

Explosion och klorutsläpp vid lossning av feletiketrade kemikalier. Det framgår inte inom vilken industri.

920520 MARS 1992_05

Etiketterna för natriumhypoklorit och väteklorid på en tankbil hade förväxlats. Då tankinnehållet skulle tömmas hällde operatören 100 kg natriumhypoklorit i en förrådstank med 500 kg väteklorid. En våldsamt explosion uppstod där klorgas bildades. Klorgasen spreds i omgivningen. De lokala myndigheterna underrättades. En helikopter användes för att övervaka klorgasens spridning. Allmänheten varnades på radio. En kontrakterad expertfirma tog hand om det kontaminerade avfallet.

Inblandade ämnen och mängder

	CAS Nr.	Mängd
natrium hypoklorit lösning	7681-52-9	100 kg
väteklorid	7647-01-0	500 kg
klor	7782-50-5	okänt

Skador:

Människor: 80 personer utsattes för utsläppet, varav 34 fördes till sjukhus.
Materiella: Installationen skadades.
Miljö/ekologi: Inga effekter rapporterade.
Infrastruktur: Inga.

Erfarenheter redovisade (Ja/Nej): Ja

Kortfattat anges förebyggande åtgärder.

Report Profile

Identification of Report:

country: FA ident key: 1992_005_01

reported under Seveso I directive as major accident reports: SHORT

Date of Major Occurrence: Time of Major Occurrence

start: 1992-05-20 start: 10:00:00

finish: finish:

Establishment:

name:

address:

industry: - not applicable -

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_005_01

Accident Types:

release: Yes explosion: Yes

water contamination: No 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: No

description:

- Sodium hypochlorite solution, Chlorine bleaching pickle, E.E.C. CODE:017-011-01-9,... see Appendix Short

Report / description of substances involved

Immediate Sources of Accident:

storage: No transfer: No

process: No other: No

description:

- not applicable -

Suspected Causes:

plant or equipment: No environmental: No

human: Yes other: No

description:

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

Immediate Effects:

material loss: Yes

human deaths: No

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

other: No

ecological harm: No

national heritage loss: No

description:

- 80 persons exposed, 34 of them hospitalized by release,... see Appendix Short Report / description of immediate effects

Emergency Measures taken:

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

external services: Yes **restoration:** No

sheltering: Yes **other:** Yes

evacuation: No

description:

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

Immediate Lessons Learned:

prevention: Yes **other:** No

mitigation: No

description:

INTERNAL TO THE ESTABLISHMENT:... see Appendix Short Report / description of immediate lessons learned

Appendices for the FA / 1992_005_01 report

Appendix Short Report / description of accident types:

SAFETY SYSTEMS OR OPERATORS INTERVENTION:

Interruption of the loading operation.

ACCIDENT CASE HISTORY DESCRIPTION:

The supply lorry (with 2 semitanks I and II) came from the furnisher company, where semitanks I and II had been filled with chlorine bleaching pickle and hydrochloric acid respectively. The content of the 2 semitanks was to be transferred to the stationary tanks of the customer. The filling started with the customers hydrochloric acid tank. After transfer of about 100 l liquid an explosion took place in the customer tank and chlorine was released. The venting valve of the stationary tank was ripped off due to over pressure. Later it turned out that the labels of the semitanks had been interchanged, so that the tank actually containing chlorine bleaching pickle was labelled as hydrochloric acid.

Appendix Short Report / description of substances involved:

- Sodium hypochlorite solution, Chlorine bleaching pickle, E.E.C. CODE:017-011-01-9, 100 liters = 100 Kg;

- hydrochloric acid, C.A.S. CODE:7047-01-0, E.E.C. CODE:017-002-01-X, 500 Kg;

- Chlorine_

-

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Appendix Short Report / description of suspected causes:

INITIATING EVENT AND CONSEQUENCES:

Due to a previous mistake at the furnisher, the labels of the tanks had been

interchanged so the 2 tanks contained the opposite of the indicated substance. Due to this mistake the consumer company filled the tank for hypochloric acid with chlorine bleaching pickle. An explosion followed.

CAUSES

Due to a misunderstanding and to a mistake at the furnisher company the labels of the semitanks had been interchanged.

Appendix Short Report / description of immediate effects:

- 80 persons exposed, 34 of them hospitalized by release,
- Material loss (amount still undefined) The venting valve of the stationary tank was ripped off

Appendix Short Report / description of emergency measures taken:

EXTERNAL TO THE ESTABLISHMENT:

- Information of the local authorities (Firemen, Industrial control)
- Utilization of an helicopter for aerial surveillance
- Creation of a red cross sanitary tent
- warning by radio
- a specialised company fetched the contaminated substance

Appendix Short Report / description of immediate lessons learned:

INTERNAL TO THE ESTABLISHMENT:

- First aid tents manned with 4 medical doctors and 44 helpers
- 70 firemen and persons from the authorities to suck away the wrongly mixed liquid and the police were called.
- specialised company to suck away the liquid
- helicopter for aerial control
- warning via radio.

MEASURES TO PREVENT ANY RECURRENCE OF SIMILAR ACCIDENTS:

The possibility of reducing the hazards through a change of regulations and technical measures were considered. The following conclusions were drawn:

- 1) Installation of a pH controlled safety valve to avoid future interchanges between acid and base. The valve should be installed on the stationary tank of the customer.
- 2) To forbid simultaneous transport of chemicals, where a dangerous chemical reaction can take place if they are mixed.