

Utsläpp till följd av en oönskad reaktion på en kemikaliefabrik.

940414

MARS 1994_06

oklar

Vid tillverkning av keton-färgämnen råkade en operatör hålla vatten istället för de lämpliga kemikalierna i reaktionsblandningen. Då han såg reaktionsblandningen bli mjölkaktigt vit stängde han ventilen. En oönskad och oväntad reaktion hade startat. En tryckstegring pressade ångor till en skrubber. Räddningstjänsten informerades. Det är oklart hur situationen reddes ut. Det är också oklart hur de sju personer som skadades ådrog sig skadorna.

Inblandade ämnen och mängder

	CAS Nr.	Mängd
fosgen	75-44-5	18 kg
kloroform	67-66-3	525 kg
väteklorid	7647-01-0	4 kg
Michlers Keton "som klorid"	90-94-8 CAS nr avser Michlers keton	120 kg

Skador:

Människor: 7 personer skadades på fabriken.
Materiella: Begränsade skador på anläggningen.
Miljö/ekologi: Inga effekter rapporterade.
Infrastruktur: Inga.

Erfarenheter redovisade (Ja/Nej): Ja

Mycket kortfattat anges förebyggande åtgärder.

Report Profile

Identification of Report:

country: FA ident key: 1994_006_01

reported under Seveso I directive as major accident reports: SHORT

Date of Major Occurrence: Time of Major Occurrence

start: 1994-04-14 start:

finish: finish:

Establishment:

name:

address:

industry: - not applicable -

Plant for production of materials through chemical reaction.

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:** 1994_006_01

Accident Types:

release: Yes **explosion:** No

water contamination: No **other:** No

fire: No

description:

In a keton-colors manufacture (production of violet crystal) a worker had to feed N.N-Dimethylaniline to Chloroform, Phosgene and Dyphenilketone mixture manually. . He erroneously added water. As he noted a milky liquid, sudden closed the v... see Appendix Short Report / description of accident types

Substance(s) Directly Involved:

toxic: Yes **explosive:** Yes

ecotoxic: No **other:** No

flammable: Yes

description:

18 kg Phosgene, about 525 kg Chloroform, about 4 kg Hydrochloric acid, about 120 kg Michler's Keton as Chloride

Immediate Sources of Accident:

storage: No **transfer:** No

process: Yes **other:** No

description:

In a keton-colors manufacture (production of vilolet crystal) a worker had to doese water for Chloroform, Phosgene and Dyphenilketone N.N-Dimethylaniline manually operating the valve. He operating erroneously the valve doesed too much water.... see Appendix Short Report / description of immediate sources

Suspected Causes:

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

human: Yes **other:** No

description:

Human error (control error)

Immediate Effects:

material loss: Yes

human deaths: No

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

other: No

ecological harm: No

national heritage loss: No

description:

7 injuries within the establishment , Material loss 1TDM. No casualties outside the establishment

Emergency Measures taken:

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

external services: No **restoration:** No

sheltering: No **other:** No

evacuation: No

description:

The fire brigade was informed. 4 firemen and the chief operator with respirators entered the chambered and opened the connection of the boiler with the exhaust system and closed the pipe for the vapor scrubber (broken glass pipe). The chamb... see Appendix Short Report / description of emergency measures taken

Immediate Lessons Learned:

prevention: Yes **other:** No

mitigation: No

description:

The supply speedness of N.N-Dimethylaniline was reduced ,by a flow limiter, to a quantity that in case of a reaction with water there is not a pressure increase, which could lead to the plant destruction. The operating pressure of the safet... see Appendix Short Report / description of immediate lessons learned

Appendices for the FA / 1994_006_01 report

Appendix Short Report / description of accident types:

In a keton-colors manufacture (production of violet crystal) a worker had to feed N.N-Dimethylaniline to Chloroform, Phosgene and Dyphenilketone mixture manually. . He erroneously added water. As he noted a milky liquid, sudden closed the valve. Really he had started already an unwanted reaction. For this reason a pressure increase occurred in the stirring-vessel that through a glass-pipe which leads the vapors to the washing tower. It was released about 18 kg Phosgene, 525 kg Chloroform, 4 kg Hydrochloric acid and 120 kg Micheler's Ketone (as Chloride).

Appendix Short Report / description of immediate sources:

In a keton-colors manufacture (production of vilolet crystal) a worker had to doese water for Chloroform, Phosgene and Dyphenilketone N.N-Dimethylaniline manually operating the valve. He operating erroneously the valve doesed too much water. As he noted a milky liquid sudden closed the vale. Really he had a rapid unintentional reaction. For this reason a pressure increase occurred in the vessel that through a glass-pipe leads the vapors to the washing turm. It was realeased abot 18 kg Phosgene, 525 kg Chloroform, 4 kg Hydrochloric acid and 120 kg Micheler's Ketone (as Chloride).

Appendix Short Report / description of emergency measures taken:

The fire brigade was informed. 4 firemen and the chief operator with respirators entered the chambered and opened the connection of the boiler with the exhaust system and closed the pipe for the vapor scrubber (broken glass pipe). The chamber was decontaminated by ammonia water. The ventilation of the chamber was inverted by flue gas (1,5 air change), the sucked off atmosphere was driven in a washing column with soda lye. The Phosgene supply to all reaction kettles was interrupted, the chamber drains were closed. Two workers, which were close to the plant, had to be admitted to hospital for stationary care. Two other worker in the measuring observation tower through which led the escape way of the previous both workers, had to be ambulant treated. Three firemen were after the attack readily examined.

Appendix Short Report / description of immediate lessons learned:

The supply speedness of N.N-Dimethylaniline was reduced ,by a flow limiter, to a quantity that in case of a reaction with water there is not a pressure increase, which could lead to the plant destruction. The operating pressure of the safety valves will be reduced (from 6 to 2,56 bar). Water and Dimethylaniline have now two supplies.