clean-up operation was required.

The vessel was towed to port several days later, where the oil was pumped out.

[fire - consequence, spill, environmental , fatality]

---

**Lessons**

Following the collision, the Italian government issued a ban to larger vessels using the Strait of Messina, until clearer rules for navigating in the strait were drafted.

---

**1263925 February 1985**

**Source :** LLOYDS LIST, FEBRUARY 25, 1985.

**Location :** Ontario, CANADA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A rail transportation incident. A boxcar containing 91kg of sulphuric acid caught fire after an 86-car train derailed. The train was travelling at 72.5 kph when it derailed.

Approximately five hundred people were evacuated from nearby homes and surrounding area as a precaution. No leaks occurred.

The cause of the incident is due to a cracked steel rail.

[derailment - consequence, evacuation, rail broken, fire - consequence]

---

**Lessons**

[None Reported]

---

1264302 January 1985

Source : LLOYDS LIST, JANUARY 2, 1986.

Location : Ontario, CANADA

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. A freight train consisting of ninety container cars and twelve engines derailed. Four containers of sodium hydrogen sulphite were thrown from one of the cars and spilled into a nearby lake. Twenty-seven container cars and one locomotive were damaged; and a kilometre of track was torn up in the incident.

[derailment - consequence, damage to equipment]

---

**Lessons**

[None Reported]

---

1112420 December 1984

Source : FIRE PREVENTION, JUL, AUG, 1985,; PRESS ASSOCIATION,; THE GUARDIAN, 21, 28, DEC, 1984, 9 FEB 1985; THE TIMES, 21, 28, DEC, 1984.

Location : , UK

Injured : 0      Dead : 0

---

#### Abstract

A rail transportation incident. A goods train comprising a diesel locomotive and 13 rail tankers each carrying 70 tonnes of petroleum spirit was derailed as the result of a failed axle due to an overheated axle box, cause unknown, in a 2885 yards long tunnel. Petroleum leaking from the derailed railcars ignited, and the resultant fire burned with great ferocity over several days, presenting the emergency services, particularly the fire-fighters, with severe difficulties. There was intense heat at the seat of the fire, which caused the bricks of the tunnel to fuse with a glass-like appearance. The tunnel was out of commission for several months to allow remedial rebuilding work to take place, but the damage was not beyond economic repair, as had been initially feared. Forensic calculations assessed the temperature in the centre of the fire at around 1300 degrees C.

[derailment - consequence, overheating, fire - consequence, damage to equipment]

---

#### Lessons

The value of advance emergency planning was confirmed (contingency plans for such an incident had been prepared several years before the incident and practice exercises had taken place).

---

1143411 December 1984

Source : THE TIMES, 24 JULY, 1985.; THE GUARDIAN, 24 JULY, 1985.

Location : , UK

Injured : 13    Dead : 9

---

**Abstract**

A road transportation incident. Twenty six vehicles were involved in a motorway shunt in thick fog at 5.30 a.m. when the vehicles involved (9 heavy lorries, 2 medium sized and 3 light goods vehicles and 12 cars) suddenly encountered unexpectedly an exceptionally thick band of fog. There had been no fog warning from the Met Office to the police, and the motorway fog warning signs had not been activated. The collisions were followed almost immediately by severe fires caused by the ignition of petroleum spirit and diesel oil leaking from the damaged vehicles, and most of the fatalities were as a result of fire rather than collision. [damage to equipment, fatality, fire - consequence]

---

**Lessons**

[None Reported]

---

3140 16 November 1984

Source : LLOYDS LIST, 1984, 20 NOV.

Location : ,

Injured :      Dead : 2

---

**Abstract**

A marine transportation incident. Gas carrier marine tanker developed heavy list then sank while carrying liquefied vinyl chloride. Fatality.  
[sinking]

---

**Lessons**

[None Reported]

---

1264617 October 1984

**Source :** LLOYDS LIST, OCTOBER 19, 1984.

**Location :**

**Injured :** -      **Dead :** 3

---

**Abstract**

A marine transportation incident. An explosion occurred onboard a 50,975 tonnes deadweight marine tanker causing a fire and the eventual sinking of the tanker. It is not known what caused the explosion.  
[fire - consequence, fatality, unidentified cause]

---

**Lessons**

[None Reported]

---



Source : SEDGWICK LOSS CONTROL NEWSLETTER

Location : , KURNELL

Injured : 0      Dead : 0

---

**Abstract**

Dredger in contact with pipeline from refinery to single buoy mooring. 10 ton bunker oil lost.  
[collision, spill]

---

**Lessons**

[None Reported]

---

9117 25 August 1984

**Source** : LLOYDS LIST, THE TIMES, THE GURDIAN.

**Location** : English Channel,

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. A ferry was in collision with a roll-on, roll-off carrier, carrying 4,210 tonnes of radioactive nuclear material. None of the more than 900 passengers and 120 crew onboard the ferry and cargo carrier were injured. Visibility at the time of the incident was up to one mile, the cause of the collision is not known. The cargo carrier sank several hours after the collision after attempts to keep her afloat push her into a sandbank failed.

---

**Lessons**

[None Reported]

---

**9165 15 November 1983**

**Source :** THE STANDARD, 1983, NOV, 15. THE TIME, 1983, NOV, 16.

**Location :** M6, UK

**Injured :** 1      **Dead :** 0

---

**Abstract**

A road transportation incident. A nuclear fuel transporter was damaged in a motorway crash. The vehicle had just delivered a load of spent nuclear fuel. The container was found to be undamaged after the crash and there was no danger of a radiation leak.

The transporters trailer was damaged and the driver of the articulated lorry which was also involved in the accident, was treated for slight injuries.

The trailer carrying the massive flask, built of steel 14 inches thick, was being towed by a diesel tractor on the north-bound carriageway.

[collision, near miss, injury]

---

**Lessons**

[None Reported]

---

2605 20 May 1983

**Source** : INSTITUTE OF INSURERS

**Location** : Baton Rouge, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

Dock jetty hit by vessel.

[collision]

---

**Lessons**

[None Reported]

---

2603 18 May 1983

Source : INSTITUTE OF INSURERS

Location : , GERMANY

Injured : 0      Dead : 0

---

**Abstract**

A vessel collision with a loading arm.

---

**Lessons**

[None Reported]

---

Source : LLOYDS LIST, 27 APR, 1983, 21 APR, 1983, 16 APR, 1983, 5 APR, 1983.

Location : , USA

Injured : 1      Dead : 0

---

**Abstract**

A river transportation incident. Four tank barges being towed along a river, collided with a bridge. In total, 2,730,000 gallons of crude oil was being transported. Three barges exploded. One barge leaked a small amount of oil, but remained secured to the tug. One of the burning barges drifted downstream and sank. The other two burning vessels drifted further downstream.

Three grain barges and a coal barge were damaged by the fire. Fire also spread to dock facilities and a chemical plant.

The sunken barge leaked for two days after sinking. The Coastguard closed the river to traffic and the environmental emergency services collected oil using vacuum equipment at sites up to 6km away.

It was reported that 1,400 gallons of oil and 420 cubic metres of oil-soaked debris were recovered from the river.

One person was injured.

[river transport, collision, explosion, sinking, fire - consequence, damage to equipment, spill, injury]

---

**Lessons**

[None Reported]

---

2453 1983

**Source** : RICHES P.A, AFTER PIPER ALPHA - THE INSURANCE ASPECTS, IN: OFFSHORE OPERATIONS POST PIPER ALPHA SYMPOSIUM, 6-8 FEBRUARY 1991, LONDON, INSTITUTE OF MARINE ENGINEERS, 1991, 2/1-2/9.

**Location** : Caspian Sea, USSR

**Injured** : 0      **Dead** : 5

---

**Abstract**

Jackup rig sank. Offshore. Fatality.

[sinking]

---

**Lessons**

[None Reported]

---

9167 04 November 1982

Source : THE TIMES, 1982, NOV, 4.

Location : Karlsruhe, GERMANY

Injured : 2      Dead : 1

---

**Abstract**

A road transportation incident. A missile transporter crashed into four cars. Fortunately, the transporter was not carrying a warhead at the time of the crash and was not damaged.

1,200 villagers were evacuated and 250 people nearby due to the risk of an explosion from inflammable propellant on the transporter.

The 20 tonne missile transporter careered out of control due to an apparent brake failure.

[brakes faulty, collision, evacuation, near miss, fatality]

---

**Lessons**

[None Reported]

---



Source : HAZARDOUS MATERIAL INTELLIGENCE REPORT, 15 OCTOBER 1982.

Location : , USA

Injured : 0      Dead : 0

---

**Abstract**

A river transportation incident. A cargo vessel carrying 900 kegs of calcium hypochlorite and 239 drums of other hazardous material sank whilst being pushed from dock. The chemicals onboard included muriatic acid, buty cellulose, propanol, ethy acetate, methyl ethyl acetone, xylene, acetic acid and methanol. The chemicals were offloaded before the vessel sank.

[sinking]

---

**Lessons**

[None Reported]

---

1279907 July 1982

**Source** : HAZARDOUS MATERIAL INTELLIGENCE REPORT, 16 JULY 1982.

**Location** : Ohio, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. Twenty-four tank cars on a train including one carrying 200,000 pound of butadiene derailed as a result of a wheel bearing failure. A nearby residential area was evacuated as a result.

The car was righted and fortunately no leak occurred.

[derailment - consequence, rail incidents, near miss, evacuation]

---

**Lessons**

[None Reported]

---

**Source :** HAZARDOUS MATERIALS INTELLIGENCE REPORT.

**Location :** , CANADA

**Injured :** 0      **Dead :** 0

---

**Abstract**

A rail transportation incident. A rockslide derailed sixteen 29,500 gallon tank cars filled with methanol. An estimated 80,000 gallons of methanol spilled from the damaged tank cars. Two of the cars fell off an eight metre cliff adjacent to the tracks into a river, spilling all of their contents. Two other cars punctured by the rocks and by coupling devices during the collision came to rest with their ruptured ends up and spilled smaller amounts of methanol. The incident causes no environmental damage.

[earth movement, derailment - consequence]

---

**Lessons**

[None Reported]

---

10985March 1982

**Source** : HAZARDOUS CARGO BULLETIN, MAY, 1982.

**Location** : Lockbourne, Ohio, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. The derailment involving 34 of a 105 car freight train was found to have been caused by a faulty spring system in one of the rail cars.

Subsequently a tank car of isobutylaldehyde burst into flames while other sodium hydroxide leaked more than 30,000 litres of product. Three hundred and fifty people had to be evacuated.

The escaping sodium hydroxide was neutralized by applying acetic acid.

The total damage bill, including cost of clean-up operations and repairs came to \$2.4m (1982).

[derailment - consequence, mechanical equipment failure, spill, evacuation]

---

**Lessons**

[None Reported]

---

**Source** : HAZARDOUS MATERIALS INTELLIGENCE REPORT, MAR 5, 1983, VOL III, NO 10.**Location** : Georgia, USA**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. A rail tanker spilled 5000 gallons of phosphorous trichloride after it derailed along with 28 other wagons. Evacuation of the town's 2900 residents was carried out immediately. Firemen refrained from spraying water on the spilled chemical, because it would have created a cloud of hydrochloric acid. Two railway personnel were treated for minor exposure to fumes. Officials said that the rail tanker derailment may have occurred due to breakage of a pin which mounted the tank to the wheels.

Personnel wearing breathing apparatus and protective clothing plugged the leaking dome on the tanker with an expandable rubber plug. Railway crews worked with derricks to remove derailed wagons that blocked access to the spill area. Then 40 tonnes of agricultural lime were used to neutralize the spilled material. Cranes hoisted the overturned tanker onto a rail wagon and transported it to a siding, where the 5000 gallons of chemical remaining in the tanker were pumped out.

[derailment - consequence, material transfer, material of construction failure]

---

**Lessons**

[None Reported]

---

2342 15 February 1982

**Source** : RICHES P.A, AFTER PIPER ALPHA - THE INSURANCE ASPECTS, IN: OFFSHORE OPERATIONS POST PIPER ALPHA SYMPOSIUM, 6-8 FEBRUARY 1991, LONDON, INSTITUTE OF MARINE ENGINEERS, 1991, 2/1-2/9.; LLOYDS LIST, 1982, 10 MAR.; DAILY TELEGRAPH, 1982, 10 MAR.

**Location** : Off Grand Banks; Newfoundland; Canada, CANADA

**Injured** : 0      **Dead** : 84

---

**Abstract**

Semi-submersible oil rig sank in storm. The probable cause was failure of the electronic controls governing ballast tanks. Fatality. Adverse weather effects and heavy seas. Offshore.

[instrumentation failure, sinking]

---

**Lessons**

[None Reported]

---

**2324 01 February 1982**

**Source :** COMMUNITY DOCUMENTATION CENTRE ON INDUSTRIAL RISK, REVIEW OF ENVIRONMENTAL ACCIDENTS AND INCIDENTS, INSTITUTE FOR SYSTEMS ENGINEERING AND INFORMATICS & THE COMMISSION OF THE EUROPEAN COMMUNITIES JOINT RESEARCH CENTRE, 1992, ISBN 92 826 3535 X.

**Location :** Suez Canal; Port Said, EGYPT

**Injured :** 0      **Dead :** 0

---

**Abstract**

Marine transportation. Discharge of methyl parathion to the sea due to collision of 2 marine tankers, one of which sank.  
[pollution, spill, sinking]

---

**Lessons**

[None Reported]

---

9119 08 January 1982

**Source** : LLOYDS LIST, 1982, JAN, 9.

**Location** : Palm Springs, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. A freight train carrying radioactive uranium was derailed. It is not known whether any uranium was released.  
[derailment - consequence]

---

**Lessons**

[None Reported]

---



2314 03 January 1982

**Source** : HAZARDOUS MATERIALS INTELLIGENCE REPORT, 1982, 8 JAN.

**Location** : Galveston; Texas, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A river transportation incident. 2 river barges collided with railroad bridge in foggy conditions and acrylonitrile leaked from damaged air vents onto deck where it ignited.

[collision, fog, damage to equipment]

---

**Lessons**

[None Reported]

---

2351 02 January 1982

Source : ICHEME

Location : , ITALY

Injured : 30    Dead : 5

---

### Abstract

A road transportation incident. A propane gas tanker exploded when it was involved in a motorway pile-up caused by extremely thick fog. Approximately one hundred vehicles were involved in this horrific disaster.

Many hours after the explosion which destroyed the prime mover of the tanker, the flames managed to pass to the trailer and the second part of the liquid gas load burnt slowly. The fire brigade could not do anything as the risk of a second explosion was too great.

The driver of the tanker was saved, he was seen jumping from his cab with his clothes on fire. He sustained serious burns.

Two survivors were able to reveal something of what happened.

The accident occurred when the lorry in which the surviving drivers were travelling was struck by the propane tanker which was already in flames. The two drivers jumped out and detached the trailer, jumped in again then drove off out of the way.

[collision, fire - consequence, fatality]

---

### Lessons

---

**Source :** ICHEME

**Location :** , KUWAIT

**Injured :** 0     **Dead :** 0

---

**Abstract**

Damage to a refinery jetty caused by a collision.

[damage to equipment, refining]

---

**Lessons**

[None Reported]

---

1144728 November 1981

Source : LLOYDS LIST, 31 OCT, 1981, 4 NOV, 1981, 19 NOV, 1981, 24 NOV, 1981, 5 JAN, 1982.

Location : , ITALY

Injured : 3      Dead : 0

---

#### Abstract

A marine transportation incident. An explosion on a chemical tanker forced all except 7 of the 46 crew to abandon ship. The explosion occurred on the tanker when she was 30 miles off Cape Santa Maria di Lueca. The tanker was carrying 6,000 tonnes of toluene-xylene. The explosion occurred in the forepart of the ship and was accompanied by fire, which self-extinguished. The explosion caused a hole in the hull. However, the tanker was able to sail into Crotona harbour, with help from escorting vessels. Three of the crew were slightly injured. According to the Captain, the explosions occurred while washing out tanks which had held xylenes. Three explosions occurred in tanks of 325m<sup>3</sup>, 814m<sup>3</sup> and 815m<sup>3</sup> before venting out of the side of the ship. 11 tanks were affected altogether, with 4 full tanks of xylene being unaffected. The foredeck was badly damaged, as was part of the accommodation, and forward pumproom equipment. The fore section of the vessel was eventually sunk.

[fire - consequence, sinking, damage to equipment, cleaning, injury]

---

#### Lessons

[None Reported]

---

Source : ICHEME

Location : , MEXICO

Injured : 1000 Dead : 29

---

**Abstract**

A rail transportation incident. A train carrying 1500 tonnes of chlorine derailed when the brakes's failed. The 35-car freight train left the tracks and at least 24 of these overturned, including two tanks cars carrying chlorine which ruptured. The chlorine gas spread rapidly over the ground resulting in the deaths and injuries by intoxication. The inhabitants of the villages were evacuated and the government declared the region a disaster area and troops moved in to seal off the area. Although emergency services has cleared up the liquid chlorine spill by August 4, traces of the toxic gas cloud were still hanging over six small communities near the site of the accident.

The driver of the train saw a passenger train approaching him from the other direction on the same track and, as he tried to switch to an auxiliary track, the brakes failed and it derailed at high speed.

[brakes faulty, derailment - consequence, evacuation, gas / vapour release, fatality, injury]

---

**Lessons**

Although a massive renovation and expansion programme is underway to upgrade railways and help the country to realise its industrial potential, the existing system has not been touched since the 1910 revolution. Most of the rail line is single track, gradients are steep, engines can be unreliable, there are many sharp curves and connections are limited.

---

2196 15 May 1981

Source : ICHEME

Location : , KUWAIT

Injured : 0      Dead : 0

---

**Abstract**

Shipping incidents. Collision with a refinery jetty involving a pipe, caused by strong winds and heavy seas.  
[marine transportation]

---

**Lessons**

[None Reported]

---

**2140 18 January 1981**

**Source :** LLOYDS LIST, 1981, 5 MAR.; HAZARDOUS MATERIALS SPILLS MAPS HAZARDOUS MATERIALS RELEASE FROM RAILROAD CARS, NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NUMBER NTSB- HZM MAP 81-4, 1981; HAZARDOUS MATERIALS INTELLIGENCE REPORT, 1981, 23 JAN.

**Location :** Kansas City; Missouri, USA

**Injured :** 6      **Dead :** 0

---

**Abstract**

A rail transportation collision and derailment. A rail tanker carrying diisobutylene and another carrying pentane derailed after two trains were in collision in a railyard. The collision ruptured both tanks causing both chemicals to spill, vaporize and ignite. Fire.

[fire - consequence, tank rupture, derailment - consequence]

---

**Lessons**

[None Reported]

---

2122 1981

**Source :** ICHEME

**Location :** , BRAZIL

**Injured :** 22    **Dead :** 5

---

**Abstract**

Explosion in a reactor containing liquid hydrogen fluoride. Cloud was carried away to an adjoining road where a fog caused a number of collisions. Fatality.  
[reactors and reaction equipment]

---

**Lessons**

[None Reported]

---



2116 29 December 1980

**Source** : HAZARDOUS MATERIALS INTELLIGENCE REPORT, 1981, 9 JAN.

**Location** : Wall Lake; Iowa, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A road transportation and rail transportation collision. 25 tonnes of the broadleaf herbicide atrazine spilt from two derailed boxcars after collision with gravel lorry. Spill.

[derailment]

---

**Lessons**

[None Reported]

---

2092 24 November 1980

**Source** : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NUMBER NTSB-MAR-81-12, 1981.

**Location** : Lower Mississippi River; Venice; Louisiana, USA

**Injured** : 0      **Dead** : 3

---

**Abstract**

A marine transportation incident. Chemical marine tanker and supply vessel collided causing the vessel to capsize and considerable damage to the tanker. No spillage was reported from the tanker. Fatality.

[collision, operator error]

---

**Lessons**

[None Reported]

---

**Source** : INTERNATIONAL WEEKLY NEWSLETTER PUBLISHED BY WORLD INFORMATION SYSTEMS ON HAZARDOUS MATERIALS AND HAZARDOUS WASTES, 26 SEPTEMBER, 1980, VOL.1 NO.20.

**Location** : Minnesota, USA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A rail transportation incident. A tank car spilled 10,000 gallons of styrene monomer after 3 hopper cars derailed and 1 of them collided into the styrene tank car. The impact of the crash produced a rupture halfway up the side of the tank car. A broken rail is thought to have been the cause.

The bulk of the spilled product percolated into the ground, reaching the groundwater at 10 feet. A small amount of the styrene seeped into an underground storm sewer line and flowed into the nearby creek. A sorbent boom was used in the creek near the sewer discharge to contain the spilled styrene and soak it up. No styrene monomer appeared to escape past the containment booms.

[derailment - consequence, collision]

---

**Lessons**

[None Reported]

---

7253 22 July 1980

Source : ICHEME

Location : , USA

Injured : 0      Dead : 0

#### Abstract

A river transportation incident. A cargo carrier collided with a bulk carrier in the Mississippi River Gulf Outlet (MRGO) shipping canal damaging the port bow of both vessels and causing containers of hydrobromic acid, pentachlorophenol (PCP) and other cargo to fall into the canal. The cargo carrier was outbound while the bulk carrier was inbound. Out of the 58 drums containing hydrobromic acid, 4 fell into the water from the cargo carrier. The collision also ruptured 2 other shipping containers each holding 720 fifty pound bags and knocked a container holding 720 bags of PCP into the water.

The MRGO was closed while the PCP container was searched for but it could not be located. By 29 July, divers had recovered 220 of the 720 bags of PCP.

Ruptured containers of PCP also caused contamination of other cargo containers on the vessel and PCP had spilled onto the deck of the other carrier.

The collision also ruptured the acid-resistant lining of many of the hydrobromic acid drums so that the acid began to dissolve the metal causing leakage.

About 3000 people in neighbouring towns were evacuated as the gas which forms when hydrobromic acid mixes with water could have endangered lives.

The chemical spill also caused a marked decline in the seafood industry in this area due to the PCP pollution contaminating the fish.

It is thought that the cause of the accident was due to the bulk carrier taking an unexpected turn to the left as result of an erroneous left rudder response to the pilot's right rudder order causing the vessel to strike the cargo carrier on the port side.

[collision, ecological damage, navigation error, evacuation, spill, gas / vapour release]

#### Lessons

Most of the hazardous material containers on the cargo carrier were located in an exposed location either outward or forward which increases their susceptibility to damage even in minor collisions. An evaluation of the requirement for the stowage of the dangerous cargo is recommended and that 'on-deck' dangerous cargo be stowed as close to the centreline as possible.

An analysis of the MRGO was also recommended to determine if restricting of major vessel traffic to one-way operation from designated time periods and in particular locations during dangerous cargo transit is warranted.

2024 11 June 1980

Source : ICHEME

Location : , SPAIN

Injured : 0      Dead : 0

---

**Abstract**

Collision of a ship with refinery jetty.

[refining, shipping incidents]

---

**Lessons**

[None Reported]

---

**Source :** HAZARD ASSESSMENT OF CHEMICALS CURRENT DEVELOPMENTS 1984 (2) PAGE 245-267.; HAZARDOUS MATERIALS INTELLIGENCE REPORT, 1980, 16 MAY. & 1980, 17 OCT.

**Location :** Macgregor, Manitoba, CANADA

**Injured :** 3      **Dead :** 0

---

**Abstract**

A rail transportation incident. A 67 wagon freight train drawn by three locomotives derailed in severe weather conditions. Two of the twelve vinyl chloride tanker wagons being transported ruptured releasing material. At the time of the incident, high winds and near blizzard conditions prevailed with outside temperature of the order of -20 degrees C. This is below the boiling point of vinyl chloride (-13.4 degrees C at 1 atmosphere) which is normally transported as a pressurised liquid. The emergency response teams were informed that chlorine was involved in the incident. They were not able to access a complete list of materials involved for over an hour. Evacuation of the nearby town downwind of the incident was not considered for over two hours, but was not implemented. Media communication was generally uncoordinated, slow and inadequate. No ignition occurred and emergency teams progressed with re-railing and repairing tanker trucks over the next two days, whilst monitoring vinyl chloride leakage from the two tankers in question. 60,000 litres were estimated to have been lost from leaking safety valves and tanker shell punctures. The leaks were found to have occurred below the liquid level within the tankers and hence can be assumed to have occurred relatively rapidly. The evaporation and dispersion of vinyl chloride was complicated by its release over snow covered ground, but was effective due to high winds. A public inquiry was held to investigate the circumstances surrounding the incident.

[weather effects, derailment - consequence, spill]

---

**Lessons**

Valuable time was lost managing the incident due to the inability to determine the hazards associated with the cargo. The contents of the emergency response forms available were inadequate. The risk communication aspects of the incident are as important to the image of the chemical industry and the regulatory agencies involved as the direct management of the incident. One agency should have taken charge of co-ordinating emergency response activities and public communication.

---

1973 28 January 1980

**Source** : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, NTSB-MAR-80-14.

**Location** : Tampa Bay; Florida, USA

**Injured** : 0      **Dead** : 23

---

**Abstract**

A marine transportation incident. A marine tanker collided with coast guard cutter causing loss of the cutter and damage to the hull of the tanker. No spillage reported.

Repairs to the tanker are estimated at \$600,000 (1980).

[collision, damage to equipment, sinking, fatality]

---

**Lessons**

Extensive recommendations are made for:

Licensing, training, ship stability, lifesaving equipment, navigation in the area and reliability of emergency lighting.

---

125261980

**Source** : THE COMBUSTION INSTITUTE (BRITISH SECTION) NEWSLETTER, VOL 99/1, JUNE 1999.

**Location** : , OFFSHORE - JAPAN

**Injured** : -      **Dead** : 44

---

**Abstract**

A marine transportation incident. A 166,000 tonnes bulk carrier was lost at sea during a typhoon 800km off the coast of Japan. Forty-four people lost their lives.

An investigation is underway to find the exact cause of the sinking of the bulk carrier.

[fatality, sinking]

---

**Lessons**

[None Reported]

---



Source : THE GUARDIAN, DEC 20, 1979, PAGE.

Location : , UK

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A 6540 tonne cargo ship carrying toxic chemicals sank in the English channel after a collision with a 1000 ton coaster. Some containers were washed ashore five days later. Further containers broke loose from the wreck during storms six weeks later, and around 600 were recovered. Authorities were unable to obtain precise details of what the ship had been carrying, and were only able to identify the contents of the five and forty gallon drums by opening and analysing them individually.

[sinking, spill]

---

**Lessons**

The government was lobbied to demand international action to ensure that the accepted hazardous code system should be stencilled onto drums and containers.

---

1084708 September 1979

**Source** : NATIONAL TRANSPORTATION SAFETY BOARD, HAZARDOUS MATERIALS SPILL.

**Location** : Paxton; Texas, USA

**Injured** : 8      **Dead** : 0

---

**Abstract**

A rail transportation incident. Two locomotives and cars in train positions 1 through 33 of a 53 car train derailed. Sixteen cars contained materials four of which included acetaldehyde, others contained butadiene, ethyl acrylate, ethylene oxide, hydrogen fluoride, isobutylene (LPG), methanol, tetrahydrofuran, vinyl acetate, plastic pellets, ethylene glycol, propylene glycol and diabasic ester. Three cars were empty.

Damage occurred to many of the tank cars causing the spillage of chemicals.

Witnesses saw the butadiene cloud ignite when two cars collided. As nearby residents fled, four received burns on their feet and four inhaled smoke. Spilled flammable liquids ignited and burned.

Between 200 and 300 people were evacuated from the area.

[derailment - consequence, gas / vapour release, vapour cloud explosion, fire - consequence, evacuation, collision, methanol]

---

**Lessons**

[None Reported]

---

Source : ICHEME

Location : , UK

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A auxiliary vessel carrying military vehicles, and over 100 people, collided with a marine tanker in thick fog. The marine tanker carrying a cargo of 1500 tonnes of lubricating oil, capsized and had to be abandoned, causing a pollution scare. Subsequent attempts to right it failed due to inclement weather and it had to be towed to a nearby port for offloading.  
[navigation error, collision, human causes, vessel overturned]

---

**Lessons**

The inquiry into the incident found the master of the auxiliary vessel guilty of gross misconduct and he lost his certificate. It was said that he broke vital rules regarding navigation in fog, including failure to sound the fog horn and sailing too quickly. He did not plot a proper course for the marine tanker when she appeared on the radar screen. There was a breakdown of communications between the master and the officer of the watch.

---

1851 21 April 1979

**Source :** ICHEME

**Location :** , NEW ZEALAND

**Injured :** 0      **Dead :** 0

---

**Abstract**

Marine transportation. A ship collided with refinery jetty.  
[refining, collision]

---

**Lessons**

[None Reported]

---

1750 02 October 1978

Source : ICHEME

Location : , THAILAND

Injured : 0      Dead : 0

---

**Abstract**

Marine transportation. Ship collided with jetty.

[collision]

---

**Lessons**

[None Reported]

---

1702 29 July 1978

**Source** : CHEMICAL AGE, 1978, 18 AUG.

**Location** : Bombay, INDIA

**Injured** : 0      **Dead** : 0

---

**Abstract**

A marine transportation incident. A marine tanker sank during loading. Some hydrochloric acid leaked into the sea.

[sinking, spill]

---

**Lessons**

[None Reported]

---

1616 02 April 1978

Source : CHEMICAL WEEK, 1978, 12 APR.

Location : Brownson; Nebraska, USA

Injured : 6      Dead : 0

---

#### Abstract

A rail transportation incident. Part of a coupling device fell on a train line and caused derailment. Molten elemental phosphorus ignited and burned for several hours. Water layer round phosphorus built up pressure and exploded rail tanker. The probable cause was that water, trapped above the phosphorus in the tanker, was converted to steam which exerted sufficient pressure to destroy the tanker.

[derailment - consequence, explosion]

---

#### Lessons

1. Similar historical experiences need interpreting with care. Prior to this incident there had been a number of phosphorus tank fires but none had ended in a violent rupture.
  2. The often slender boundary between a near-miss or low key event and a catastrophe may be crossed when a seemingly insignificant additional factor is brought into play. In this case the simple variation was the overturning of the tanker. This had three main effects. The water layer was trapped, the pressure relief branch was rendered useless and fuel for engulfing the car in the fire was able to leak out at about the right rate. Very fortunately there were strong mitigating circumstances even though the explosion occurred.
  3. Ironically what may normally be an agent of safety and a good servant, in this case the water, may become a bad master. The strong association of the water with safety in normal circumstances can make it difficult to invert ones thinking in abnormal circumstances.
  4. The potential that many runaway reactions have for bursting containers is graphically underscored in this incident by the alternative failure mechanisms involving the rapid amorphous phosphorus.
-

1500 01 December 1977

Source : EVENING GAZETTE, 1977, 1 DEC.; THE TIMES, 1977, 2 DEC.

Location : Northamptonshire, UK

Injured : 7      Dead : 2

---

**Abstract**

A road transportation incident. A pile-up on motorway involving 3 lorries and 3 cars occurred. River polluted. Hydrochloric acid spillage.  
[collision]

---

**Lessons**

[None Reported]

---



Source : ICHEME

Location : , USA

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. A train with several tank cars containing motor fuel anti-knock compound, (LPG) liquid petroleum gas and ethylene dichloride derailed.

The two cars of ethylene dichloride exploded and burned and one car of LPG butadiene inhibited burned.

As a result of the derailment, approximately 250 residents of the nearby area were evacuated. Fire trucks were called to the scene along with a foam truck.

There were no injuries or deaths.

The apparent caused of the incident was due to a bad cross level at the joints causing an empty car to rock off.

[derailment - consequence, evacuation, rail broken, explosion, fire - consequence]

---

**Lessons**

[None Reported]

---

1485 27 October 1977

Source : GUARDIAN, 1977, OCT.

Location : Lamar, USA

Injured : 0      Dead : 0

---

**Abstract**

Road transportation collision. A road vehicle collided with horses and 32 drums of uranium oxide fell off and were damaged. Area cleared by workers wearing breathing apparatus. Spillage.

---

**Lessons**

[None Reported]

---

1345 23 February 1977

**Source** : FIRE PREVENTION, 1977, AUG.

**Location** : West Of Honolulu, PACIFIC OCEAN

**Injured** : 0     **Dead** : 1

---

**Abstract**

Crack in a marine tanker hull below the waterline developed after a storm. A spillage led to a 80.5 km crude oil slick. Two explosions occurred and ship sank on 25 February 1977.

[sinking, weather effects, fatality]

---

**Lessons**

[None Reported]

---

1299 1977

**Source** : DAILY TELEGRAPH, 1977, 23 NOV.

**Location** : Atlantic, 100 MILES WEST OF AZORES

**Injured** : 0      **Dead** : 19

---

**Abstract**

A marine transportation incident. A marine tanker, cargo ammonia, sank following explosion.

[sinking, fatality]

---

**Lessons**

[None Reported]

---

1280 26 November 1976

Source : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NUMBER NTSB-RAR-77-7

Location : Belt; Montana, USA

Injured : 22    Dead : 2

---

**Abstract**

A rail transportation incident. 24 rail tanker cars of a train were derailed by the failure of an overloaded rail section which originated in a rail transverse fissure. One tank car struck and punctured a 16 000 gallon tank containing gasoline which ignited and which was 42 ft from the railway line. A tank car of LPG ruptured, ignited and rocketed 400 ft. Fuel oil in other tank cars also ignited. Later a tanker of LPG BLEVE'd (Boiling Liquid Expanding Vapour Explosion). [derailment - consequence, rail incidents, fatality]

---

**Lessons**

[None Reported]

---

Source : ICHEME

Location : , UK

Injured : 0      Dead : 0

---

**Abstract**

A rail transport incident. At about 18.50hrs, an ammonia offloading gantry on a chemicals acrylonitrile plant was damaged as empty rail cars were pulled out. The incident passed undetected until about 07.00hrs, when the first rail car of the incoming full ammonia train collided with the damaged offloading arm at No.2 bay. Two sections of the walkway grating on a rail car were distorted and the hold-down bolts sheared. It was subsequently discovered that the rail car had still been connected at the No.2 bay when the train was withdrawn.  
[unloading, unloading, collision, damage to equipment]

---

**Lessons**

1. Tighten up implementation of existing procedures. Reinforce this by the introduction of certificates of closure.
  2. Revise ammonia rail car offloading sheet to replace all non-assessment information with more relevant details.
-

1022416 August 1976

Source : ICHEME

Location : , UK

Injured : 1      Dead : 0

---

**Abstract**

A road transportation incident. A tanker collided with a lorry in a residential area. The tanker was believed to be carrying ten gallons of Ethanol as solvent. The Works Safety Manager attended the incident with the Shift Manager. Police and Fire Services were in attendance. The tanker was doused with water and no leaks were found. It was then hauled from the garden and parked on the roadside.

The Shift Manager and Works Safety Manager visually inspected the vehicle and found damage to the bumper, outer cladding and fender.

In the process of the accident, a telephone kiosk had been moved, street lighting had been demolished, a car was severely damaged and a front garden wall had been pushed down.

[ethanol, road tanker, collision, loss of control]

---

**Lessons**

[None Reported]

---

Source : ICHEME

Location : , UK

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. An incident resulted in derailment of a VCM tank wagon and damaged to loading facilities and track when shunting a train of 16 empty tank wagons in a filling station. The train of wagons over-ran chocks on the track and collided with stationary wagons on the same track, one of which was connected to purging facilities.

There were no injuries.

The collision occurred due to checks not being properly made of the status of the bays on to which the train was being moved, proper prior assessment was not made of the changed plan to shunt the wagons, proper communication and approval was not obtained for the plan, the shunter positioned himself badly so as not to have adequate sight of the train movement and because the train was being shunted at too high a speed to enable braking to be effective.

Braking arrangements on the locomotive were not in accordance with specified practice.

[derailment - consequence, damage to equipment, operation inadequate, shunting]

---

**Lessons**

Standing instructions must be understood and complied with.

Appropriate approvals must be obtained before any deviation from operating instructions.

---



Source : ICHEME

Location : ,

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation derailment. Two rail tankers of chlorine coupled together were being shunted by the works locomotive through points on a rather tight bend. The front bogie of the second tanker jumped the track completely and the front wheels of the rear bogie were also derailed. No leak occurred. The cause could have been the condition of the track or faulty bogies.

[rail incidents, derailment - consequence]

---

**Lessons**

[None Reported]

---

9957 13 March 1976

Source : ICHEME

Location : , USA

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. A derailment of an empty jumbo tank car occurred at the end of a tank car loading rack siding at a refinery. The railroad that services the refinery was coming in to remove two empty butane tank cars. There were eight cars between the engine and the two tank cars to be removed. The brakeman was in radio contact with the engineer, but was not in a position to have visual contact at the time the train made contact with the tank cars. There was a loss of communication at this critical time and the moving train hit the empty tank cars, driving them through the standard metal railroad car stop, and off the end of the track. The end car dropped down onto a pipe rack leading to the tank car loading rack some distance away. This incident cause a release of light hydrocarbons.

[derailment - consequence, collision, rail transport, gas / vapour release]

---

**Lessons**

[None Reported]

---

1129 22 February 1976

Source : ICHEME

Location : ,

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A ship was in collision with a jetty.

---

**Lessons**

[None Reported]

---

1119 26 January 1976

Source : ICHEME

Location : ,

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A ship was in collision with a production jetty.

---

**Lessons**

[None Reported]

---

1087 29 December 1975

Source : SUNDAY TIMES, 1976, 10 OCT.; GUARDIAN, 1976, 14 OCT.

Location : SOUTH WEST OF PHILIPPINES,

Injured : 0      Dead : 30

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**Abstract**

A marine transportation incident. Simultaneous failure of three protective devices may have occurred causing hydrocarbon gases to leak back through inert gas system. Three explosions sank 224,000 dwt marine tanker within one minute. Two people survived. Fatality.  
[protective safety equipment, safety equipment failure, sinking, fatality]

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**Lessons**

[None Reported]

---

Source : ICHEME

Location : , UK

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. Six rail tankers containing methanol were left in a siding with the hand brake of the end tanker on. Two hours later the tankers were seen running free down the line. They went through a station, striking a locomotive a glancing blow, before coming to rest. One tanker was leaking slightly from the unloading valve (probably due to it coming into contact with the locomotive). The valve was sealed by tightening down the grease point in the centre of the plug cock. The tankers were delivered to their destination for unloading as soon as possible.

[loss of control, brakes faulty, collision]

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**Lessons**

[None Reported]

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9096 20 October 1975

Source : DEPARTMENT OF TRANSPORTATION REPORT, 501038.

Location : Illinois, USA

Injured : 3      Dead : 0

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**Abstract**

A rail transportation incident. A runaway train collided with a chlorine tank car which at the time was transferring its load, the collision moved the tank car thirty feet, severing the connections. Only 15 - 20 psi of chlorine was left in the tank. The chlorine gas had escaped to atmosphere and was carried to a neighbouring plant gassing 3 people. The valve was closed on tank car within one and half to three minutes.

[collision, material transfer, gas / vapour release]

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**Lessons**

[None Reported]

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**Source :** TANKER CASUALTY REPORT NO. 20, TANKER CASUALTY DATA EXCHANGE SCHEME, INTERNATIONAL CHAMBER OF SHIPPING, LONDON.

**Location :** ,

**Injured :** -      **Dead :** 7

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**Abstract**

A marine transportation incident. An explosion occurred on a tanker in ballast at sea, which resulted in the death of seven crewmembers and the loss of the ship.

A tanker of 97,150 dwt., built in 1967, had discharged a cargo of Kirkuk crude the previous day and was underway in ballast at sea. The tanks were being washed out at the time and the crew was moving to another tank.

A crewmember was starting to lift the hose and the manila safety rope out of a tank whilst other crewmembers were pulling the hose clear on deck.

The Master who had been observing the crew turned away from the porthole and almost immediately heard a double explosion and saw a sheet of flame and black smoke rose high above the ship. Damage to the ship was extensive, the deck having disappeared from the poop front to the aft end of tank no.2. Part of the deck was curled over to the starboard and was hanging over the side. Drums of anti-rust compound and fuel additive, which had been stored behind the breakwater on the port side, were thrown into the air and fell on the forecastle where a fire started.

The second engineer who was in the engine room noticed tongues of flame at the engine room/pump room bulkhead, and managed to escape as fuel oil flowed into the engine room from the bunker tank.

An SOS was broadcast and the crew put out the starboard lifeboats. The Master stayed on board but abandoned the ship as it started to sink. All the survivors were rescued.

The ship sank in deep water so could not be salvaged. No immediate cause for the explosion was apparent. The Kirkuk crude oil carried produced average quantities of gas.

Washing of the tanks with water at 50 degrees C undoubtedly generated gas and produced an explosive atmosphere in the tank.

The ignition, which caused the explosion, was considered to have resulted from a spark created by static discharge, a machine dropped onto an aluminium anode, or human failure (dropping a torch or lighter into the tank).

Electrostatic charging of the water mist during tank cleaning takes place under any cleaning condition and the level of charge decreases only slowly when washing operations are stopped.

[cleaning, design or procedure error, spark, fatality, sinking]

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**Lessons**

The following precautions were recommended to prevent the possibility of an incendive spark being generated:

1. Sounding rods or any other insulated object, should only be inserted into the tank via a sounding pipe during tank cleaning or for 5 hours after cleaning has ceased; the latter period can be reduced to one hour if the tank is being ventilated because this allows the charge to be rapidly dispersed.
  2. Checks to be made on the electrical continuity of tank cleaning hoses before use.
  3. Hoses to be disconnected from hydrants until machines and equipment are removed from the tank.
  4. All portable electrical equipment to be transported in an approved explosion proof container or an approved air pressurised container. Torches to be approved safety types.
-



Source : ICHEME

Location : , UK

Injured : -      Dead : 0

### Abstract

A rail transportation incident. A regular train carrying 20 tank wagons of caustic soda liquor failed to stop at a red signal which protected a mainline junction and consequently crashed at high speed into the side of a freightliner train travelling south on the main line. The impact caused the 6th-15th cars of the freightliner to be derailed and thrown across the four electrified tracks. All 13 containers on the train were damaged. The caustic soda train's locomotive derailed and came to rest on its side. The leading 15 caustic soda tanks were derailed, the 16th derailed by its leading axle only. The last four cars remained on the track, undamaged and in the upright position. Almost all of the derailed tanks were severely damaged.

The crew of the caustic liquor train sustained minor injuries and shock. The guard of the freightliner as part of his duty to warn other trains to keep clear of the accident site suffered minor burns to his feet when he walked through the caustic soda liquor. Of the 900 tonnes of caustic soda on the train, about 250 tonnes escaped onto the track over a period of hours. Much of it drained down into a pond on the north side of the valley and many fish were killed. Some small quantities escaped into a nearby river.

The vegetation at the side of the track leading to the accident were washed down and the affected area was decontaminated by hosing large quantities of water over the derailed vehicles and site and this was carried out for about 24 hours. Caustic soda liquor was pumped out of the derailed tank wagons into road vehicles positioned in the field which were then emptied into other rail wagons north of the site as the farm bridge across the railway was incapable of taking a loaded road tanker. The alkalinity of the site was neutralised by spreading about 15 tonnes of sodium bicarbonate over the ground whilst a further 16 tonnes was dumped into the pond.

[caustic soda, rail tanker, spill, derailment - consequence, ecological damage, brakes faulty, driver error]

### Lessons

Investigations showed that the caustic soda train comprised 8 wagons which were vacuum-braked and 12 wagons designed for air braking which were provided with a through vacuum pipe for operation in vacuum-braked trains. The driver found that with only a partially-braked train, a moderate brake application had no effect. Even full brake application was unable to slow the train on the final descent to the junction.

A key mistake was that the driver was given the slip by the guard stating that the train was fully vacuum-braked and could be run at a maximum speed of 60mph. No brake performance tests were carried out before the gradient down to the junction. A number of misunderstandings existed between the chemical company staff and the rail staff. The chemical company staff were given to understand by the rail staff that partially braked trains having only 7 or 8 vacuum-braked wagons could be accepted for rapid transit. The rail staff relied on what the chemical company told them of what had been done in train preparation and not independently checked the details. Also, one wagon had the brake set to 'tare' position which significantly reduces braking capability. A final factor was that the driver did not appear to brake as early as he claimed to and if full brake application had been earlier, the accident could have been avoided.

The conversion to fully air-braked freight stock has now taken place in the UK so that the potential for this type of mistake has been significantly reduced. Various recommendations have been made on having suitable protective equipment available for accidents involving trains carrying hazardous materials.

Source : HAZARDOUS CARGO BULLETIN, DECEMBER 1984.

Location : Cheshire, UK

Injured : 6      Dead : 0

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**Abstract**

A rail transportation incident. An rail incident occurred involving twenty wagons containing of 47% caustic soda solution.

The wagons were a mix of air-braked and vacuum-braked units. The train failed to stop at a mainline junction and collided with a freight train which had 15 rail-cars. The freight train was travelling at 75 mph and the caustic soda train at 60 mph. 10 of the 15 rail-cars on the freight train were derailed along with 16 of the caustic soda wagons. 250 tonnes of the caustic soda solution leaked, or was spilled into local waterways, causing extensive marine damage. The mainline was closed for 6 days causing extensive disruption to rail services.

[collision, derailment - consequence, environmental, injury]

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**Lessons**

1. The key mistake was that the caustic soda train driver had been given a slip by the guard saying that the train was fully vacuum-braked and could be run at 60 mph.
  2. This was incorrect, and although the driver saw the red light located 1.8km before the mainline junction, inadequate braking meant that the train could not be stopped in time.
  3. Maximum speed for this mix of wagons should have been 35 mph.
  4. At least one wagon was set at "Tare" brake position and not "Load" brake position. This further reduced braking performance.
  5. There were misunderstandings between ICI staff who prepared the trains and British Rail staff who actually drove them. The latter did not do independent checks before setting off.
  6. An operating speed restriction of 20 mph further down the mainline prevented a passenger express train from colliding with the two trains involved in this incident. The normal passenger train speed would have been 100 mph, hence this occurrence was fortunate.
-

945 21 September 1974

**Source** : RAILROAD ACCIDENT REPORT HAZARDOUS MATERIALS ACCIDENT, NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NUMBER NTSB-RAR-75-7, 1975; LENOIR E.M & DAVENPORT J.A, A SURVEY OF VAPOUR CLOUD EXPLOSIONS SECOND UPDATE, PROCESS SAFETY PROGRESS, 1993, 12, (1), 12-33.

**Location** : Houston; Texas, USA

**Injured** : 235 **Dead** : 1

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**Abstract**

A rail transportation incident. Shunting accident in rail yard resulted in the derailment and puncture of a rail tanker. The butadiene released was ignited by an engine 180 m away and gave an overpressure explosion of 14 to 21 kpa at 300 m. The probable cause of the overspeed impact was the failure of the retarding system to slow two coupled tank cars and the absence of a backup system to control the cars which pass through the retarders at excessive speeds. The failure of the retarding system was caused by foreign substances on the wheels of the two cars that preceded the two tank cars through the retarders. Fatality.

[derailment - consequence, overpressure]

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**Lessons**

[None Reported]

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915 14 July 1974

**Source** : COMMUNITY DOCUMENTATION CENTRE ON INDUSTRIAL RISK, REVIEW OF ENVIRONMENTAL ACCIDENTS AND INCIDENTS, INSTITUTE FOR SYSTEMS ENGINEERING AND INFORMATICS & THE COMMISSION OF THE EUROPEAN COMMUNITIES JOINT RESEARCH CENTRE, 1992, ISBN 928263535 X.

**Location** : Otranto Cape, ADRIATIC SEA

**Injured** : 0      **Dead** : 0

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**Abstract**

A marine transportation incident. Marine chemical tanker sank after collision with another vessel. 23 tonnes of 350 tonnes total cargo released before vessel recovered from 94 m depth in summer of 1978.

[spill]

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**Lessons**

[None Reported]

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**Source** : MARINE ACCIDENT REPORT, NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NUMBER NTSB-MAR-78-4, 1978; HAZARDOUS CARGO BULLETIN, 1984, JUL., 44-45.

**Location** : Fort Mifflin; Delaware River; Pennsylvania, USA

**Injured** : 8      **Dead** : 13

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**Abstract**

A marine tanker was discharging crude oil when it exploded and sank. The tanker was destroyed, an adjacent tanker damaged and oil contaminated the waters. The probable cause was the inadequate maintenance of cargo tanks and sanitary system which allowed flammable vapours to ignition sources. There were 2 explosions. Fatality.

[maintenance inadequate, unloading, pollution, sinking]

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**Lessons**

[None Reported]

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1256922 March 1974

**Source :** ICHEME

**Location :** Sakai City, JAPAN

**Injured :** 0      **Dead :** 0

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**Abstract**

A marine transportation incident. A cargo ship collided with a pier due to strong winds causing piping on the pier to rupture and spill a small amount of LPG. No one was injured in the collision.

[pipe]

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**Lessons**

[None Reported]

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Source : ICHEME

Location : ,

Injured : 0      Dead : 1

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#### Abstract

Marine transportation. During the night of 12th November, 1972, whilst a large crude marine tanker was berthing at a refinery's jetty, with the aid of a berthing party supplied by a contractor, a small boat used by the contractor sank, resulting in the death of one of crew member. Weather conditions were very bad and at the time of the incident the wind was WSW force 11.

The tanker was approaching the berth stern first, and when abreast of the left hand dolphin (fender) and approximately 8m off, the berthing boat approached and took the aft spring on board. At this moment, the ship's engine went ahead to check movement towards the jetty. The wash from the propeller was deflected by the rudder directly at the berthing boat, which was thrown against the dolphin and instantly filled with water. It sank completely except for a few centimetres of the bow which remained above water, possibly supported by an air lock inside the hull. One man jumped clear from the boat and got safely ashore but a second man could not be found although an intensive search of the area was made at once. Some hours later two mobile cranes arrived and lifted the berthing boat clear of the water and the second man's body was found inside. Fatality.

[sinking, weather effects]

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#### Lessons

Independent contractors are often employed for berthing duties but, although often outside the jurisdiction of the refinery, they should be encouraged to safeguard their employees working in or around the jetty areas by providing safety/rescue facilities, e.g., lifejackets.

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**Source** : SCHWING R.G & LUCKRITZ R.T, TANK CLEANING AN UNRESPECTED HAZARD, 2ND INTERNATIONAL SYMPOSIUM ON THE PREVENTION OF OCCUPATIONAL RISKS IN THE CHEMICAL INDUSTRY, FRANKFURT AM MAINE, 21-23 JUNE ,1973.

**Location** : Galveston; Texas, USA

**Injured** : 0      **Dead** : 34

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**Abstract**

A marine transportation incident. A marine tanker departed port after discharging a cargo of benzene to clean and gas free the tanks in preparation for a change in cargo. The tanker disappeared less than 50 miles off shore. No cause had been established. Fatality.

[sinking]

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**Lessons**

[None Reported]

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Source : ICHEME

Location : ,

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. Two empty hydrogen cyanide (HCN) rail tankers being pushed by a locomotive, collided with two full HCN rail tankers at a rail crossing. One full car and one empty car were derailed. No damage was caused to the barrels of any of the rail tankers and no leakage of the contents occurred. Considerable damage to the running gear of the derailed laden car and to two sections of the track occurred. After investigation it was concluded that on the evening of the collision the two cars had been left on the siding without engaging the brakes. These cars then ran back down a slight incline to the crossing.

[derailment - consequence, collision]

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**Lessons**

In cases where a locomotive pushes a line of wagons, a man must accompany or precede the front wagon, and an adequate warning sound signal must be given when approaching any level crossing, corner, or any other point of danger to personnel.

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Source : ICHEME

Location : ,

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. During shunting operations on the 25th January, 1972, two rail tanker cars loaded with hydrogen cyanide and two empty rail cars were involved in a collision at a rail crossing. As a result one full car and one empty car were derailed. There was no damage to the tank barrels of either of the rail cars and no spillage of contents occurred. However considerable damage to the running gear of the loaded tank car and to two sections of track resulted.

The collision and subsequent derailment was caused by malpractice on the part of the shunting crew. The shunter could not have been walking ahead of the two empty rail cars being pushed by the locomotive as they approached the crossing or he would have observed the crossing was not clear to proceed with the shunt. Further the brakes had not been applied to the full tankers which allowed them to move to a position fouling the crossing.

[derailment - consequence , damage to equipment]

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**Lessons**

The following regulations, quoted from the U.K. Locomotives and Waggon Regulations should be observed in such circumstances - 'Where a locomotive pushes more than one waggon and a risk of injury may thereby be caused to persons employed a man shall, whenever it is safe and reasonably profitable, accompany or precede the front waggon or other efficient means shall be taken to obviate the risk'.

---

9341 25 January 1972

Source : ICHEME

Location : , UK

Injured : 0      Dead : 0

---

**Abstract**

A rail transportation incident. Rail tanker cars containing hydrogen cyanide (HCN) derailed due to being left with the brake off. The tankers rolled back down the track and were hit by two empty tankers being pushed in the opposite direction.

[collision, human causes, derailment - consequence]

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**Lessons**

[None Reported]

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**Source :** RAILROAD ACCIDENT REPORT DERAILMENT OF RAILROAD COMPANY'S TRAIN, NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NO. NTSB-RAR-72-6, 1972.

**Location :** Houston; Texas, USA

**Injured :** 50    **Dead :** 1

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**Abstract**

A rail transportation incident. 20 cars of a 82 car freight train derailed. The derailed cars included six tank cars containing vinyl chloride monomer and two cars containing other hazardous materials. Two tank cars were punctured in the derailment. The vinyl chloride monomer escaped and ignited. Approximately 45 minutes after the initial derailment one tank car ruptured violently and another car rocketed approximately 300 feet from its original resting place. The probable cause of this accident was an unexplained emergency brake application which induced lateral forces exceeding the holding capacity of the track fasteners. The severity of the accident was increased by the abrupt rupture of the tank car and the lack of adequate training, information, and documented procedure for identifying and assessing the threats to public safety. Fatality.

[derailment - consequence, training inadequate, external causes, vinyl chloride monomer (VCM)]

---

**Lessons****Conclusions:**

1. Inspections of the train and track before and after the accident did not reveal any apparent cause of the derailment.
  2. The rocking tank car observed by one witness, the broken rails and the loose wheel discovered in the wreckage all resulted from the derailment.
  3. The speed of the train was within the speed limits, even though the train crew did not have the correct information to determine the authorised speed.
  4. The speed of the train contributed to the seriousness of the accident because it directly affected the kinetic energy that was dissipated by braking and derailment.
  5. When the train approached the accident site, all switch ties were in place and tamped. Alternate switch ties were spiked.
  6. The stability of the track had been affected adversely by work in progress on the installation of continuous, new switch ties, which involved the removal of rail anchors, and the spiking of alternate switch ties.
  7. The derailment of the 38th car and 52nd occurred at almost the same time.
  8. The cause of an emergency brake application could not be established, but it was determined that the brake application was propagated before the 48th car passed over the newly installed switch ties.
  9. The unusual noise that various witnesses heard just before the derailment may have been the chattering, associated with a brake application.
-

1000315 February 1971

Source : ICHEME

Location : , UK

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. A train consisting of five HCN railcars and protected at each end by two barrier wagons, was negotiating hand points at exchange sidings when one of the tank cars was derailed. As a result emergency procedures were initiated between the rail company and the local fire and police services. After a thorough investigation it was established that the tank car was free of leaks. The derailed tank suffered minor damage to tie rods, axle guard, step ladder and buffer bell.

[hydrogen cyanide, derailment - consequence, near miss, mechanical equipment failure]

---

**Lessons**

The cause of the incident was attributed to defective hand points, which were suitably repaired following the incident.

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**Source** : RAILROAD ACCIDENT REPORT FREIGHT TRAIN DERAILMENT PASSENGER TRAIN COLLISION WITH HAZARDOUS MATERIAL CAR, NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NO. NTSB-RAR-72-1, 1971.

**Location** : Sound View; Connecticut, USA

**Injured** : 0      **Dead** : 0

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**Abstract**

A rail transportation incident. Freight cars derailed and obstructed the railway line in the path of a passenger train and a collision occurred. An LPG rail tanker designated as 'empty' was struck, ruptured and leaked LPG which ignited. The derailed units of the passenger train passed through ignited gases from the punctured tank car and crossed a railroad bridge. The probable cause of the derailment of the freight train was the breakage of a truck side of a car on the freight train which allowed a progressive fatigue crack failure. The breakage of the truck side resulted in damage to a turnout, which caused derailment of the following cars. It was concluded that the industry controls to prevent application of improper car components are inadequate, empty cars may be hazardous, and suggested that the industry should incorporate crashworthy concept, improve communication and equipment design, and controls over maintenance, retirement, and testing of equipment components.

[derailment - consequence]

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**Lessons**

[None Reported]

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**Source** : LOSS PREVENTION BULLETIN 101, 23-32; RAILROAD ACCIDENT REPORT DERAILMENT OF TRAIN WITH RESULTANT FIRE AND TANK CAR RUPTURES, NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NO. NTSB-RAR-72-2, 1972; WATROUS L.D, FREIGHT TRAIN DERAILMENT AND FIRE, FIRE JOURNAL, 1970, NOV, 10-13, 30

**Location** : Crescent City; Illinois, USA

**Injured** : 66    **Dead** : 0

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**Abstract**

A rail transportation incident. 10 rail tankers carrying propane derailed and one caught fire. This led to a BLEVE (Boiling Liquid Evaporating Vapour Explosion) of another tanker and later five others BLEVE'd. The cause of the derailment was the failure of the journal stub outside the wheel of the leading axle of the front bogie of the 20th car in the train. This was a covered hopper car carrying glass sand. The axle had broken where it entered the journal box and so allowed the side of the front bogie to drop down onto the track and initiate the derailment when it fouled a highway crossing. This derailed the wheels and a switch completed the derailment and caused the break up of the train with the hopper car being the first car off the track. Examination of the journal box and the broken portion of the axle indicated that the box had overheated during running (about 72 km/h) reaching temperatures in the range of 775 degrees C to 1040 degrees C followed by a spiral type of final break under the torque imposed by the rotating axle against the failed journal bearing. 15 cars behind the hopper derailed including the propane tankers. The business section of the city was severely damaged from fire caused by radiation and missiles.

[derailment - consequence, fire - consequence, rail incidents]

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**Lessons**

[None Reported]

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**Source** : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT NTSB-PAR-70-2; GUGAN K, UNCONFINED VAPOUR CLOUD EXPLOSIONS, ICHEME, 1979.

**Location** : , USA

**Injured** : 0      **Dead** : 0

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**Abstract**

A rail transportation incident. The derailment of a rail tanker car was caused by emergency braking to avoid pedestrians. The coupler of one tanker punctured a tanker and vinyl chloride was released. Initially the vapour was dispersed due to a breeze, about 6 hours later the vapour began to accumulate in low places and was ignited by an unknown source. 17000-21000 people were evacuated. The following morning a fire-impinged tank car of vinyl chloride BLEVEd (Boiling Liquid Expanding Vapour Explosion). The derailment was caused by the buckling of the underframe of the 108th car when a full emergency brake was made. [evacuation, gas / vapour release, derailment - consequence, rail incidents]

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**Lessons**

[None Reported]

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**Source :** TRAIN 64 AND TRAIN 824 DERAILMENT AND COLLISION WITH TANK CAR EXPLOSION, NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT RAR-71-2; PHILLIPS, A RAILROAD TANK CAR SAFETY PROGRAM, AMMONIA PLANT SAFETY, VOL 13, 1971, 10-17. LOSS PREVENTION BULLETIN, 038, 8.

**Location :** Crete; Nebraska, USA

**Injured :** 53    **Dead :** 9

---

**Abstract**

A rail transportation incident. Rail tankers derailed and struck stationary tankers. A tanker from the train ruptured and released 29200 gallons of anhydrous ammonia. Gas cloud covered surrounding area for considerable time. Fatality.

[gas / vapour release, collision, derailment - consequence]

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**Lessons**

[None Reported]

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**Source** : TRAIN DERAILMENT WITH FIRE AND EXPLOSION, NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON D.C, USA, REPORT PB190203, 1969; LENOIR E.M & DAVENPORT J.A, A SURVEY OF VAPOUR CLOUD EXPLOSIONS SECOND UPDATE, PROCESS SAFETY PROGRESS, 1993, 12,(1), 12-33.

**Location** : Laurel; Mississippi, USA

**Injured** : 33    **Dead** : 2

**Abstract**

A rail transportation incident. A rail tanker carrying 15 tank cars of LPG (primarily propane) derailed in the middle of a town, due to a broken wheel. The general derailment mechanically damaged most of the tanks resulting in an immediate violent eruption of fire and explosion. Other explosions followed at intervals as the fire caused one rail tanker after another to overpressure and burst. Fatality.

[derailment - consequence, BLEVE (Boiling Liquid Expanding Vapour Explosion), overpressurisation, wheel broken]

**Lessons**

[None Reported]

Source : THE HOUSTON POST, 24 OCT, 1989

Location : Houston, USA

Injured : 0      Dead : 0

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**Abstract**

A marine transportation incident. Collision of two vessels caused the sinking of a third barge containing 17000 gallons gasoline.

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**Lessons**

[None Reported]

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Source : ICHEME.; AMMONIA PLANT SAFETY, VOL. 11, 1969 (AIChE)

Location : , USA

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. Two freight trains met on a double track. A track defect caused a collision. Five rail tankers of flammable material were involved, one containing acetone cyanohydrin, which leaked into a watercourse. Tankers of flammable liquid broke open causing a fire at an adjacent factory. An explosion threw freight wagons 50 feet. Flaming liquid flowed under ammonia tankers on a sidetrack and under an ammonia storage tank and nurse tanks. Burning flammable material had a marked effect on the exterior of the ammonia tankers, but the insulation gave sufficient protection to the ammonia to prevent pressure building to a level necessary to open the relief valves. There was insufficient heat to raise the temperature of the storage tank and material and cause the pressure to build to an unsafe level. The relief valves did not open and no ammonia escaped. The nurse tanks were also affected by flaming material. The nylon valve seats were affected by the heat and didn't seal tightly, allowing vapour to escape. The build-up of pressure from the heat allowed relief seats to open, relieving the pressure and preventing rupture of the tanks. The small amount of escaping vapour did not cause a hazard.

[spill, fire - consequence, gas / vapour release]

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**Lessons**

[None Reported]

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**Source :** ENGEL R, A REPORT ON TWO TRAIN WRECKS, AMMONIA PLANT SAFETY 1969 VOL 11, 28-29; CLARKE A.W, SAFE CONTAINMENT OF DANGEROUS GOODS DURING CARRIAGE, MAJOR LOSS PREVENTION IN THE PROCESS INDUSTRIES, ICHEME SYMPOSIUM SERIES NO 34, 1971, 175-183.

**Location :** , USA

**Injured :** 5      **Dead :** 0

---

**Abstract**

A rail transportation incident. Six rail tankers carrying chemicals were derailed in a collision with another train. The vinyl chloride ignited and the flames engulfed the ethylene oxide tanker which exploded after 45 minutes. The dome end of the rail tanker weighing 1600 lbs was thrown a distance of 720 ft. Cyanide liquor from one damaged rail tanker leaked into a stream and poisoned farm animals. Several houses were destroyed.

[derailment - consequence, fire - consequence, pollution, explosion]

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**Lessons**

[None Reported]

---

Source : ICHEME

Location : , UK

Injured : 0      Dead : 0

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**Abstract**

A coupling failure occurred on an offloading base. Ammonia was violently released, the failing hose prevented the tanker valve closure. Station isolation finally closed. Dispersion was delayed by a heavy mist and several cars were involved in collisions.

[unloading, road transport, gas / vapour release]

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**Lessons**

[None Reported]

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8643 25 May 1952

Source : ICHEME

Location : Delaware River, USA

Injured : 0      Dead : 10

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**Abstract**

A river transportation incident. An 1147 gross tonne tank vessel loaded with gasoline collided with a freighter going in the opposite direction.

A fire and explosion occurred immediately.

The tank vessel was completely enveloped and later sank and a fire burned in the bow of the freighter for several hours.

Eight of the crew of the tank vessel and two of the freighter lost their lives.

[collision, navigation error, fire - consequence, sinking, fatality]

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**Lessons**

The report stated the following conclusions:

The Marine Board of Investigation concluded that the pilot of the freighter reversed his planned passing of the tank vessel and failed to take the proper action when the vessel had not agreed on the passing action.

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1027315 May 1952

**Source :** ICHEME

**Location :** Chesapeake and Delaware Canal, USA

**Injured :** 0      **Dead :** 4

---

**Abstract**

A river transportation incident. A 1103 gross tonne tanker was fully loaded with gasoline and lightly touched a 6108 gross tonne freighter.

Gasoline spilled and after approximately 4 four minutes, an explosion and fire occurred which enveloped the tanker and following 7176 gross tonne tanker.  
[collision, fire - consequence, fatality]

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**Lessons**

The report stated the following conclusion:

The Marine Board of Inspection concluded tat all vessels had complied with rules and that the principal cause was the narrowness and contour of the canal at the point of collision.

---



9066 Date Unknown

Source : ICHEME

Location : Arizona, USA

Injured : 112 Dead : 1

---

**Abstract**

A rail transportation incident. A train derailment occurred due to sabotage. Four cars plunged from a bridge at 50 m.p.h, with three coming to rest on their sides on the sandy bottom of the desert wash. Passengers made their way through jumbled belongings and crawled out of the windows.

[fatality]

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**Lessons**

[None Reported]

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10586Date Unknown

Source : NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON, D.C. 20594, VOL 3, NO.2.

Location : Philadelphia, USA

Injured : 3+    Dead : 2

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**Abstract**

A road transportation incident. The failure of a rear spring caused the driver of a gasoline truck to lose control and crash on an express way, engulfing the truck and three other vehicles in flames. The rupture of the tanker and the ignition of its 8,600 gallons of gasoline caused the deaths of the truck driver, the driver of a car and injured another truck driver.

Firemen put out the surface fire engulfing the four vehicles within 45 minutes, but gasoline trapped beneath westbound access ramps re-ignited and exploded, causing minor injuries.

[material of construction failure, fire - consequence, explosion, fatality, collision, loss of control, injury]

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**Lessons**

The report stated, truckers are warned that it can be dangerous practice to replace critical suspension components with parts that are not made by the vehicles manufacturer and to give particular attention to suspensions and axles.

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10987Date Unknown

Source : HAZARDOUS CARGO BULLETIN, MARCH 1980.

Location :

Injured : 0      Dead : 0

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**Abstract**

A rail transportation incident. A derailment involving nine cars of a 35 unit train occurred. One of the derailed cars, a tank car containing toluene di-isocyanate (TDI), ruptured on impact and sent its contents flowing past two nearby homes into a small stream. The chemical flooded the basement of one home and seeped into the septic tank of another.

[derailment - consequence, spill]

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**Lessons**

[None Reported]

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Source : HAZARDOUS CARGO BULLETIN, 1997, AUG.

Location : Portland, CANADA

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A laden oil tanker struck a bridge in broad daylight, closing the bridge and shutting the harbour for several days while the resulting spill was cleared up. The collision was due to pilot error.

[marine tanker, human causes]

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**Lessons**

[None Reported]

---

**8859 Date Unknown**

**Source :** HAZARDOUS CARGO BULLETIN, 1997, AUG.

**Location :** , GREECE

**Injured :** 0      **Dead :** 0

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**Abstract**

A marine transportation. A rudder failure turned a ship by ninety degrees and before action could be taken the ship hit the cliffs at almost full speed, smashing the bow flat. The collision was so severe that the safe in the pursers office was torn from the steel bulkhead and projected some considerable distance narrowly missing the purser himself.

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**Lessons**

[None Reported]

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**8856 Date Unknown**

**Source :** HAZARDOUS CARGO BULLETIN, 1997, AUG.

**Location :** New Orleans, USA

**Injured :** 130 **Dead :** 0

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**Abstract**

A marine transportation incident. A freighter collided with a shopping centre. 130 people were injured.

[collision, injury]

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**Lessons**

[None Reported]

---

8858 Date Unknown

Source : HAZARDOUS CARGO BULLETIN, 1997, AUG.

Location : , ALASKA

Injured : 0      Dead : 0

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**Abstract**

A marine transportation incident. A barge being towed by a tug broke in two, the pilot of the tug did not realise that this had happened and carried on sailing for three days before the incident had been pointed out to him by a passing fishing boat. The aft half of the barge was eventually located some 1,300 km away.  
[sinking]

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**Lessons**

[None Reported]

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9276 Date Unknown

Source : LLOYDS LIST, 1989, NOV, 24.

Location : ,

Injured : 0      Dead : 0

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**Abstract**

A marine transportation incident. A motorship developed a leak in stormy weather causing it to sink.

[weather effects, sinking]

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**Lessons**

[None Reported]

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9278 Date Unknown

Source : LLOYDS LIST, 1989, NOV, 21.

Location : ,

Injured : 0      Dead : 0

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**Abstract**

A marine transportation incident. A 2,990 tonnes gross marine vessel developed a leak in bad weather causing the vessel to sink.  
[sinking, weather effects]

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**Lessons**

[None Reported]

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9282 Date Unknown

Source : LLOYDS LIST, 1989, NOV, 24.

Location : ,

Injured : 0      Dead : 0

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**Abstract**

A marine transportation incident. A marine bulk carrier struck a jetty while berthing in a harbour due to heavy winds. Vessel and jetty damaged.  
[damage to equipment, weather effects, collision]

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**Lessons**

[None Reported]

---

Source : ICHEME

Location : , UK

Injured : 0      Dead : 0

---

**Abstract**

A marine transportation incident. A collision between a crude oil tanker and a fishing trawler occurred. The fishing trawler was towing her gear at about 2 knots when she was involved the collision at night with the tanker which was carrying 80,000 tones of crude oil, travelling at 11 knots. Visibility at the time of the incident was good.

A deckhand on the trawler tried to contact the tanker on VHF to avert collision, but revealed no response. The tanker scraped passed the trawler causing damage to the trawler and its fishing gear.

It was some hours later, after being contacted by the coastguard that the master of the tanker released his vessel had been in a collision.

From investigations it was revealed that:

- The tanker at the time of the incident was being steered by auto-pilot.
- Neither radars on the tanker were not in use at the time of the collision, eventhough the vessel was passing through an area where fairly heavy fishing, commercial and other traffic could be expected.
- The crewmen had already worked a full twelve hour day before going on watch at 1600 hrs.
- The watchkeeper n the tanker did not monitor closely the movement of the tanker once it had been detected.
- Under collision regulations the tanker was the give way vessel.

[damage to equipment]

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**Lessons**

1. A proper look out should have been maintained on both vessels.
  2. The tanker should have had its radar system in operation.
  3. Tanker watchkeepers must always monitor the traffic of tanker in the near vicinity and alert his skipper as soon as possible so that effective avoidance action could be taken early.
  4. In accordance with Rule 8 of the Collision Regulations the "give-away" vessel must take action to avoid the possibility of collision".
-

10192Date Unknown

Source : ICHEME

Location : , UK

Injured : 0      Dead : 0

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**Abstract**

A marine transportation incident. A demountable tank containing approximately 20 tonnes of ethyl acetate was on board a ship which sank off the coast of Anglesey. It was on route from to Belfast. The crew was winched off before the ship sank.

[sinking, product loss, marine tanker]

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**Lessons**

[None Reported]

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