Syrautsläpp på en fabrik i metallindustrin.

920827 MARS 1992_10

Olyckan inträffade på en fabrik i metallindustrin under rutinmässiga betingelser. Vid klockan 8:20 blev en tank med vätefluorid överfylld. Vätefluoriden rann ut på golv och ned i avloppssystemet. Ungefär 2,5 m^3 rann ut. Nivåmätaren befanns vara bristfällig. Dels hade den ett flertal gånger tidigare visat en för låg nivå, och dels hade en säkerhetsbrytare inte fungerat som den skulle. Den syra som runnit ut i avloppet späddes med stora mängder vatten som hälldes efter den.

Inblandade ämnen och mängder

	CAS Nr.	Mängd
ämne		

Skador:

Människor:	2 personer skadades av utsläppet och fick föras till sjukhus.
Materiella:	Anläggningen.
Miljö/ekologi:	En del syra rann ut i avloppet. Inga effekter rapporterade.
Infrastruktur:	Inga.

Erfarenheter redovisade (Ja/Nej): Ja

Kortfattat anges förebyggande åtgärder.

Report Profile

Identification of Report:

country: FA **ident key:** 1992_010_01

reported under Seveso I **directive as** major accident **reports:** SHORT

Date of Major Occurrence: Time of Major Occurrence

start: 1992-08-07 **start:** 08:00:00

finish: finish:

Establishment:

name:

address:

industry: - not applicable -

Carbon Industry (cold rolled steel) Plant for acid storage

Seveso II status: not applicable: Yes **art. 6 (notification):** No

art. 7 (MAPP): No

art. 9 (safety report): No

Date of Report:

short: full:

Authority Reporting:

name:

address:

Authority Contact:

rep_cont_name:

rep_cont_phone:

rep_cont_fax:

Additional Comments:

a) - not applicable -

b) - not applicable -

c) - not applicable -

d) - not applicable -

e) - not applicable -

Short Report

country: FA **ident key:** 1992_010_01

Accident Types:

release: Yes **explosion:** No

water contamination: Yes **other:** No

fire: No

description:

SAFETY SYSTEMS OR OPERATORS INTERVENTION:... see Appendix Short Report / description of accident types

Substance(s) Directly Involved:

toxic: Yes **explosive:** No

ecotoxic: No **other:** No

flammable: Yes

description:

Hydrogen fluoride/EG-RL Annex III No.94, 2500 kg

Immediate Sources of Accident:

storage: Yes **transfer:** No

process: No **other:** No

description:

- not applicable -

Suspected Causes:

plant or equipment: No **environmental:** No

human: No **other:** No

description:

INITIATING EVENT AND CONSEQUENCES:... see Appendix Short Report / description of suspected causes

Immediate Effects:

material loss: No

human deaths: No

human injuries: Yes **community disruption:** No

other: No

ecological harm: No

national heritage loss: No

description:

2 persons hospitalized by release, material loss... see Appendix Short Report / description of immediate

effects

Emergency Measures taken:

on-site systems: Yes **decontamination:** No

external services: Yes **restoration:** No

sheltering: No **other:** No

evacuation: Yes

description:

INTERNAL TO THE ESTABLISHMENT:... see Appendix Short Report / description of emergency measures taken

Immediate Lessons Learned:

prevention: Yes **other:** No

mitigation: Yes

description:

MEASURES TO PREVENT ANY RECURRENCE OF SIMILAR ACCIDENTS:... see Appendix Short Report / description of

immediate lessons learned

Appendices for the FA / 1992_010_01 report

Appendix Short Report / description of accident types:

SAFETY SYSTEMS OR OPERATORS INTERVENTION:

- Precipitation of the acid vapours and dilution of acid in drain system with water

- Evacuation of the work area and alarm of the fire brigade.

OTHER SYSTEMS INVOLVED AND OPERATING CONDITIONS:

Adjacent area 2-4 and 5-8 and the stainless steel treatment plant.

ACCIDENT CASE HISTORY DESCRIPTION:

On August 7 1992 at about 8.20 hours the tank was overfilled during a normal operation procedure. Consequently the exceeding quantity of hydrogen fluoride flowed through the vent pipes along hallwalls and then into a drain for acid under repair. The drain was built from a special concrete on the ground so that the acid could not infiltrate the ground, but as a rain pipe crossed the concrete drain for acid, the acid could pass in the normal drain through an unfinished seal.

Appendix Short Report / description of suspected causes:

INITIATING EVENT AND CONSEQUENCES:

The accident resulted in release of ca 2.5 m3 of hydrofluoric acid caused by over filling of the tank. The acid was released at the connection between the venting pipe and the waste gas duct to the collecting container/pump-sump of the pickling plant.

As consequence of the rupture of the event pipe, the acid flowed into the drains.Due to the presence of acid vapours the employees evacuated from the work area.

CAUSES:

1) The level indicator which was often faulty showed a too low level

2) A safety circuit breaker installed in the cabinet opened for a not clear reason so that the safety over filling system was without tension and could not operate.

Appendix Short Report / description of immediate effects:

2 persons hospitalized by release, material loss

OUTSIDE THE ESTABLISHMENT

Penetration of acid to the drain.

Appendix Short Report / description of emergency measures taken:

INTERNAL TO THE ESTABLISHMENT:

After the discovery of the acid vapours, the fire fighting water sprinklers sprayed water in order to precipitate the vapours and to dilute them in the drain.

EXTERNAL TO THE ESTABLISHMENT:

Dilution of the acid in the drain by water from fire fighting hose and simultaneous

operation of immersion pumps (70 m3/h)

Appendix Short Report / description of immediate lessons learned:

MEASURES TO PREVENT ANY RECURRENCE OF SIMILAR ACCIDENTS:

1.Continuation of the reparation of the acid drain and isolation of the soil of the acid

filling station as requested by the industrial control (GAA).

2.The safety switch is locked by an auxiliary contact that can be triggered by an acoustic or optical signal, in this way a full tank will be signaled.

3.The input voltage for the safety switch will be controlled by a voltage relais with alarm signal.

4.The procedures underlined established that:

- before filling the tank, the functioning of the alarm system has to be tested

- the hydrogen fluoride tank is to be filled only when its contents is less than 4 m3

5.A measuring device will be installed to indicate lowest level (4 m3).