

EXPLOSIVES AND DANGEROUS GOODS DIVISION

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EXPLOSIVES AND DANGEROUS GOODS ACT 1961-1986

SUMMARY OF ACCIDENT REPORTS 1988

EXPLOSIVES

FLAMMABLE LIQUIDS

DANGEROUS GOODS



DEPARTMENT OF MINES WESTERN AUSTRALIA

ACCIDENT REPORTS - 1988

EXPLOSIVES AND DANGEROUS GOODS ACT 1961-1986

A total of 38 accidents were reported to the Division in 1988, 23 of which were within the ambit of the Dangerous Goods (Road Transport) Regulations. This is a significant reduction from the 57 accidents reported in 1987.

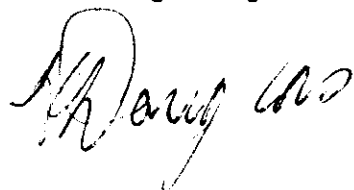
It is gratifying to see such a reduction in the categories of bulk vehicle overturns, none of which occurred in 1988, and packaged dangerous goods dislodged from vehicles, which was down by nearly 40% from the previous year.

It is also pleasing to note the reduction in the number of accidents in the category of improper handling. These figures show that the industry is making a determined effort in some areas to reduce accidents.

Not so satisfactory were the findings of the Inspectorate carrying out joint operations with the Police. Several contractors were identified who appear to be consistently failing to provide drivers with comprehensive documentation about their loads.

When an accident occurs, the Emergency Services and specialist advisors depend on documentation to be carried with the vehicle to identify the problems they face. The absence of such documentation is viewed most seriously.

In conclusion it is pleasing to report that the database designed for the collection and management of accident statistics concerning the transport of dangerous goods has been developed. Trials of the transport database will continue through 1989 in conjunction with developmental work to incorporate the reporting function into a broader database for all accidents in which the Division has a statutory responsibility.



H Douglas
DIRECTOR

20 April 1989

EXPLOSIVES ACCIDENTS

Introduction

The steady decline in explosives accidents reported over several years has continued with only one accident reported to the Division in 1988.

The decline can be attributed at least partly to several long term policy decisions implemented over many years:

- the tightening up of the procedures by which people can acquire explosives and concomitant training programmes carried out by the Department. This has resulted in a higher level of assurance that people using explosives are aware of precautions which must be taken to secure and dispose of explosives after each job thereby reducing accessibility to the general public.
- the continuing upgrade in security arrangements for explosives storage administered by this Division and the Mining Engineering Division. It is now much more difficult for people, particularly children, to acquire explosives.
- the requirement to clearly mark all explosives, particularly detonators. Unmarked detonators are now a rarity and hence the problem of children playing with detonators without knowing what they are has been significantly reduced.

The sole accident reported in 1988 occurred from the maltreatment of a detonator by a man on a pastoral station.

Despite the best precautions in the world it would appear that some people are determined to wilfully place themselves and others in danger and occasionally they suffer the consequences.

EXPLOSIVES ACCIDENT - SUMMARY

18 September 1988.

While adversely affected by alcohol, a man lost the tops of his right index finger and thumb and suffered serious injuries to his palm as a result of a detonator explosion.

The man had reputedly been drinking for several hours when two of his companions obtained a detonator, attached it to a fuse and lit the fuse. The injured man picked up the fuse and despite several warnings from his companions, held on to it until the detonator exploded.

GENERAL DANGEROUS GOODS STORAGE ACCIDENTS

Introduction

The extension of the Western Australian Road Transport Emergency Assistance Scheme to cater to dangerous goods emergencies other than transport resulted in the Division attending 14 incidents in 1988.

The advisory role of the inspectorate extends far beyond its historical area of expertise as prescribed in the Flammable Liquids Regulations and is consistent with the work being carried out to develop dangerous goods storage regulations.

Several accidents of significance occurred during the year, the most dramatic being the fire which destroyed a tanker vehicle which was unloading low flash point condensate at a brick yard. Like so many others, this accident was caused by a combination of factors which developed when there was a deviation from practices which had been followed for several years.

Two other major accidents were noteworthy because they were recurrences of almost identical accidents which had occurred one and two years previously.

The pipeline fracture at East Fremantle could be said to have occurred despite concerted efforts on the part of the operating company. Regular tests and maintenance had been carried out on the pipeline in accordance with standard industry maintenance practice and when the pipe failed for the second time it was immediately taken out of service.

The explosion which occurred when a tank was cut open prior to gas freeing occurred on the same premises and in similar circumstances but with a different operator from that which occurred one year previously. It was in marked contrast to the pipeline breach in that the operator concerned sacrificed rudimentary safety precautions to hasten the job despite the fact that he was experienced enough to know the hazards involved.

It was only imprecise wording in old legislation administered by the Department of Occupational Health, Safety and Welfare which saved the person from prosecution. Soon after the accident, Western Australia's new occupational health and safety legislation came into effect and similar activity now by any person would certainly result in legal action.

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 13 February 1988 1240 hours
LOCATION: Service Station, MYAREE
DANGEROUS GOODS INVOLVED: PETROL
Class 3.1 Flammable Liquid
UN No. 1203
Packaging Group II
Quantity Spilled 1000 litres/kg

SCENARIO

A tanker driver was unloading petrol at a service station site when a fire started in the vicinity of the underground tanks' vent pipes discharge area.

Investigation into the incident revealed that the design of the vent stack caused an accumulation of petrol vapour at the base of the stack.

The flammable vapours were subsequently ignited by a match or cigarette butt, which was dropped by an unknown person in the vicinity of the vent stack.

The fire was brought under control by the tanker driver and staff of the service station using portable fire extinguishers.

Ref. S7/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 18 February 1988 1020 hours
LOCATION: OSBORNE PARK
DANGEROUS GOODS INVOLVED: SILVER CYANIDE
Class 6.1(a) Poisonous Substance
UN No. 1684
Packaging Group II
Quantity Spilled 14 litres

Scenario

At approximately 1020 hours on 18 February 1988, an employee of an industrial company in Osborne Park noticed that 14 litres of silver cyanide plating solution had leaked from a 46L capacity storage container. The container was not in a bunded area.

The Emergency Services attended the scene to ensure the safe neutralisation, handling and disposal of the spill and no-one was adversely affected by the spillage.

Ref. S1/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 21 February 1988 1930 hours
LOCATION: Gold Processing Plant
BOULDER
DANGEROUS GOODS INVOLVED: HYDROCHLORIC ACID
Class 8 Corrosive Substance
UN No 1789
Packaging Group II
Quantity Spilled - 17 500 litres

SCENARIO

Structural problems were experienced in a storage tank for hydrochloric acid at a gold processing plant when acid leaked from a split at the top of the tank during commissioning trials. The tank was emptied, the split welded and the tank then refilled.

Five days after it had been refilled, a major leak occurred from a flange at the base of the tank and the total contents of the tank went into the surrounding bunded area.

The cause of the spill could not be determined with uncertainty though Police suspected that a person deliberately undid three of four bolts holding the flange.

Strong fumes from the acid made it necessary to evacuate the surrounding area until a contractor could attend and pump the acid into a tanker vehicle. The residues in the bunded area were neutralised with lime.

Ref. S3/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 4 April 1988 1625 hours
LOCATION: Railway Parade
WELSHPOOL
DANGEROUS GOODS INVOLVED: Not known

SCENARIO

The Fire Brigade donned breathing apparatus to extinguish a blaze in a small timber and asbestos building at the premises of a chemical company.

The building was not adequately placarded and its location led the Fire Brigade to believe that chemicals were stored inside.

Ref. S4/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 10 April 1988 1500 hours
LOCATION: BALCATT
DANGEROUS GOODS INVOLVED: HYDROCHLORIC ACID
Class 8 Corrosive Substance
UN No. 1789
Packaging Group II
Quantity Spilled 1000 litres/kg

SCENARIO

A bush fire spread from a public space to a factory that repackaged a variety of dangerous goods.

The fire jumped a firebreak and ignited wooden pallets stacked on the boundary fence. Two 2000L elevated tanks and several 200L drums of hydrochloric acid were involved in the fire but the only spillage (about 1000L) came from the drums.

The acid was neutralised by 4.5 tonne of soda ash that night by the fire brigade. The Health Department arranged for the neutralised product to be removed to an approved disposal area.

Ref. S6/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 24 April 1988 1300 hours
LOCATION: FREMANTLE
DANGEROUS GOODS INVOLVED: CALCIUM CYANIDE
Class 6 Poisonous Substance
UN No. 1575
Packaging Group I
Quantity Spilled 2-5 litres/kg

SCENARIO

A freight container of packaged cyanide (200 litre drums) was being unpacked in a quarantine service area when a quantity of loose calcium cyanide was observed on the floor of the container.

Fire brigade officers in full protective clothing attended and completed the unpacking during which all drums were found to be intact. The spillage was attributed to operations during the packing of the freight container (in South Africa). After some remedial action to the labels of the drums the consignment was allowed to proceed.

Ref. S11/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 21 June 1988 1600 hours
LOCATION: Factory
Pilbara Street, WELSHPOOL
DANGEROUS GOODS INVOLVED: SULPHUR DIOXIDE, liquefied
Class 2.3 Poison Gas
UN No 1079
Quantity spilled unknown

SCENARIO

Sulphur Dioxide gas leaked from a storage cylinder at the premises of a plumbing fittings factory. The cylinder was connected to quenching tubs associated with a chromium plating process and it is believed that internal corrosion of the cylinder through moisture/sulphur dioxide reaction caused the cylinder walls to fail. There were no injuries or casualties arising out of the leakage of the gas.

Ref. S15/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 26 July 1988 1015 hours
LOCATION: EAST FREMANTLE
DANGEROUS GOODS INVOLVED: DIESEL FUEL OIL
Class 3.3
UN No. Not assigned
Quantity Spilled 10000-15000
litres/kg

SCENARIO

The oil spill occurred as a result of a fractured pipeline weld and some 10-15 kilolitres of diesel fuel oil entered stormwater drains, eventually accumulating in the Fremantle Fishing Boat Harbour. Tidal conditions prevented the oil from immediately escaping from the stormwater drains and two oil containment booms retained the oil which was subsequently recovered.

Residual oil continued to leach from the drains over the ensuing days but all was collected and no significant quantities were lost to the marine environment.

The spill was a recurrence of a similar incident on 27 July 1986. All significant recommendations of the subsequent enquiry into the 1986 spill had been acted upon but, because the integrity of the pipeline was considered to still be suspect, it has now been taken out of service completely.

Ref. S8/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 27 July 1988 1230 hours
LOCATION: JANDAKOT
DANGEROUS GOODS INVOLVED: 'Empty' petroleum tanks
Capacity 9000L

SCENARIO

A group of used underground tanks for petroleum products was receiving preparative work for repair. On the day of the accident the fourth tank for the day was being attended to and a manhole was being cut in the shell.

The manhole was cut in two stages:

- a loop of holes was drilled in the shell; and
- an air operated jigsaw was then used to cut between the holes so as to release the piece of metal plate.

On this occasion when most of the cutting was done the remnant fumes in the tank exploded. The workman was thrown about three metres down onto the ground. He also sustained light burns to his face, hands and hair and second degree burns to his left leg below the knee.

No damage was caused to property other than the tank.

Enquiries after the event indicated that the worker was aware of yet disregarded, safe working practices such as maintaining a supply of lubricant for his cutting tool. It is believed this was the direct cause of the accident.

Legal action was contemplated but could not proceed because of imprecise wording in the legislation. The legislation has since been effectively amended.

Ref. S9/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 8 October 1988 1415 hours
LOCATION: BELLEVUE
DANGEROUS GOODS INVOLVED: PETROL
Class 3.1 Flammable Liquid
UN No 1203
Packaging Group II
Quantity Spilled - Nil

SCENARIO

A domestic kerosene heater burst into flames when the owner attempted to light it. The heater had only just been filled with fuel and an analysis of the residue confirmed that the owner had been supplied with two stroke fuel mixture not kerosene.

The 4 litre container used to transport the fuel was clearly marked 'Kerosene' and had mistakenly been filled with two stroke mixture by the service station attendant.

The fire resulted in minor burns to the person who tried to light the heater and some smoke, flame and water damage to the room of the house in which it was located.

Ref. S4/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 20 October 1988 0900 hours
LOCATION: South West Highway
ARMADALE
DANGEROUS GOODS INVOLVED: PETROLEUM FUEL
Class 3.1 Flammable Liquid
UN No. 1270
Packaging Group II
Quantity Spilled 35000-50000 litres/kg

SCENARIO

A 35000 litre tanker vehicle caught fire and was totally destroyed toward the end of a delivery operation to one of three, 63500 litre ground level tanks in a common bund. It is believed the delivery hose from the tanker burst at some stage and low flash point condensate was pumped into the bunded area after which it ignited.

The ensuing fire burned out of control until it was realised that the fire was being fueled by a product from a tank in an adjacent area through a pipe which had failed in the fire. When the fuel supply was cut off, the fire was quickly brought under control.

The storage area and delivery operation were designed for high flash point product and neither the driver nor the storage tank owner appreciated that the condensate being delivered was a very low flash point product. This was a major contributing factor to the cause of the fire as the tanker vehicle was not set up to safely pump low flash point fuel.

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 13 November 1988 1210 hours
LOCATION: School swimming pool
COOLBELLUP
DANGEROUS GOODS INVOLVED: CHLORINE
Class 2.3 Poison Gas
Sub-Risk 5.1
UN No. 1017
Quantity Spilled 200 litres/kg

SCENARIO

A maintenance person accidentally poured about 10 litres of hydrochloric acid into a fibreglass tank which contained about 150 litres of 20 percent sodium hypochlorite solution. This resulted in the release of chlorine gas.

No-one was affected by the release and the incident was rendered safe when the hypochlorite acid mixture was transferred to the school's swimming pool for dilution.

Ref. S13/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 29 November 1988

LOCATION: CANNING VALE

DANGEROUS GOODS INVOLVED: TOLUENE DI-ISOCYANATE
Class 6.1 Poisonous Substance
UN No. 2078
Packaging Group II
Quantity Spilled 400 litres

SCENARIO

Toluene Di-Isocyanate leaked from a storage tank after a sight glass fractured. The area downwind of the spillage was evacuated until it was established that the vapour concentration was low enough to no longer be any cause for concern.

The spillage was treated with ammonia then absorbed onto sand and removed to an approved disposal site.

Ref. S12/88

DANGEROUS GOODS STORAGE ACCIDENT REPORT

DATE: 19 December 1988 1945 hours

LOCATION: Factory
Caladonian Avenue
MAYLANDS

DANGEROUS GOODS INVOLVED: Polychlorinated Biphenyls (PCB's)
Class 6.1(a) Poisonous Substance
UN No. 2315
Quantity Spilled: Not more than
10 litres

SCENARIO

Coolant oil containing PCB's was spilt from an electrical capacitor when the metal casing of the unit split. Emergency Services attended at the scene and contained the spillage estimated to be not more than 10 litres.

The area was isolated and full cleanup operations were completed the following day. Six other similar units in service at the factory were later replaced with non PCB coolant types.

Ref. S14/88

DANGEROUS GOODS TRANSPORT ACCIDENTS

Introduction

The number of accidents and their severity showed a significant decline in 1988 from previous years.

Only 23 accidents were reported to the Division compared with 39 in 1987. Of these, 5 involved chemicals which were not dangerous goods.

No accidents involving the overturn of a vehicle carrying dangerous goods in bulk occurred compared with ten in 1987.

Part of the reduction in accident number would be fortuitous and could not be attributed to positive action by any particular group. For example, several accidents in past years could accurately be described as traffic accidents which coincidentally involved dangerous goods. There were very few such accidents in 1988 and this type of accident will continue to occur in fluctuating numbers despite the best efforts of the inspectorate.

However, it is reasonable to presume that the activity of the inspectorate is having an effect when such statistics occur as a near 40% reduction in the number of accidents caused by packages being dislodged from vehicles (from 11 in 1987 to 7 in 1988) and a 50% reduction in the category of improper handling (from 8 to 4).

Despite the relatively good year in terms of accident numbers, the Division is continuing to maintain a high level of activity in the field and it is hoped that this will keep the accident levels down.

Note : This section of the report is in a format different from the rest of the report because it has been prepared from a database and program developed in the Explosives and Dangerous Goods Division. It is hoped that by 1990, the entire report will be in a consistent format.

Statutory Authorities who may wish to use the computer program for their accident data may obtain the software free of charge from the Explosives and Dangerous Goods Division.

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 5 January 1988 1050 hours

LOCATION: Great Eastern Highway
SOUTH GUILDFORD

DANGEROUS GOODS

INVOLVED: RESIN SOLUTION, FLAMMABLE
Class 3.2 Flammable Liquid
Sub-Risk
UN No. 1866
Packaging Group III
Quantity Spilled 3 litres/kg

SCENARIO

A 200 litre drum of acrylic slate sealer split and released approximately 3 litres of product after falling from a truck in transit. The vehicle was not fitted with adequate restraining devices resulting in dislodgement of the drum when the vehicle encountered a rough patch of road.

Spillage was minimal and was quickly absorbed with sand and disposed. The drum, one of four carried, was of an approved standard but could not totally withstand a 60 kph impact. The driver of the vehicle was prosecuted for failing to adequately secure the load.

DGA : 1/88

FILE No. : 19/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 20 February 1988 1700 hours

LOCATION: North Quay
FREMANTLE

DANGEROUS GOODS INVOLVED: METHOXY PROPANOL
Class 3.2 Flammable Liquid
Sub-Risk
UN No. 1993
Packaging Group III
Quantity Spilled 2 litres/kg

SCENARIO

Inadequate documentation and placarding resulted in the evacuation and isolation of a large area around the Port of Fremantle when a chemical was found leaking from a freight container.

Firemen wearing protective clothing effectively identified the source of the leak as a single drum among a full container of 56 like drums.

The small leakage was easily cleaned up without injury to any persons.

DGA : 19/88

FILE No. : 40/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 11 March 1988 1100 hours

LOCATION: Leach Highway
KEWDALE

DANGEROUS GOODS

INVOLVED: HYDROFLUORIC/SULPHURIC ACID MIX
Class 8 Corrosive Substance
Sub-Risk
UN No. 1786
Packaging Group I
Quantity Spilled 200 litres/kg

SCENARIO

A 200 litre drum was punctured with the tines of a forklift vehicle during unloading operations and spilled most of its acid contents. The pools of spilled liquid were neutralised with builders' lime which was subsequently collected and removed to an approved disposal area.

DGA : 2/88

FILE No. : 59/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 14 March 1988 2300 hours

LOCATION: Great Eastern Highway
YORK

DANGEROUS GOODS

INVOLVED: BIPYRIDILIUM PESTICIDE
Class 6.1 Poisonous Substance
Sub-Risk
UN No. 3016
Packaging Group III
Quantity Spilled 0 litres/kg

SCENARIO

A 200 litre drum of low toxicity pesticide fell from a tray top dog trailer on the Great Eastern Highway approximately 35 kilometres west of York. The drum was inadequately secured and as a result the driver was prosecuted by Police for breaches of the Dangerous Goods (Road Transport) Regulations.

DGA : 3/88

FILE No. : 258/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 6 April 1988 1530 hours

LOCATION: Kurnall Road
WELSHPOOL

DANGEROUS GOODS

INVOLVED: DIMETHOATE
Class 6.1 Poisonous Substance
Sub-Risk 3
UN No. 3017
Packaging Group II
Quantity Spilled 40 litres/kg

SCENARIO

Two, 20 litre drums of insecticide concentrate were punctured by a forklift vehicle during unloading operations at a freight transfer yard.

Staff in the area were evacuated, the emergency services contacted for assistance and the area was subsequently cleaned up satisfactorily.

No person was injured or adversely affected by the spillage. Clean-up procedures in this instance proceeded very smoothly in large measure because the manager of the freight yard had undergone training in the management of dangerous goods.

DGA : 20/88

FILE No. : 63/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 7 May 1988 0800 hours

LOCATION: Marvel Loch/Nevoria Road
MARVEL LOCH

DANGEROUS GOODS

INVOLVED: HYDROCHLORIC ACID
Class 8 Corrosive Substance
Sub-Risk
UN No. 1789
Packaging Group II
Quantity Spilled 1800 litres/kg

SCENARIO

Whilst travelling on an unsealed road, the driver of a semi-trailer carrying drummed acid veered to the incorrect side of the road and in attempting to correct the situation slid off into soft edges of the road and rolled the vehicle. The drums which were gated and tied, were thrown from the vehicle and 9 of 20 drums failed spilling their contents into roadside pools from recent rains.

The area was remote enabling cleanup by channelling the diluted spillage to a pit where it was neutralised and buried. Acid damage to the vehicle fuel tanks created concern and further investigation is being undertaken in this respect.

DGA : 4/88

FILE No. : 86/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 9 May 1988 1254 hours

LOCATION: Stoneham Road
BELMONT

DANGEROUS GOODS
INVOLVED: POLYACRYLIC ACID SALTS
Class NOT DANGEROUS GOODS
Sub-Risk
UN No.
Packaging Group
Quantity Spilled 50 litres/kg

SCENARIO

Police and fire brigade were called to a spill of a sticky odourless substance causing a traffic hazard and dissolving the road bitumen. On attendance it was claimed that a truck driver had dropped three 200L drums on the road causing some spillage. He is believed to have picked up the drums and continued on his journey leaving the spillage on the road. The spill was absorbed with sand and disposed. Chemical analysis showed the product to be a sodium salt of polyacrylic acid which is not classified as dangerous goods. The true course of events could not be determined.

DGA : 5/88

FILE No. : 87/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 11 May 1988 1200 hours

LOCATION: Dowd Street
KEWDALE

DANGEROUS GOODS
INVOLVED:

AMMONIUM NITRATE
Class 5.1 Oxidising Agent
Sub-Risk
UN No. 1942
Packaging Group III
Quantity Spilled 1000 litres/kg

SCENARIO

A freight container loaded with flexible IBC's of ammonium nitrate located on a flat top rail wagon within a transport yard was mistakenly opened resulting in a spill and rupture of one FIBC containing approximately 1000 kilograms of product. The spill was collected into new bags and the residue washed away with water.

DGA : 6/88

FILE No. : 96/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 11 May 1988 2315 hours

LOCATION: Boorabin National Park
COOLGARDIE

DANGEROUS GOODS

INVOLVED: NITRIC ACID MIXTURE
Class 8 Corrosive Substance
Sub-Risk
UN No. 2031
Packaging Group II
Quantity Spilled 1600 litres/kg

SULPHURIC/HYDROFLUORIC ACID MIX
Class 8 Corrosive Substance
Sub-Risk
UN No. 2922
Packaging Group II
Quantity Spilled 1600 litres/kg

PHOSPHORIC ACID
Class 8 Corrosive Substance
Sub-Risk
UN No. 1805
Packaging Group III
Quantity Spilled 1600 litres/kg

SCENARIO

The driver of a semi trailer carrying a load of acids, vehicle batteries, rolls of paper and other general cargo from the Eastern States, stopped for a rest in a parking area off Great Eastern Highway, 90 km west of Coolgardie. He was awoken by heat from his burning vehicle.

Due to the remoteness of the area the Kalgoorlie Fire Brigade staff took some hours to quell the fire and nothing could be saved. After the fire was extinguished the remnant drums of chemicals were neutralised with lime in a pit close by and buried.

It was assumed that leaking acid may have initiated combustion and further investigation is being conducted in this respect.

DGA : 7/88

FILE No. : 105/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 11 May 1988 hours

LOCATION: 134 Km peg Brand Highway
DANDARAGAN

DANGEROUS GOODS

INVOLVED: PAINTS
Class 3.1 Highly Flammable Liquid
Sub-Risk
UN No. 1263
Packaging Group II
Quantity Spilled 0 litres/kg

SCENARIO

Fire gutted a transport vehicle carrying packages of paint and thinners. Several explosions were heard during the fire. The cause of the fire was could not be determined.

DGA : 21/88

FILE No. : 5/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 21 May 1988 0715 hours

LOCATION: MOORA

DANGEROUS GOODS INVOLVED: BROMOTRIFLUORO-METHANE
Class 2.2 Non-flammable Compressed Gas
Sub-Risk
UN No. 1009
Packaging Group
Quantity Spilled 510 litres/kg

SCENARIO

Six, 85 Kg cylinders of a fire extinguishing agent, were found on the roadside between Walebing and Piawanning.

Two of the cylinders were empty due to valve damage which was sustained, when cylinders fell off the transporting vehicle.

The spillage of the dangerous good did not pose any danger to the public. The cylinders were recovered by the local voluntary fire brigade and returned to the consignor.

DGA : 22/88

FILE No. : 5/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 24 May 1988 0450 hours

LOCATION: Great Eastern Highway
MERREDIN

DANGEROUS GOODS
INVOLVED:

PHENOXY HERBICIDE
Class 6.1 Poisonous Substance
Sub-Risk
UN No. 3000
Packaging Group III
Quantity Spilled 100 litres/kg

WHITE SPIRIT
Class 3.2 Flammable Liquid
Sub-Risk
UN No. 1300
Packaging Group II
Quantity Spilled 0 litres/kg

SCENARIO

A rigid truck carrying 20 litre packages of herbicide in its load ran off the the road and overturned at a floodway overpass killing the driver instantly. Approximately 5 packages of the herbicide ruptured and spilled their contents into the stagnant drain. Paint tins included in the load also ruptured making identification of the herbicide difficult.

Immediate action was to evacuate a nearby caravan park due to dispersion of vapours of unknown toxicity levels. Emergency personnel and equipment were called from Perth (over 200km away) and clean up enacted under supervision of the EPA once positive identification was made.

DGA : 8/88

FILE No. : 97/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 19 July 1988 2030 hours

LOCATION: Leach Highway
BATEMAN

DANGEROUS GOODS
INVOLVED: AMICIDE
Class NOT DANGEROUS GOODS
Sub-Risk
UN No.
Packaging Group
Quantity Spilled 5 litres/kg

SCENARIO

A 20 litre drum was found at the side of the road by Police in response to a call from the public. On attendance the fire brigade used sand to absorb the very small quantity of spillage. The remaining product was hosed off the road.

The contents of the package were not classified as dangerous goods and the owner or source of the package could not be determined.

DGA : 9/88

FILE No. : 152/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 10 August 1988 1400 hours

LOCATION: Port Beach Road
NORTH FREMANTLE

DANGEROUS GOODS INVOLVED: SODIUM CYANIDE
Class 6.1 Poisonous Substance
Sub-Risk
UN No. 1689
Packaging Group I
Quantity Spilled 0 litres/kg

SCENARIO

This incident resulted from the destuffing of imported freight containers and subsequent reloading of the drums. Whilst reloading, the forklift operator noticed that 7 drums with damaged lids had collected water from overnight rain and it was feared that a reaction may occur should further handling of the drums proceed.

Emergency services were alerted and the drums were drained of water and resealed by fire brigade personnel equipped with protective clothing and breathing apparatus. The contents of the drums were contained within polythene liners which prevented reaction of water with the cyanide.

DGA : 10/88

FILE No. : 171/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 23 September 1988 1600 hours

LOCATION: Wellington Street
WEST PERTH

DANGEROUS GOODS
INVOLVED:

ARGON, LIQUID
Class 2.2 Non-flammable Compressed Gas
Sub-Risk
UN No. 1951
Packaging Group
Quantity Spilled 151 litres/kg

SCENARIO

Whilst travelling through an intersection, the driver of a vehicle loaded with one argon flask (tied down with two ropes) ran over a block of wood. The resulting jolt caused the ropes to break and dislodged the flask. The flask fell on its head and commenced leaking. Traffic was rerouted and the flask allowed to discharge its total contents before being removed.

DGA : 11/88

FILE No. : 202/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 17 October 1988 1830 hours

LOCATION: Great Eastern Highway
COOLGARDIE

DANGEROUS GOODS
INVOLVED: HYDROGEN PEROXIDE
Class 5.1 Oxidising Agent
Sub-Risk 8
UN No. 2014
Packaging Group II
Quantity Spilled 40 litres/kg

SCENARIO

During a routine check of his vehicle an interstate haulier noticed a slight leak of hydrogen peroxide onto the carrying pallets and an apparent reaction. The driver took immediate precautionary action in diluting the spill with water then phoned for assistance.

Emergency services transferred the vehicle to a vacant paddock nearby where the load was washed down thoroughly and all packages checked for integrity. Two 20 litre packages were found to have leaked due to abrasive action against the wooden pallets. Protective smooth surfaced plywood was recommended for use in future long haul consignments as a result of this incident.

DGA : 12/88

FILE No. : 210/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 30 October 1988 1630 hours

LOCATION: Wubin-Mullewa Road
WUBIN

DANGEROUS GOODS
INVOLVED:

DIAZINON
Class 6.1 Poisonous Substance
Sub-Risk
UN No. 3018
Packaging Group III
Quantity Spilled 5 litres/kg

LOW TOXICITY PESTICIDE
Class NOT DANGEROUS GOODS
Sub-Risk
UN No.
Packaging Group
Quantity Spilled 8 litres/kg

SCENARIO

A small quantity of pesticides was spilled in an isolated area on a country road when a pest control operators' vehicle overturned. Local volunteer Fire Brigade personnel cleared the spill under advice from emergency services in Perth.

DGA : 13/88

FILE No. : 247/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 18 November 1988 2020 hours

LOCATION: Leach Highway
MELVILLE

DANGEROUS GOODS
INVOLVED: AMMONIUM NITRATE
Class 5.1 Oxidising Agent
Sub-Risk
UN No. 1942
Packaging Group III
Quantity Spilled 50 litres/kg

SCENARIO

Mechanical problems whilst travelling on an uphill section of highway resulted in the semi-trailer rolling back down the hill and careering into trees before coming to rest. One of the ammonium nitrate IBC's was ruptured by the impact spilling approximately 50 kilograms of product.

Police investigating the incident later charged the driver with driving under the influence of alcohol and his driver's licence was subsequently suspended. As a result of this conviction his dangerous goods driver's licence was also suspended and further legal proceedings instigated against other associated parties for various breaches of the Dangerous Goods (Road Transport) Regulations.

DGA : 14/88

FILE No. : 232/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 2 December 1988 1920 hours

LOCATION: Cnr Main & Royal Streets
OSBORNE PARK

DANGEROUS GOODS

INVOLVED: LOW TOXICITY HERBICIDE
Class NOT DANGEROUS GOODS
Sub-Risk
UN No.
Packaging Group
Quantity Spilled 0 litres/kg

SCENARIO

A 20 litre herbicide container was found on the roadside, apparently dropped by a vehicle. Investigations revealed that the product was not classified as dangerous goods due to its low toxicity and that the package fell from a pest control operators' vehicle.

The company concerned was requested to ensure that such chemicals are suitably restrained by their drivers as in some instances the goods carried are classified as dangerous goods.

DGA : 15/88

FILE No. : 244/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 6 December 1988 1430 hours

LOCATION: Great Eastern Highway
SOUTHERN CROSS

DANGEROUS GOODS

INVOLVED: EXPLOSIVES
Class 1.1
Sub-Risk D
UN No. 0081
Packaging Group
Quantity Spilled 0 litres/kg

SCENARIO

A truck loaded with 10 tonnes of high explosives was involved in a traffic accident whilst travelling interstate. The accident was a result of an attempt by the driver of the explosives vehicle to overtake a slow moving vehicle towing a caravan. During the overtaking manoeuvre the vehicle commenced a right turn off the highway and the explosives vehicle ploughed through the caravan under heavy braking.

The cause of the incident was believed to have been inoperative tail lights on the caravan. Fortunately no part of the explosives load was affected by the accident.

DGA : 16/88

FILE No. : 257/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 9 December 1988 0800 hours

LOCATION: Freight Yard, Kewdale Road
KEWDALE

DANGEROUS GOODS INVOLVED: PIPERONYL BUTOXIDE
Class NOT DANGEROUS GOODS
Sub-Risk
UN No.
Packaging Group
Quantity Spilled 200 litres/kg

SCENARIO

A 200 L drum of Piperonyl Butoxide (a chemical used in the manufacture of fly sprays) was found leaking inside a pantehnicon vehicle at a transport yard.

The leakage caused contamination to most of the general freight inside the pantehnicon.

The incident was rendered safe when the spilled liquid was absorbed onto sand and disposed of at an approved land fill site.

DGA : 23/88

FILE No. : 5/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 13 December 1988 0410 hours

LOCATION: Great Eastern Highway
NORSEMAN

DANGEROUS GOODS
INVOLVED:

OCTYL TIN MERCAPTIDE
Class NOT DANGEROUS GOODS
Sub-Risk
UN No.
Packaging Group
Quantity Spilled 200 litres/kg

SCENARIO

Whilst stopped in a roadside parking bay the driver of a semi-trailer carrying a mixed load of dangerous and non-dangerous goods noticed a leaking drum within the load. It was first thought that the leaking product was hazardous due to its strong noxious odour, however closer examination by emergency personnel showed the product to be one of the non-hazardous constituents of the load.

The cause of this leak was presumed to be drum failure due to material fatigue resulting from the long interstate journey.

DGA : 17/88

FILE No. : 259/88

DANGEROUS GOODS TRANSPORT ACCIDENT REPORT

DATE: 28 December 1988 1245 hours

LOCATION: Business District
PORT HEDLAND

DANGEROUS GOODS
INVOLVED:

LP GAS
Class 2.1 Flammable Gas
Sub-Risk
UN No. 1075
Packaging Group
Quantity Spilled 0 litres/kg

SCENARIO

An LPG tanker driver was filling the second tank of a two-tank storage installation, when a vapour lock occurred on the filling system.

The first tank was overfilled (past the 80% maximum fill level) while the driver was rectifying the vapour lock on the second tank.

Unsafe work practice was found to be the primary cause of the incident. The driver proceeded to fill the tank installation, despite knowing from two previous occasions that the overfilled tank had a faulty contents gauge. When the owner of the laundry saw that the tank was filled past the safe filling level, he consulted the gas supplier, and then the emergency services attended and arranged for the surrounding area to be evacuated and the tank sprayed with water.

The incident was rendered safe when the driver was recalled to partially empty the tank.

DGA : 18/88

FILE No. : 44/89

SUMMARY OF DANGEROUS GOODS TRANSPORT ACCIDENTS

	1985	1986	1987	1988
Insecure package	5	6	11	7
Bulk vehicle overturn	6	5	10	0
Package vehicle overturn	1	3	2	3
Improper handling ¹	5	4	8	4
Package failure in transit	2	2	2	5
Vehicle mechanical problem	1	2	1	1
Single & multi-vehicle accident where dangerous goods were incidental to the accident	1	5	3	1
Tank maintenance inadequate	1	0	0	0
Wilful damage ²	-	-	1	0
Rail tank leak ²	-	-	1	0
Unknown ³	-	-	-	2
TOTAL	22	27	39	23

1. Includes driver/operator error category from 1986.
2. New category 1987.
3. New category 1988

DANGEROUS GOODS TRANSPORT ACCIDENT SUMMARY REPORT
FOR THE YEAR 1988

DATE	LOCATION	GOODS	CLASS	COMMENTS	
1/88	05/01/88	SOUTH GUILDFORD	RESIN SOLUTION, FLAMMABLE	3.2	Semi-trailer carrying 200L drums encountered rough patch of road, dropped one drum due to insufficient restraint, minor spillage.
19/88	20/02/88	FREMANTLE	METHOXY PROPANOL	3.2	Leakage from drum in freight container at port; Inadequate documentation; Identification problems; Major evacuation but no injuries.
2/88	11/03/88	KEWDALE	HYDROFLUORIC/SULPHURIC ACID MIX	8	200L drum punctured by forklift tines during unloading, contents spilled, neutralised, absorbed and disposed.
3/88	14/03/88	YORK	BIPYRIDILIUM PESTICIDE	6.1	A 200L drum of pesticide fell from a trailer in transit due to inadequate restraint. Drum did not fail.
20/88	06/04/88	WELSHPOOL	DIMETHOATE	6.1	Two, 20 L drums of pesticide punctured by forklift tines during unloading. Management training resulted in efficient and effective clean-up.
4/88	07/05/88	MARVEL LOCH	HYDROCHLORIC ACID	8	Inexperienced driver of gated semi-trailer carrying drums veered off soft edge of unsealed road in remote area, vehicle rolled, drums failed.
5/88	09/05/88	BELMONT	POLYACRYLIC ACID SALTS	NDG	Spill of unknown product on road. Absorbed with sand and disposed. Source of spill unknown.
6/88	11/05/88	KEWDALE	AMMONIUM NITRATE	5.1	Freight container on rail wagon opened for inspection, FIBC spilled due to improper stuffing or movement in transit.
7/88	11/05/88	COOLGARDIE	NITRIC ACID MIXTURE	8	Semi-trailer conveying drums parked at rest stop after long haul. Driver awoken at night by fire in load - cause unknown.
21/88	11/05/88	DANDARAGAN	PAINTS	3.1	Fire destroyed a transport vehicle carrying unknown quantity of paint and thinners. The cause of fire was not known.

NDG = NOT CLASSIFIED AS DANGEROUS GOODS

DATE	LOCATION	GOODS	CLASS	COMMENTS
22/88	21/05/88 MOORA	BROMOTRIFLUORO-METHANE	2.2	Six 85 kg cylinders of a fire extinguishing agent fell from a truck. Cause of incident - insecure load
8/88	24/05/88 MERREDIN	PHENOXY HERBICIDE	6.1	Rigid truck, gated and tarped, ran off road, rolled and spilled packages and paint - driver killed - paint obscured labels.
9/88	19/07/88 BATEMAN	AMICIDE	NDG	Police informed of ruptured 20L drum on roadside. Found to be a herbicide not classified as dangerous goods.
10/88	10/08/88 NORTH FREMANTLE	SODIUM CYANIDE	6.1	Freight containers destuffed for decontamination. Damaged drums collected water from overnight rain, reaction feared but averted by emergency services.
11/88	23/09/88 WEST PERTH	ARGON, LIQUID	2.2	Flat top with liquid argon flask tied to tray, dislodged flask after running over wood block on road, leaking flask allowed to discharge.
12/88	17/10/88 COOLGARDIE	HYDROGEN PEROXIDE	5.1	Driver noticed leaking plastic 20 litre packages on long interstate haul. Danger averted by diluting with copious quantities of water.
13/88	30/10/88 WUBIN	DIAZINON	6.1	Pest control operator's vehicle overturned on country road and spilled a small quantity of herbicides.
14/88	18/11/88 MELVILLE	AMMONIUM NITRATE	5.1	Semi-trailer on uphill climb stalled due to fuel blockage, rolled down hill minor impact and small spill from FIBC.
15/88	02/12/88 OSBORNE PARK	LOW TOXICITY HERBICIDE	NDG	A 20L package found on roadside was treated as dangerous goods until confirmed otherwise. Package had fallen from pest control vehicle.
16/88	06/12/88 SOUTHERN CROSS	EXPLOSIVES	1.1	Explosives vehicle overtaking turning caravan with apparent faulty tail-lights. Caravan damaged, explosives remained unaffected.
23/88	09/12/88 KEWDALE	PIPERONYL BUTOXIDE	NDG	200 L drum was found leaking in a pantehnicon. Clean up was by sand absorption. Product involved is not a dangerous good.

NDG = NOT CLASSIFIED AS DANGEROUS GOODS

DATE	LOCATION	GOODS	CLASS	COMMENTS	
17/88	13/12/88	NORSEMAN	OCTYL TIN MERCAPTIDE	NDG	Leaking 200L drum in semi-trailer mixed load first thought hazardous but later confirmed non-hazardous. Leak due to drum fatigue.
18/88	28/12/88	PORT HEDLAND	LP GAS	2.1	LPG tank overfilled due to operator error and unreported faulty contents gauge.

END OF SUMMARY REPORT

NDG :: NOT CLASSIFIED AS DANGEROUS GOODS