88-03-21

UK-1

UNITED KINGDOM

KINGS RIPTON/CAMBRIDGE

DOMESTIC LPG TANK

Description.

A leak occurred in one of four domestic LPG tanks that were being filled for a home dweller. Sudden ignition. The tank in question exploded, and a fragment was hurled 25 m away where it tore a hole in the tank of a nearby house. The 3 other tanks successfully released their contents via the valves without any damage. Destruction of one house, two garages and the windows of 3 nearby houses.

Activity:

Cost of damage: ?

AGS: 2/2/? Potential interest: 5

Products: LPG

Quantity 1 T DESTROYED/2 T INVOLVED

Deaths: 0 Poisoned: 0

Injured: 0

88-04-11

UK-2

UNITED KINGDOM

WALTON-ON-THAMES/SURREY

OVERTURNED TRUCK

Description:

A tank truck overturned, crushing the tank and the inside compartments. The entire load flowed into the Thames Downstream drinking water intake was halted for 7 days (number of users involved not specified)

Activity: HIGHWAY TRANSPORTATION Cost of damage:Injured: 0

AGS: //

Potential interest: 1

Products: GASOLINE/GAS OIL Quantity: A TOTAL OF 32 000 L Deaths: 0 Poisoned : 0 Injured:

88-06-14

UK-3

PENRHYNDEUDRATH / GWYNEDD

ICI / DYNAMITE

Description:

A series of four explosions involving a batch reactor. Destruction of the facility's firefighting water system, making it necessary to implement an emergency system 8 people suffered slight injuries (not mentioned in the OECD report). Two operators were killed, projectiles were hurled over a distance of 400 m, and buildings were damaged as far as 800 m away. The blast was heard 20 miles (32 km) away. Activity on the coastal railway line was suspended for several hours. The plant was closed for 2 weeks

Activity. EXPLOSIVES

Cost of damage, ?

AGS 2/4/7 Potential interest: 2

Products: NITROGLYCERINE

Quantity: 500 KG

Deaths: 2 Poisoned: 0

Injured: 0

88-06-21

UK-4

UNITED KINGDOM

UNITED KINGDOM

POOLE/DORSET

CHEMICAL STORAGE FACILITY

Description:

A fire in a storage facility was started in the cell containing oxidizing substances (probable cause: exothermic breakdown). Since the compartments were not adequately fire resistant, the fire spread to nearby cells containing liquid inflammable substances and waste. Because of the release of toxic fumes, 3 000 people had to be evacuated for one day (the OECD report failed to mention that 14 people suffered slightly from the furnes). Most of the water used for putting out the fire was recovered and collected in tanks. The remainder was dumped after being diluted. Five barrels (solvents) were ejected from the site

**Activity: CHEMICAL WAREHOUSING** 

Cost of damage: ?

Potential interest: 5 AGS . /1/3

Products: OXIDIZING PRODUCTS/INFLAMMABLE SOLVENTS

Quantity:

Deaths: 0 Poisoned 0

Injured: 0

88-07-06

UK-5

UNITED KINGDOM

NORTH SEA (off the coast of SCOTLAND)

PIPER ALPHA PLATFORM

Leak of recondensed gas during repairs to a pump. The explosion damaged the control room of the generating plant, putting all the control and emergency units out of action. The fire developed in 20 minutes with the explosion of gas. Failure of the emergency system at various levels: helicopters could not be used because of the smoke, the system for automatically inflating the life rafts was faulty and the operators were not able to use the manual fire hoses.

**Activity: PETROLEUM INDUSTRY** 

Cost of damage: ?

AGS: 7/6/? Potential interest: 5

Products. HYDROCARBON GASES

Quantity: ?

Deaths: 167 Poisoned . 0 Injured: 0

88-07-07

UK-6

UNITED KINGDOM

CAMELFORD/CORNWALL

DRINKING WATER PLANT

Description:

A driver delivered 20 tonnes of aluminum sulphate to a water treatment plant outside of office hours and on a day he was not expected. By mistake, he poured the product into the drinking water tank supplying the distribution system. Minor consequences for human health but high mortality rate among animals over the next 2 weeks (>1 300 hens, >10 lambs, >35 ducklings).

**Activity: WATER TREATMENT** 

Cost of damage: ?

AGS: 7/4/? Potential interest: 5

Products: ALUMINUM SULPHATE

Quantity: 20 T

Deaths: 0 Poisoned: 100 Injured: 0

88-08-21

**UK-7** 

UNITED KINGDOM

FETTERCAIRN/KINCARDINE

AGRICULTURAL STORAGE FACILITY

Description<sup>1</sup>

The driver of a tank truck started driving away while the tank was still connected to the storage facility. The hose was ripped away and 4 tonnes of sulphuric acid poured out, eventually flowing into a river. The addition of neutralizing agents failed to prevent a high mortality rate among fish life. An estimated 10 000 fish were killed over an 8-km stretch.

**Activity: AGRICULTURE** 

**Products: SULPHURIC ACID** 

Deaths: 0 Poisoned: 0

Quantity 4 T SPILLED

AGS: /3/

Potential interest: 2

Injured: 0

88-11-02

UK-8

UNITED KINGDOM

**HULL/HUMBERSIDE** 

Description:

Leak of acetone in a shop where aerosol paint cans were being packed. The leak originated in a parcel on a lift truck. The operator triggered ignition by turning on an electric switch. The fire spread throughout the facility. 150 firemen rushed to the scene. The residents on 2 nearby streets were evacuated. The fire was brought under control in 3 hours. Butane tanks were involved (no available details)

**Activity: MANUFACTURE OF PAINT** Cost of damage: >1 MILLION POUNDS

AGS: /3/3 Potential interest: 3 Products: ACETONE/BUTANE

Quantity: ?

Deaths: 1 Poisoned: 0

Injured: 5

28-11-15

UNITED KINGDOM UK-10

WEST BROMWICHWEST MIDLANDS

TANK TRUCK TRANSPORTING NITRIC ACID

Description:

Used nitric acid was being shipped from a plant to a treatment centre in an unprotected tank. Serious corrosion of the tank resulted in rupture of the delivery hose and loss of the drain-off valve. The acid poured out onto the highway and a nitrogen oxide cloud spread over the sports field of a school. Sixty people, including 40 children, received medical attention. Thirty people were hospitalized. The carrier was fined £4 500.

**Activity HIGHWAY TRANSPORTATION** 

Cost of damage: ?

AGS 7/3/1 Potential interest: 4

**Products: NITRIC ACID** 

Quantity: 1 300 KG SPILLED

Deaths: 0

Poisoned: 30 Injured: 0

88-12-03

UK-9

UNITED KINGDOM

MILFORD HAVEN / DYFED

UNLOADING OF AN OIL TANKER

100 tonnes of oil were spilled as the load from an oil tanker was being transferred to the storage facilities of a petrochemical site. Serious pollution of 5 miles (8 km) of shoreline. Several hundred employees from local public departments were involved in cleanup operations which lasted several days. Two large fish farms were affected.

**Activity: PETROLEUM INDUSTRY** 

Cost of damage: ?

AGS: //3 Potential interest 2 Products: LIGHT CRUDE OIL

Quantity, 100 T SPILLED

Deaths: 0 Poisoned: 0

Injured: 0

89-01-05

UK-11

UNITED KINGDOM

WALTHAM ABBEY / ESSEX

**EXPLOSIVES FACTORY** 

Description:

Overheating in a bunker resulted in an explosion with the release of a nitric acid and trioxylene cloud. No consequences for humans but destruction of the reactor building. No other available details.

Activity: EXPLOSIVES

Cost of damage: ? AGS: #

Potential interest: 2

Products: NITRIC ACID/TRIOXYLENE

Quantity: ?

Deaths: 0 Poisoned: 0 Injured: 0

89-03-22

UK-12 UNITED KINGDOM PETERSBOROUGH / CAMBRIDGE

**EXPLOSIVES VAN** 

Description:

Fire and explosion involving a van transporting industrial explosives and detonators. Toll. 1 dead and 80 injured, 2 of them seriously. A nearby plant and 5 industrial buildings were destroyed. Windows over a 1-mile area were shattered.

Activity: HIGHWAY TRANSPORT

Cost of damage: ?

AGS: 2/4/? Potential interest: 2

Products: NITROGLYCERINE/AMMONIUM NITRATE

Quantity: A TOTAL OF 800 KG

Deaths: 1 Poisoned : 0

89-04-01

UK-13

UNITED KINGDOM

NORWICH/NORFOLK

METHYL-NITROIMADAZOLE PRODUCTION

Description:

Leaking flange seal on a valve connection resulted in the release of an SO2 cloud that drifted beyond the confines of the facility. The public was ordered to stay indoors, and road traffic was halted for one hour in the vicinity of the site.

**Activity: CHEMICAL INDUSTRY** 

Cost of damage: ?

AGS: 1/1/? Potential interest: 2

Products: OLEUM

Quantity, 80 KG RELEASED

Deaths: 0 Poisoned: 23 Injured: 0

89-04-28

**UK-14** 

**UNITED KINGDOM** 

GRIMSBY/HUMBERSIDE

REFRIGERATED STORAGE FACILITY

Description

A pipeline supplying ammonia under pressure in the refrigeration circuit of a cold store burst. Rapid dispersion of the cloud made it necessary to evacuate 400 people in the vicinity. 23 people had to be hospitalized for special treatment.

Activity. AGRIFOOD INDUSTRY

Cost of damage: ?

AGS: 1/3/2 Potential interest: 4

Products: LIQUEFIED AMMONIA Quantity: 400 KG RELEASED

Deaths: 0 Poisoned: 23 Injured: 0

89-05-18

UK-15

UNITED KINGDOM

HULL/HUMBERSIDE

ON-SITE TRANSPORTATION

Description:

A truck tank at an industrial storage site burst (circumstances unstated). Twenty tonnes of sulphuric acid were dumped into the public sewer system. Dilution with a large amount of water from the Hull River.

**Activity. STORAGE OF CHEMICALS** 

Cost of damage: ?

AGS: // Potential interest 2 Products: SULPHURIC ACID Quantity: 20 T SPILLED

Deaths: 0 Poisoned 0

injured: 0

89-06-09

UK-16

UNITED KINGDOM

SHEFFIELD/SOUTH YORKSHIRE

WATER PURIFICATION PLANT

Description:

A pipeline in a concentration-monitoring unit in a water purification plant burst, releasing 6 tonnes of aluminum sulphate into a 70 000-m<sup>3</sup> tank holding drinking water. A concentration of 0 8 mg/L was recorded, i.e. 4 times the acceptable community standard. The addition of time (?) reduced concentrations to 0.2 mg/L in 24 hours.

**Activity: WATER TREATMENT** 

Cost of damage: ?

AGS . 1/7/4 Potential interest: 3

Products: ALUMINUM SULPHATE

Quantity: 6 T (1 500 GALLONS) RELEASED

Deaths: 0 Poisoned: 0 injured: 0

89-07-06

**UK-17** 

UNITED KINGDOM

**BILLINGHAM/TEESIDE** 

**UREA PRODUCTION UNIT** 

Description

Explosion in an urea production unit following the mechanical failure of a pump. Release of an ammonia cloud outside the facility. Two workmen killed. A number of people suffered from minor discomfort outside the facility

Activity. CHEMICAL INDUSTRY

Cost of damage. ?

AGS: /3/

Potential interest: 4

Products AMMONIA

Quantity. ?

Deaths: 2 Poisoned: 0 Injured: 1

89-08-19

UK-20

UNITED KINGDOM

**BROMBOROUGH/MERSEYSIDE** 

PIPELINE

Description:

Leak in a feed line of a petroleum refinery caused by corrosion or metal fatigue. The leak was detected with monitoring equipment and located and sealed after 1 and 3 hours, respectively Serious pollution along 50 km of shoreline at the mouth of the Mersey River. 3 000 birds were affected. 200 died. Use of 4 000 L of detergents. Compensation payments up to 10 MFF.

Activity: OIL REFINERY

Cost of damage > 10 million Frcs AGS: ?/4/? Potential interest: 4

Products: CRUDE OIL Quantity: 150 T SPILLED

Deaths: 0 Poisoned: 0 Injured: 0

89-08-27

UK-21 UNITED KINGDOM

**UNITED KINGDOM** 

UNITED KINGDOM

RUNCORN/CHESHIRE

CFC PRODUCTION UNIT

Description:

Leak in a CFC production unit (causes and circumstances not stated). Outside emergency plan set in motion. Traffic on the expressway was halted, and the public was instructed to remain indoors.

**Activity: CHEMICAL INDUSTRY** 

**UK-22** 

Cost of damage: ?

Products HYDROCHLORIC ACID / HYDROFLUORIC ACID

Quantity: ?/?

Deaths: 0 Poisoned: 0 Injured: 0

AGS // P

Potential interest: 5

GREATHAM/TEESIDE

TITANIUM DIOXIDE (PIGMENT) PRODUCTION

Description:

89-09-21

TiCl<sub>4</sub> leak located and sealed 1½ hours after it was detected. Road traffic was halted, and workers on the site were instructed to remain indoors. The leak is thought to have been due to maintenance work. Two people who suffered from poisoning were hospitalized. One died after 3 weeks.

**Activity: CHEMICAL INDUSTRY** 

UK-23

Cost of damage: ?

**Products TITANIUM TETRACHLORIDE** 

Quantity: ?

Poisoned: 1 Injured: 0

Deaths: 1

AGS: /3/ Potential interest: 5

RESERVOIR OVERFLOW

Description:

89-11-14

A 2 600-tonne reservoir was overfilled, resulting in the overflow of 70 tonnes, most of which ended up in the retention pond. The spill was covered with foam (8 000 kg emulsifier used). A protection area was established. Seven people had to be hospitalized for fume inhalation.

Activity: STORAGE

Cost of damage: ?

AGS: 2/2/2 Potential interest: 5

Products: BENZENE

Quantity: 70 T SPILLED/2 600 T INVOLVED

Deaths: 0
Poisoned: 7

Injured: 0

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UK-24 UNITED KINGDOM

OLDBURY/WEST MIDLANDS

IMMINGHAM/HUMBERSIDE

**COLLISION OF TWO TRUCKS** 

Description.

89-11-22

A tank truck transporting gasoline collided with another truck. The contents of the tank spilled on the ground. This was followed by an explosion and a fire which destroyed both trucks, 2 other vehicles and damaged a nearby industrial building. A second explosion occurred shortly after firefighters arrived. The fire was extinguished after 105 minutes. Because the officials in charge of water matters were quickly alerted, it was possible to prevent the water used for putting out the fire from running off into the nearby river.

**Activity: HIGHWAY TRANSPORTATION** 

Cost of damage ?

AGS: // Potential interest: 3

Products GASOLINE

Quantity 13 T LOST OUT OF 18 T

Deaths: 0 Poisoned: 0 Injured: 0

89-03-06

UK-25 UNITED KINGDOM

WOKING / SURREY

**FAILURE OF STORAGE TANK** 

Description:

Fire at a timber treatment works during overnight shut down caused a storage tank to fail, releasing 30 000 litres of vaxsol into a tributary of the river Bourne. Intakes to drinking water supply closed. Thousand of fish and invertibrates killed along Bourne and Thames Lasting environmental effects.

Activity:

TIMBER TREATMENT

Cost of damage: ?

AGS: Potential interest , 4

Products: LINDANE / TRIBUTYLTIN OXIDE

Quantity: 30 t released

Deaths: 0
Poisoned: 0
Injured: 0

injurea: 0

90-03-20

**UK-26** 

UNITED KINGDOM

STANLOW / CHESHIRE

RUNAWAY REACTION

Description:

Within normal operation of a unit producing chlorofluoroaniline, runaway reaction due to contamination of 2,4difluoronitrobenzene (DFNB) and 2,4 dichloronitrobenzene (DCNB) with acetic acid. Pressure rised caused pipework failure, producing a a jet fire. Vessels failed producing a large fire ball, causing blast damage 500 m away and projecting missiles up to 500 m. The fluoroaromatics plant was devastated and nearby storage vessels containing xylene were ignited. On-site plan activated (>200 responders).

Activity

CHEMICAL INDUSTRY

Cost of damage. ?

AGS:

Potential interest: 5

Products. DFNB + DCNB / XYLENE / DIMETHYLACETAMIDE

Quantity 4t/?/6t

Deaths: 1 Poisoned: 0 Injured: 5

90-04-13

UK-27

UNITED KINGDOM

CHELMSFORD / ESSEX

PLATING WORKSHOP

Description:

In a plating workshop in normal operation, thermostat failed on a vat of chemicals causing a fire. Other chemicals, including 50 I of diluted potassium cyanide, spilled into the fire. Off-site emergency response (60 responders). Evacuation of 1000 people for 6.5 hours, 22 people treated for dizziness, naused, and skin and eyes irritation. Investigation of local authorities for water pollution (no environmental effects).

**Activity: ELECTRONICS INDUSTRY** 

Cost of damage: ?

Potential interest: 5 AGS.

**Products POTASSIUM CYANIDE** 

Quantity: 50 L (DILUTION)

Deaths: 0 Poisoned: 22

Injured: 0

90-07-12

UK-2R

UNITED KINGDOM

BIRKENHEAD / MERSEYSIDE

SHIP UNLOADING

Description:

Valve not seated proporely and accidentally opened while tanker being cleaned following a 120 000 t discharge. Cleanup operations involving 10 miles of affected shoreline along the Mersey estuary (300 people).

**Activity: OIL SEA TRANSPORT** 

Cost of damage: ? AGS:

Potential interest: 2

Products: CRUDE OIL

Quantity: 10 t released

Deaths: 0 Poisoned: 0

Injured: 0

90-07-25

UK-29 UNITED KINGDOM BIRMINGHAM / WESTMIDLANDS

OVERHEATING OF CLEANING TANK

Description:

Tanks used for cleaning metal frames overheated and ignited due to poor control, giving off a mile-long toxic cloud containing hydrogen chloride and phosgene. About 60 people evacuated from home and several hundreds of people warned to stay indoors. At least 60 people treated in hospital for irritation of the eyes and throat.

**Activity: METAL PRODUCTS** 

Cost of damage ? AGS:

Potential interest: 5

**Products: METHYLENE DICHLORIDE** 

Quantity: 4 t released

Deaths: 0

Poisoned: 60 Injured: 0

90-08-04

UK-30

UNITED KINGDOM

PORTISHEAD / AVON

PHOSPHORUS DRUMS

Description<sup>-</sup>

Extreme hot weather caused phosphorus to expand in 200 drums stored in a warehouse, and 50 of them to crack. The phosphorus ignited and a fireball was reported. The resulting cloud spread over 30 miles. Off-site plan activated and 100 responders mobilized. The fire took 2 hours to bring under control. Local nealth authorities monitor effects on population and 200,000 people warned to stay indoors during 2 hours. Circulation interrupted on nearby motorways.

**Activity: CHEMICAL INDUSTRY** 

Cost of damage ?

AGS:

Potential interest : 5

**Products: PHOSPHORUS** 

Quantity: 200 drums at risk / 50 drums involved

Deaths: 0 Poisoned: 0 Injured: 0

90-08-15

**UK-18** 

**UNITED KINGDOM** 

RUNCORN / CHESHIRE

Description<sup>\*</sup>

An unstated amount of chlorine was released for one hour following a fire due to a dangerous chemical reaction. The fire was brought under control within 2 hours by over 200 rescue workers. Limited damage due to favourable wind direction and the time of the accident (11 p.m.) Three employees from a nearby company, however, had to be hospitalized for chlorine inhalation.

Activity CHEMICAL INDUSTRY

Cost of damage: ?

AGS: 7/2/3 Potential interest: 5

Products: CHLORINE

Quantity ?

Deaths: 0 Poisoned: 3

Injured: 0

90-08-27

UK-31

UNITED KINGDOM

BILLINGHAM / CLEVELAND

**ACRYLICS** 

Description.

Operator clearing a line in preparation for maintenance work. Acid released instead of being sent to storage tank (cause unknown). On alarm being raised, 2000 workers went to toxic refuges. On and off-site plans activated Local roads closed until checked for toxic materials -not found. Spill contained on-site, cleaned by company own response team and external firefighters (20 people).

**Activity: CHEMICAL INDUSTRY** 

Cost of damage: ?

AGS Potential interest : 4 Products: HYDROCYANIC ACID

Quantity: 50 kg

Deaths: 0 Poisoned: 1 Injured: 0

90-10-08

UK-32 UNITED KINGDOM COOKLEY GREEN / OXFORDSHIRE

PROPANE ROAD TANKER

Description:

Boits of a main valve sheared off during delivery of propane to a private home. A 40 feet wide cloud formed. Homes were evacuated, power supplies cut off and road closed. The tanker was towed to a field where a relief tanker transfered the remainig propane.

Activity ROAD TRANSPORTATION

Cost of damage.

Potential interest: 3

**Products: PROPANE** Quantity: ? (6 t at risk) Deaths: 0 Poisoned: 0

Injured: 0

90-10-11

AGS:

UK-33

**UNITED KINGDOM** 

CORYTON / ESSEX

Description:

Loading overfill at Coryton terminal, 60 t of heavy fuel oil split from oil tanker to Tharnes estuary. Threat to 200,000 seabirds on LEIGH-ON-SEA marshes and mudflats. Clean up operations instigated and successful. Master charged with unlawful discharge.

**Activity: SEA TRANSPORT** 

Cost of damage: ? AGS:

Potential interest: 2

Products: HEAVY FUEL OIL

Quantity: 60 t released

Deaths: 0 Poisoned: 0

Injured: 0

90-10-23

UK-34

UNITED KINGDOM

M1 MOTORWAY / HERTFORDSHIRE

Description:

Load (drums ?) falled onto the road (cause not precised). Several people attempting to deal with the disruption on the motorway were affected by the chemical released.

Activity: ROAD TRANSPORT

Cost of damage: ?

AGS: Potential interest 2 Products Hydrobromic acid

Quantity: ?

Deaths: 0

Poisoned: ? (several)

njured: 0

90-11-05

UK-35 UNITED KINGDOM MILFORD HAVEN / DYFED - WALES

**FUEL BARGE** 

Description:

Due to unknown causes, barge containing 220 t of medium fuel oil sank, releasing 100 t of product to the harbour. SEVERN estuary polluted 8 km long. Five mile slick sprayed with dispersants. Commercial cyster farms threatened. Hundreds of sea birds affected

**Activity: SEA TRANSPORT** 

Cost of damage: Clean up > £100,000

AGS:

Potential interest 3

Products: MEDIUM FUEL OIL

Quantity: 100 t released (220 t at risk)

Deaths: 0 Poisoned: 0

Injured: 0

90-12-18

UK-36 UNITED KINGDOM STOCKPORT / GREATER MANCHESTER

LPG BOTTLE FILLING

Description:

Leak of propane during filling and pressure testing of cylinders in a LPG filling station. Explosion occured, blowing a hole in the roof and causing a small fire. Four employees were taken to hospital for burn injuries.

Activity: LPG INDUSTRY

Cost of damage: ?

Potential interest : 4 AGS:

Products: PROPANE

Quantity. ?

Deaths: 0 Poisoned: 0

Injured: 4

91-01-10

UK-37

UNITED KINGDOM

SOUTHHAMPTON / HAMPSHIRE

PETROL ROAD TANKER

Description:

In heavy rain, road tanker ploughed into wreakage of crashed van and car near Southampton. Rupture of the petrol tanker caught fire.

**Activity: ROAD TRANSPORT** 

Cost of damage: ? AGS:

Potential interest: 2

Products. PETROL

Quantity: ?

Deaths: 2 Poisoned: 0 Injured: 3

91-01-13

UK-38

UNITED KINGDOM

SPONDON / DERBYSHIRE

ACETATE PLANT

In an acetate production plant, during maintenance operations, welding works ignited acetone vapour leak through faulty seal. Resulting blast heard 10 miles away. Some releases of acetone to drains following incident causing fish kill. All employees on site were injured, non serious. No fire followed the blast. 40 people involved in emergency response.

Activity: CHEMICAL INDUSTRY

Cost of damage: ?

AGS:

Potential interest: 4

Products. ACETONE

Quantity: ?

Deaths: 0 Poisoned: 0 Injured: 11

91-05-06

UK-39

UNITED KINGDOM

MANSFIELD / NOTTINGHAMSHIRE

**Description** 

Arson suspected as cause of fire in stockyard of plastics factory in normal operation. LPG storage threatened but not involved. Toxic fumes from fire, molten plastics flowded into streets.

**Activity: PLASTICS INDUSTRY** 

Cost of damage: ?

AGS.

Potential interest: 4

**Products PLASTICS** 

Quantity: 600 t at risk

Deaths: 0 Poisoned 0 Injured: 0

91-05-08

UK-40

UNITED KINGDOM

WANDSWORTH / LONDON

DOMESTIC WASTE DISPOSAL

Description:

Glass containers of titanium tetrachloride accidentally picked up with domestic wastes. Toxic furnes emitted whem containers broken at dump.

**Activity: WASTE INDUSTRY** 

Cost of damage: ?

AGS.

Potential interest: 3

**Products: TITANIUM TETRACHLORIDE** 

Quantity: ?

Deaths: 0 Poisoned: 8

Injured: 0

91-05-10

UK-41 UNITED KINGDOM PAISLEY / SCOTLAND

Description

During normal plant operation, an explosion in a scrubbing vessel lead to release of hydrogene chloride gas. Emergency response invoved 40 people, 80 workers were evacuated safely and 3 members of the Paisley Organ Club, who were rehearsing in the factory canteen, were taken to hospital complaining of skin irritation and sore throats.

**Activity: CHEMICAL INDUSTRY** 

Cost of damage: ?

AGS: Potential interest: 4 **Products: HYDROGENE CHLORIDE** 

Quantity: ?

Deaths: 0 Poisoned: 3 Injured: 0

91-05-17

UK-42

UNITED KINGDOM

HALEWOOD / MERSEYSIDE

CAR PAINT SHOP

Description

At 15:20, during tanker unloading, acid is accidentally pumped into a wrong tank containing alkali, producing a huge cloud of nitrous oxide. 3,500 workers evacuated, roads sealed off and people as far as Warrington (distance not provided) told to stay indoors.

**Activity: FABRICATED METAL PRODUCTS** 

Cost of damage: ?

AGS 1 Potential interest **Products: NITROUS OXIDE** 

Quantity: ?

Deaths: 0 Poisoned 23 Injured: 0

91-09-03

**UK-43** 

UNITED KINGDOM

IMMINGHAM / HUMBERSIDE

INCOMPATIBLE MIXTURE IN WASTES

Description:

In a waste container (skip) magnesium burnt with ammonium nitrate to produce a chemical "fog". Fire tackled with a chemical agent. Nearby residents told to remain indoors, 126 of them received hospital treatment for inhalation effects

**Activity: FERTILIZERS PLANT** 

Cost of damage: ?

AGS Potential interest . 5 Products, MAGNESIUM / AMMONIUM NITRATE

Quantity: ?

Deaths: 0 Poisoned 126 Injured: 0

91-10-31

**UK-44** 

UNITED KINGDOM

**BELVEDERE / LONDON** 

On an "industrial estate", ethyl mercaptan leak from the base of a 200 i drum. Nearby families evacuated and area sealed off while drum made safe. Nine people taken to hospital.

Activity: ?

Cost of damage: ?

AGS Potential interest : 3 **Products: ETHYL MERCAPTAN** 

Quantity: ?

Deaths: 0 Poisoned 9 injured: 0

91-12-26

UK-45

UNITED KINGDOM

NORTHWAY / GLOUCESTERSHIRE

Electrical fault believed to have started fire at electronics plant. Copper sulphate and formaldehyde involved in fire. 60 firemen involved, 5 firemen treated in hospital for smoke inhalation and skin irritation 20 families evacuated.

**Activity: ELECTRONICS** 

Cost of damage: ?

AGS: Potential interest : Products: COPPER SULPHATE / FORMALDEHYDE

Quantity: ?/?

Deaths: 0 Poisoned 5 Injured:

88-02-05

US-21 **USA**  JAY/MAINE

FEED LINE AT THE FACILITY

Description:

Leak in a feed line of a chlorine dioxide tank (broken end or fitting). No other details available. No significant consequences

Activity: PAPER MILL

Cost of damage: ?

**Products: CHLORINE DIOXIDE** 

Quantity: ?

AGS: Potential interest: 3 Deaths: 0 Poisoned: 0 Injured: 0

88-05-04

US-22 USA HENDERSON/NEVADA

PACIFIC ENGINEERING

Description:

Fire and a senes of explosions in a fuel production unit (ammonium perchlorate) for space shuttle booster rockets. Cause: fire in a dryer (improper maintenance) and inability to bring the fire under control. A crater 120 metres in diameter. Twelve buildings including a nearby plant were destroyed, roofs on houses were blown away. 17 000 people were evacuated following the release of a cloud of toxic smoke (hydrochloric acid). Plant demolished and not rebuilt.

Activity: MANUFACTURE OF ROCKET ENGINESProducts AMMONIUM PERCHLORATE

cost of damage: > \$70 MILLION

AGS: 4/5/3 Potential interest: 5

Quantity: 72 T LOST

Poisoned: 0 Injured: 350

22-06-19

US-23 LISA CHARLESTON/SOUTH CAROLINA

SINKING OF A SHIP

Description:

A ship sank after breakup of the hull The causes and circumstances not specified.

**Activity: MARINE SHIPPING** 

Cost of damage:

Products: MARINE DIESEL Quantity: 175 GAL (1 M<sup>3</sup>)

AGS: 1/1/1 Potential interest: 1

Deaths: 0 Poisoned: 0

Injured: 0

88-07-03

**US-26** USA TONAWANDA/NEW YORK

STORAGE UNIT

Description.

Fire in the storage area of a plastic production unit. The cause is thought to be failure of the electric system on a motor. Apparently serious. Pollution of the Niagara River from the water used to extinguish the fire, despite the installation of floating booms.

Activity: PRODUCTION OF PLASTICS

Cost of damage ? AGS:

Potential interest: 4

Products: ISOBUTYLENE/PHENOL/FORMALDEHYDE

Quantity: 7/7/7

Deaths: 0 Poisoned: 0 Injured: 0

88-07-15

US-24 USA TORRANCE/LOS ANGELES

STRIPPING

Description

Explosion during residue stripping operations. No available details. Foll: 1 dead and 2 injured. No other information.

Activity: OIL REFINERY

Cost of damage. ? AGS 7/3/? Potential interest: 5 Products: HYDROGEN PEROXIDE / BROMINE / ARSENIC

Quantity: A TOTAL OF 600 BARRELS (95 M<sup>3</sup>)

Deaths: 1 Poisoned · 0 Injured: 2

88-07-23

**US-1** USA CHICAGO, ILLINOIS

STORAGE FACILITY

Description:

Sulphuric acid leak lasting 17 hours in the draw-off line of a tank. The absence of a suitable pump hampered efforts to pump up the product. No information available on possible damage.

Activity: FOOD INDUSTRY

Cost of damage: ?

AGS: Potential interest: 3 Products: SULPHURIC ACID

Quantity 27.3 T

Deaths: 0 Poisoned: 0 injured: 0

88-07-25 REACTOR US-28 USA BADLEVIEW/ILLINOIS

PREHEATING OF A

Description:

As a result of human error or failure of the preheating system, vinyl acetate was inadvertently heated in a polymerization reactor. Gases escaped from the valve and exploded. The production unit was razed to the ground and will not be rebuilt because of the cost of the undertaking.

**Activity: POLYMER PRODUCTION** 

Cost of damage: ?

AGS: 2/3/? Potential interest: 4

Products: VINYL ACETATE

Quantity: 1 400 KG

Deaths: 1 Poisoned : 0 Injured: 4

TRAIN DERAILMENT 88-07-30 US-25 USA **ALTOONA/IOWA** Description: Derailment of a freight train. The exact nature of the accident not specified. 4 people injured. No details available. Products: DENATURED ALCOHOL / GAS OIL Activity RAILWAY TRANSPORTATION Deaths: 0 Quantity ?/? Poisoned: 0 Cost of damage ? Injured: 4 AGS: ?/2/7 Potential interest: 2 88-08-04 US-27 USA LOUDONVILLE/PENNSYLVANIA TRAIN DERAILMENT Description: Train derailment. Causes not given. Leaks in 2 cars and fire. Evacuation of one hundred people. No details available Products: HEXAMETHYLENE DIAMINE/OCTYL ALCOHOL Deaths: 0 Activity RAILWAY TRANSPORTATION Poisoned: 0 Cost of damage: ? Quantity: 35 T AGS: 2/7/2 Potential Interest: 2 Injured: 0 88-08-05 US-31 USA NASHUA, NEW HAMPSHIRE **CHEMICAL PLANT** Description A leak of phosphorus trichlonde at 6 a m with the formation of a toxic cloud that extended beyond the confines of the facility 36 people in and outside the facility complained of respiratory distress. Twelve of them suffered from poisoning 1 700 people were evacuated over a 10-km radius. **Activity: CHEMICAL INDUSTRY** Products: PHOSPHORUS TRICHLORIDE Deaths: 0 Quantity: 600 ? (ABBREVIATION = DIESE) Poisoned: 12 Cost of damage: ? AGS: 7/3/3 Potential interest: 5 Injured: 0 CHEMICAL REACTOR 88-08-05 US-30 USA NASHUA/N.H. Description: A hydrochloric acid leak developed in a chemical plant following water contamination of a reactor. No other information available. The acid cloud extended over a distance of 3 miles (5 km). No report of any consequences. Products: HYDROCHLORIC ACID **Activity: CHEMICAL INDUSTRY** Deaths: 0 Cost of damage: ? Quantity ? Poisoned: 0 Injured: 0 AGS Potential interest 3 US-2 USA SAINT LOUIS/MISSOURI REACTOR LINE 88-08-10 Description: During shutdown (of a unit?), a line broke while formaldehyde was being recirculated in a reactor. Monitor lances were used to control the fumes resulting from the leak. The spill was diluted with water and then sent to the facility's purification station. The residues were neutralized with sodium. **Activity: CHEMICAL INDUSTRY** Products: FORMALDEHYDE Deaths: 0 Quantity: 700 KG Poisoned: 0 Cost of damage: ? Injured: 0 AGS: // Potential interest: 2 STORAGE FACILITY ST JOHNS/ARIZONA 88-08-16 US-3 USA Corrosion of the draw-off line tap on a sulphuric acid tank. The introduction of moist air during maintenance operations may have been responsible. No information available.

Activity: POWER PLANT

Cost of damage: ?

Potential interest: 2

Products: SULPHURIC ACID

Quantity 0.7 T

SIC 2000 US-4 COLUMBUS/OHIO 88-09-03 USA

AGS:

During simultaneous but uncoordinated maintenance operations, the power supply controlling a safety valve was cut while the valve was shutting off the ammonia circuit because the refrigeration unit was open. The valve was designed to remain in the open position with the power off. The area near the leak and above the unit was hosed down with water. The ammonia-water solution ended up in the sewer system. The authorities responsible for the sewer system were notified

**Activity: INDUSTRIAL BAKERY** 

Cost of damage: ?

AGS: 2/1/? Potential interest: 3

Products AMMONIA

Deaths: 0 Poisoned: 0 Quantity: 1.03 T RELEASED Injured: 0

Deaths: 0 Poisoned: 0

88-09-06

118.5 LISA PAGEDALE/MISSOURI

STORAGE TANK

Description:

As a result of failure of a tank (cause not given), sulphuric acid spilled into a well where it was neutralized with lime.

**Activity: CLEANING PRODUCTS** Cost of damage ?

AGS: 2/1/1 Potential interest: 1

Products: SULPHURIC ACID

Quantity, 900 KG SPILLED

Deaths: 0 Poisoned: 0

Injured: 0

88-09-14

US-6

USA

CHICAGO/ILLINOIS

STORAGE FACILITY

Description:

A 1-inch plug burst, resulting in leakage that lasted 4 hours. Measures were taken to contain and absorb the product with slag dust. The contaminated products were disposed of after the accident. No significant damage.

**Activity: METALLURGY AND COKE** 

Cost of damage: ?

AGS: 2/1/1 Potential interest: 3

Products: POTASSIUM CYANIDE / AMMONIA

Quantity: 7-10 KG/1.3-3.9 T

Deaths: 0 Poisoned: 0

Injured: 0

88-09-19

**US-7** USA SOUTH GATE/CALIFORNIA

UNLOADING OF A FREIGHT CAR

Description:

Operational error while a freight car containing chlorine was being unloaded (a valve was left open). Finally the automatic valve on the tank and manual valve on the car were closed. 200 kg of chlorine were released. Two employees suffered from poisoning. No consequences beyond the confines of the facility.

**Activity: CLEANING PRODUCTS** 

Cost of damage: ?

Products: CHLORINE

Quantity: 200 KG RELEASED

Deaths: 0 Poisoned: 2 Injured: 0

AGS: 2/2/? Potential interest: 4

88-09-21

US-8

USA

MT. VERNON/INDIANA

PLUGGING OF A VENT

Description:

A poorly designed relief pipe became plugged and burst under excess pressure. No special consequences.

**Activity: THERMOPLASTICS** 

Cost of damage AGS: 1/1/1 Potential interest: 3 **Products NITROGEN DIOXIDE** Quantity: 30 KG RELEASED

Deaths: 0 Poisoned: 0 Injured: 0

88-09-30

US-9 USA **ENID / OKLAHOMA** 

REFRIGERATION COMPRESSOR

Description:

During a shutdown manoeuvre, the sharp drop in the operating rate of the boiler caused a refrigeration unit compressor to slow down with the resulting build-up of pressure in the liquid ammonia stages. A safety valve was opened. No consequences. The boiler was immediately started up again and the shutdown procedure was carried out to its completion without any further mishaps.

Activity: FERTILIZERS

Cost of damage:

AGS: 2/1/1 Potential interest: 3

**Products: AMMONIA** 

Quantity: 2.6 TONNES RELEASED

Deaths: 0 Poisoned: 0

Injured: 0

88-10-03

US-10 USA NORFOLK/ VIRGINIA

STORAGE FACILITY

Description:

Release of 15 tonnes of sulphuric acid on the ground following failure of a flange on the draw-off line of a storage facility. Product recovered. Contaminated soil neutralized with sodium bicarbonate and carbonate.

**Activity: MILITARY INSTALLATION** 

Cost of damage ?

AGS: 3/1/1 Potential interest: 1

**Products: SULPHURIC ACID** 

Quantity: 15 T SPILLED

Deaths: 0 Poisoned : 0 Injured: 0

US-11 USA **BAUXITE / ARKANSAS** 

STORAGE FACILITY

Description

88-10-04

Vandals opened the bleeder-line valve on a sulphuric acid tank. The product flowed into the sewer system to the facility's treatment station where it was diluted with wastewater flowing at a rate of 1 000 gallons per minute. The pH was adjusted to normal values by means of neutralization with calcium. carbonate in Holly Creek

Activity: ORE MINING?

Cost of damage: ?

AGS: # Potential interest: Products: SULPHURIC ACID Quantity: 2 500 GALLONS (9 500 L) Deaths: 0 Poisoned: 0 Injured: 0

88-10-05

US-12 USA **BISHOP/TEXAS** 

INCINERATOR

Description:

Following the development of a hot point on a residual gas incinerator, the company decided to shut down the incinerator and to continue releasing untreated gases. This situation lasted until the necessary repairs were completed, i.e., after 67 hours. Following complaints of unpleasant odours, the residents of the area were monitored for health problems. No ill effects were detected.

Activity: RESIN USE

Cost of damage:

AGS: 3/1/1 Potential interest: 3

Products: FORMALDEHYDE/METHYL ALCOHOL

Quantity: 7.2 T/2.7 RELEASED

Deaths: 0 Poisoned: 0

Injured: 0

88-10-21

**US-13** USA PITTSBURG/CALIFORNIA

PROCESS REACTOR

Description:

The connection flange on a reactor safety valve was loosened, resulting in a leak and subsequent rupture of the valve's burst disk. This set off the alarm. All the reactors linked to the same delivery system were shut down. The released substance was kept down by means of a sprinkler system, and operators equipped with protective gear were able to tighten the defective flange. No consequences for the environment.

Activity: MANUFACTURE OF PYRIDINE AND PYRIDINE DERIVATIVESProducts: CHLORINE/HYDROCHLORIC ACID Deaths: 0

Cost of damage:

Quantity: 900 KG/900 KG

Poisoned: 0

Injured: 0

AGS: 3/1/1 Potential interest: 2

88-11-09

US-14 USA LAKE CHARLES/LOUISIANA

REFRIGERATION SYSTEM

Description:

The mechanical failure of a water pump for cooling an ammonia condenser resulted in the build-up of pressure in the refrigeration system. The collector valve opened and ammonia was released into the air. No significant consequences.

Activity: CHEMICAL INDUSTRY

Cost of damage:

**Products: AMMONIA** 

Quantity. 1.7 T RELEASED

Deaths: 0 Poisoned: 0

Injured: 0

AGS: 2/1/1 Potential interest: 2

US-15

USA

HAHNVILLE/LOUISIANA

UNLOADING OF A TRUCK

88-11-10

As the contents of a truck were being pumped out, the operator left the truck unattended to perform other operations. In his absence, the tank overflowed. spilling the contents into the retention pond. As the drain-off valve was open, the contents poured into the ditch, which was sealed to prevent the product from leaving the site.

Activity: EPOXIDATION OF VEGETABLE OILSProducts: HYDROGEN PEROXIDE

Cost of damage:

AGS: 1/1/1 Potential interest: 2

Deaths: 0

Poisoned . 0 Injured: 0

88-11-15

US-16 USA HAWTHORNE/NEVADA

Quantity 227 T SPILLED

COLD-INDUCED PLUGGING

Description:

The very low ambient temperature (16°F = -9°C) caused the line in a precious metal recovery unit to become plugged and burst. The contaminated soil was removed and disposed of. All the facility's outdoor lines were subsequently insulated.

**Activity: METAL PLATING** 

Cost of damage: ?

Products: CYANIDES (IN AQUEOUS SOLUTION?)

Quantity: 450 kg

Deaths: 0 Poisoned: 0

AGS 3/7/7 Potential interest 2

Injured: 0

88-11-29

US-29 USA KANSAS CITY/MISSOURI

ROAD CONSTRUCTION SITE

A fire was intentionally set near a truck with a load of explosives on a highway construction site. The fire caused two explosions involving 10 tonnes, then 15 tonnes of modure. Toll: 6 dead, an unknown number of persons injured

**Activity: PUBLIC WORKS** 

Products: AMMONIUM NITRATE/FUEL OIL

Quantity: 25 T OF MIXTURE

Deaths: 6 Poisoned: 0

AGS: 4/4/? Potential interest: 2

88-12-08

US-17 USA LOUISIANA / MISSOURI

LOADING OF A TRUCK

Description:

Leak in a loading arm while a tank truck was being loading. The operator had left the truck to complete the operations on a checklist and was unable to act quickly The acid on the ground was pumped up in 15 minutes

Activity: MANUFACTURE OF AMMONIUM NITRATESProducts: NITRIC ACID

Cost of damage: ?

Quantity: 6.5 T SPILLED

Poisoned: 0

AGS:

Potential interest: 2

Deaths: 0 Injured: 0

US-12

LAKE CHARLES / LOUISIANA

**AUTOMATIC CONTROL SYSTEM** 

Description:

88-12-22

Failure of a valve on an automatic control system in an ammonia production unit at roughly 2:30 a.m. The leak lasted until 5.00 a.m., when the system was finally depressurized. No consequences for the environment.

**Activity SYNTHESIS OF AMMONIA** 

Products: AMMONIA

Deaths: 0

Cost of damage:

USA

USA

Quantity 900 KG RELEASED

Poisoned: 0 Injured: 0

B8-12-22

AGS . 2/1/1 Potential interest : 3

DEER PARK / TEXAS

A new plastic head was made and installed on the secondary foam hatch in a "chlorowax" production unit. Failure of a 4-inch nozzle when normal operations were resumed. The work had been entrusted to subcontractors and pressure tests had been carried out.

Activity CHLORINE PLANT

Products: CHLORINE/HYDROCHLORIC ACID

Deaths: 0

Cost of damage:

AGS 2/1/7 Potential interest : 3

US-19

Quantity: 30 KG/70 KG RELEASED

Poisoned: 0

Injured: 0

88-12-28

US-20 USA **CLINTON/IOWA** 

PIPELINE AT THE FACILITY

**Description** 

During the transfer of nitric acid from one storage area to another, the operator left a drain valve between the pump and receiving tank open. The acid poured out onto the ground which was covered with a layer of calcium carbonate. More calcium carbonate was added to complete the neutralization process. It was subsequently disposed of by the facility's treatment station.

Activity: NITROGEN FERTILIZER INDUSTRY Products: NITRIC ACID

Cost of damage: ?

Quantity: 11.8 T SPILLED

Deaths: 0 Poisoned: 0

AGS: /1/

Potential interest: 1

Injured: 0

89-08-24

US-42 USA ALEXANDRIA / VIRGINIA

WASTEWATER TREATMENT PLANT

Description

25 mn leak on a chlonne evaporator temporarily shut down for maintenance. During the test of a jacket water heater, overpressure and failure of the pressure relief valve due to a small ammount of chlorine trapped in a pipe despite the evaporator was valved off. After the event, installation of a remote atarm anunciator panel and alarm-activated pressure refief valves. Upgradies of piping (carbon steel) and increased testing procedures, 50 people evacuated.

**Activity: WATER TREATMENT** 

Cost of damage: ?

Products: CHLORINE

Quantity: 0.65 t released

Deaths: 0 Poisoned: 5 Injured: 0

AGS

Potential interest: 4

WASTEWATER TREATMENT PLANT

89-09-15

AGS:

US-43 USA SALT LAKE CITY / UTAH

A 1 t cylinder of chlorine overheated and leaked at fuse plug, A chlorine "B" kit was used to stop the leakage. Product contamination due to water was at the origin of the overheating. 12 people injured and damage to vegetation. Measures taken to certify non-contaminated product by the shipper.

Activity: WATER TREATMENT

Cost of damage: ?

Potential interest: 4

**Products: CHLORINE** 

Quantity: 320 kg released

Deaths: 0 Poisoned: 12 Injured: 0

89-09-21

US-44

PAWTUCKET / RHODE ISLAND

**AMMONIA STORAGE** 

Description.

A neoprene gasket between tank and tank gauge split, allowing ammonia to escape during 2 hours. Water fog was used to knock down ammonia vapors. 100 people evacuated during 1 day. On and off-site plans activated.

**Activity: JEWELRY MANUFACTURE** 

Cost of damage: ?

Potential interest: 4

USA

LISA

Products: AMMONIA

Quantity, 120 kg lost

Deaths: 0
Poisoned: 3
Injured: 0

AGS:

US-45

**HOUSTON PASSADENA / TEXAS** 

**POLYETHYLENE REACTOR** 

Description:

89-10-23

Plant and contractors were clearing polyethylene pluggage from a reactor settling leg. As the leg was not completely isolated, an isolation Democ valve was opened allowing process gas under hig pressure to escape. The massive vapor cloud ignited shortly, The initial major explosion was followed by several explosions and fires brought under control after 10 hours. The blast destroyed the plant and threw debris 6 miles away. 23 people killed, 130 people injured in site, some minor injuries out site, pollution of the Houston ship channel by fire water runoff. Property damage exceeded \$750 million. Hundreds of people evacuated during 1 day.

Activity: POLYETHYLENE PLANT Cost of damage: >\$ 750 million

AGS: 4/5/4 Potential interest . 5

Products ISOBUTANE / ETHYLENE / HEXENE / HYDROGEN

Quantity: 40 t lost

Deaths: 23 Poisoned:

Injured: 130

89-10-31

US-46 USA

SALEM / MASSACHUSSETS

DRY CLEANING STILL

Description:

A gasket was installed on a perchlorethylene still made in a non-specified material. Gaket failed after heating. Absorbent was applied to clean up the spill. Off-site plan activated and 100 people evacuated during 1 day.

Activity: DRY CLEANING

Cost of damage: ? AGS Poter

Potential interest: 3

**Products: PERCHLORETHYLENE** 

Quantity. 500 kg released

Deaths: 0

Poisoned: 0 Injured: 0

89-11-09

US-47 USA

TORRANCE / CALIFORNIA

HANDLING OF CHLORINE CYLINDERS

Description:

A driver was delivering 150 pounds cylinders of chlorine. One cylinder falled off truck tailgate causing a valve leak. A chlorine "A" kit was installed on the valve to stop the leak. Activation of an emergency off-site plan and evacuation of 1000 persons during 1 day.

**Activity: BLEACH MANUFACTURE** 

Cost of damage: ?

AGS:

Potential interest: 3

Products: CHLORINE

Quantity: 10 kg released

Deaths: 0

Poisoned 0

Injured: 0

90-04-04

US-48 USA

MICHIGAN CITY/INDIANA

RAIL CAR PARKING AREA

Description:

Leak in a freight car containing ammonia left unattended in a parking area. Ammonia escaped from a loose fastening bolt on a valve, possibly the result of a criminal act. 7 000 people were evacuated, while other residents living nearby were instructed remain indoors. The contaminated soil was recovered and mixed with humus, then spread on farmland.

**Activity: RAILWAY TRANSPORTATION** 

Cost of damage: ?

AGS: 3/2/3 Potential interest: 3

Products: AMMONIA

Quantity: 75 M3 EXPOSED

Deaths: 0 Poisoned: 7

Injured: 0

90-04-22

US-33 USA

MUSKEGON/MICHIGAN

**OVERFILLING OF A TANK** 

Description:

As a result of a procedural error while conducting determinations of a phosphorus oxychloride/hydrochlonc acid/phosphoric acid mixture, the quantity-determination tank was overfilled. The mixture flowed through a scrubber intended for the elimination of fumes. This accelerated the vaporization process. The gases were released into the air over a period of 1 hour. Forty-six people outside the facility suffered from poisoning. Measures were taken to evacuate residents or to confine them indoors.

Activity CHEMICAL INDUSTRY

Cost of damage: 6

AGS: 3/3/2 Potential interest: 5

Products: PHOSPHORUS OXYCHLORIDE/HCL/H3PO4

Quantity 4T/2T/12T

Deaths: 0

Poisoned: 45 Injured: 0

90-04-23

US-34 USA

ROTHSCHILD / WISCONSIN

STORAGE FACILITY

Description:

Release of chlorine during work by subcontractors to dismantle a draw-off line thought to be no longer in use. The shut-off valve had not been closed. Evacuation and medical examination of 7 subcontractors and 11 of the facility's employees.

**Activity: POWER PLANT** 

Cost of damage:

AGS; 3/3/? Potential interest . 4

Products CHLORINE

Quantity: 250 KG RELEASED

Deaths: 0 Poisoned: 18

Injured: 0

90-05-09

US-35 USA

LAFAYETTE / INDIANA

ACCIDENT DUE TO WIND

Description:

In 120 km/h winds, siding fell off a building onto an S0<sub>2</sub> draw-off line. The line and compressed air pipe controlling the shut-off valve for the storage tank were simultaneously sectioned at a point upstream from the valve. 8 employees and 7 people outside the facility suffered from poisoning as a result of the toxic substances released over a 20-minute period.

**Activity. POPCORN FACTORY** 

Cost of damage: ?

**Products: SULPHUR DIOXIDE** 

Quantity: 20 T RELEASED OUT OF 60 T

Deaths: 0 Poisoned: 15

AGS: 4/3/? Potential interest: 5

injured: 0

90-05-15

US-36 USA

DECATUR/ILLINOIS

MAINTENANCE WORK ON A REACTOR

Description:

Maintenance work on a reactor in which the relief pipe was connected to the relief pipe in another reactor operating on the same discharge system. Backflow of furnes through the relief pipe in the second reactor in which the shut-off valve had remained open. One workman asphyxiated and 4 others hospitalized for poisoning.

Activity: CORN STARCH

Cost of damage:

AGS: 1/3/1 Potential interest: 3

Products: PROPYLENE OXIDE

Quantity: (photocopy illegible - Translator)

Deaths: 1 Poisoned: 4

Injured: 0

90-06-26

US-37 USA

WATERLOO / IOWA

UNLOADING OF A TRUCK

Description:

Failure of a hose supplied by the carrier during the unloading of a truck, followed by failure of the flow-control valve at the unloading station. The driver was unable to reach the emergency stop control. The leak lasted 45 minutes Fourteen firefighters and 13 residents were treated for minor irritation of the eyes, skin and respiratory tract. Damage to surrounding vegetation.

Activity: CHEMICAL INDUSTRY

Cost of damage:

AGS: 3/3/? Potential interest: 5

Products: AMMONIA

Quantity: 17 t RELEASED

Deaths: 0 Poisoned: 27 Injured: 0

90-07-19

US-38

USA

CINCINNATI / OHIO

**CLEANING OF A REACTOR** 

Description:

Rupture of a reactor's burst disk while the reactor was being cleaned with a mixture of warm solvents. The reactor was being heated manually without any regard for the prescribed procedures and safety checks. Toll: 2 dead and 60 employees and 30 people outside the facility injured. Evacuation of at least 1 000 residents and 80 subcontractors.

Activity: MANUFACTURE OF INKS

Cost of damage 6

AGS: ?/4/3 Potential interest: 5

Products "PX" SOLVENTS

Quantity: ?

Deaths: 2 Poisoned 0

Injured: 90

90-07-19

US-39 USA

ADDISON/ILLINOIS

Description:

Due to poor communication, the water chlorination system of a pool was started up while the pool was in use. Abnormally high levels of chlorine were recorded in the pool. 4 employees and 15 bathers suffered from poisoning.

**Activity: SWIMMING POOL** 

Cost of damage:

AGS Potential interest : 1

Products: CHLORINE

Quantity: 80 kg RELEASED

Deaths: 0 Poisoned: 19 Injured: 0

90-08-16

US-40 USA **GRAND PRAIRIE / TEXAS** 

MAINTENANCE WORK ON STORAGE FACILITY

Description:

Welding on a tank caused another nearby tank 35 feet (10 m) away to explode. The roof on the latter was ripped off by the explosion. Two men from the subcontracting construction firm were injured. The products generated by the accident were recovered in the retention pond.

Activity: MANUFACTURE OF PAINTS

Cost of damage: ?

AGS: 7/2/1 Potential interest: 3

Products ISOBUTYL ALCOHOL/TOLUENE/NAPHTHADeaths: 0

Quantity: 50 kg / 20 kg / 233 (LBS OR t?)

Poisoned: 0

Injured: 2

90-10-20

U\$-41

USA

**CUMBERLAND/RHODE ISLAND** 

PROCESS REACTOR

Description:

Accidental start-up of the heating system of a process staging vessel containing a mixture ready for polymerization. The reaction was attended by an increase in pressure making it necessary to open the pressure-release valve and to cool off the vessel. Five people outside the facility suffered from poisoning

**Activity: EPOXY RESINS** 

Cost of damage: ? AGS . 1/2/1 Potential interest : 3

Products. STYRENE / GLACIAL METHACRYLIC ACID

Quantity: 180 kg / 165 kg

Deaths: 0

Poisoned: 5