

# Explosion och utsläpp vid lossning på en kemikaliefabrik.

961003 MARS 1996\_10

Olyckan uppstod i samband med lossning av en tankcontainer som anlände för påfyllning i en epiklorhydrintank. Emellertid misstänker man att containern var felaktigt märkt och att den innehöll natriumklorit. Då kemikalierna blandades vid lossning från container till förrådstank uppstod en kraftigt värmeutvecklande reaktion. Tryckstegringen gjorde att ångor släppte ut ur förrådstanken. Den brand som uppstod avgav en giftig, tjock rök som spreds ganska långt.

## Inblandade ämnen och mängder

	CAS Nr.	Mängd
epiklorhydrin	106-89-8	13300 kg
natriumklorit (25%)	7758-19-2	15000 liter
metanol	67-56-1	61000 liter
monoklorbensen	108-90-7	6160 kg

## Skador:

**Människor:** 6 brandmän fick vårdas på sjukhus efter att ha utsatts för ångorna. Ett stort antal människor utanför fabriksområdet anmälde besvär med symptom som illamående, ögonirritation, och irriterade slemhinnor och andningsvägar.

**Materiella:** Anläggningen skadades.

**Miljö/ekologi:** Inga effekter rapporterade.

**Infrastruktur:** Polisen spärrade av trafiken kring området. Allmänheten uppmanades att hålla sig inomhus bakom stängda dörrar och fönster. Somliga skolor på åtskilliga km avstånd höll eleverna inomhus under dagen.

## Erfarenheter redovisade (Ja/Nej): Ja

Mycket kortfattat anges förebyggande åtgärder.

## Report Profile

### Identification of Report:

country: FA ident key: 1996\_010\_01

reported under Seveso I directive as major accident reports: SHORT

### Date of Major Occurrence: Time of Major Occurrence

start: 1996-10-03 start: 10:30:00

finish: 1996-10-03 finish: 12:30:00

### Establishment:

name:

address:

industry: - not applicable -

Chemical Manufacture

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:** 1996\_010\_01

**Accident Types:**

**release:** No **explosion:** Yes

**water contamination:** No **other:** No

**fire:** Yes

**description:**

Explosion and fires following exothermic reaction in chemical storage vessel. Large fire accompanied by toxic plume which had off-site effect. Injury/health effects to persons off-site.

**Substance(s) Directly Involved:**

**toxic:** Yes **explosive:** No

**ecotoxic:** No **other:** No

**flammable:** Yes

**description:**

Epichlorohydrin (13300 kg), Sodium Chlorite 25% solution (15000 litres), Mixed chemicals in drum storage compound (61000 litres) including methanol (10460 kg) and monochlorobenze (6160 kg).

**Immediate Sources of Accident:**

**storage:** Yes **transfer:** Yes

**process:** No **other:** No

**description:**

Overpressurisation and rupture of epichlorohydrin storage vessel, leading to explosion. Fire spread to adjacent chemical drum storage area.

**Suspected Causes:**

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

**human:** Yes **other:** No

**description:**

Tank container delivered to site from Europe for offloading into epichlorohydrin storage. It is suspected that the tank container in fact contained sodium chlorite. Mixing chemicals in the storage vessel during offloading caused an exotherm... see Appendix Short Report / description of suspected causes

**Immediate Effects:**

**material loss:** Yes

**human deaths:** No

**human injuries:** Yes **community disruption:** Yes

**other:** Yes

**ecological harm:** No

**national heritage loss:** No

**description:**

6 firemen detained in hospital from effects of gases and smoke. Significant numbers of public (not yet quantified) reported respiratory effects, eye irritation, nausea etc. Police closed motorways locally, including both Seven Bridge crossi... see Appendix Short Report / description of immediate effects

**Emergency Measures taken:**

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

**external services:** Yes **restoration:** Yes

**sheltering:** Yes **other:** Yes

**evacuation:** Yes

**description:**

Public advised to go indoors, with windows and doors shut. Some schools, up to many miles away, kept pupils in.

**Immediate Lessons Learned:**

**prevention:** Yes **other:** Yes

**mitigation:** Yes

**description:**

1. Companies involved in consignment of load checking tanker and tank container documentation. Prudent for companies involved in similar activities to check their procedures.... see Appendix Short Report / description of immediate lessons learned

## Appendices for the FA / 1996\_010\_01 report

**Appendix Short Report / description of suspected causes:**

Tank container delivered to site from Europe for offloading into epichlorohydrin storage. It is suspected that the tank container in fact contained sodium chlorite. Mixing chemicals in the storage vessel during offloading caused an exothermic reaction, and subsequent overpressurisation, leading to release of flammable vapour which ignited.

**Appendix Short Report / description of immediate effects:**

6 firemen detained in hospital from effects of gases and smoke. Significant numbers of public (not yet quantified) reported respiratory effects, eye irritation, nausea etc. Police closed motorways locally, including both Seven Bridge crossings.

**Appendix Short Report / description of immediate lessons learned:**

1. Companies involved in consignment of load checking tanker and tank container documentation. Prudent for companies involved in similar activities to check their procedures.
2. Adequately of checking procedures at company which received the load are being scrutinised.