

## Brand i ett varulager.

881215 MARS 1988\_22

Vid svetsarbete i varulagret antändes en lastpall med nafta. Elden spred sig till en tank med nafta, men även till burkar med lösningsmedel. Svetsaren kände inte till att där fanns eldfarligt material så nära arbetsstället. En omfattande brand uppstod med kraftig rökutveckling och exploderande lösningsmedelsburkar. Byggnadens fönster krossades. Inget anges om hur branden släcktes.

### Inblandade ämnen och mängder

	CAS Nr.	Mängd
nafta	8030-30-6	okänt
natriumhydroxid	1310-73-2	okänt
asfalt (bitumen)	8052-42-4	okänt
lösningsmedel		okänt

### Skador:

**Människor:** Då rökutvecklingen tagit fart och åtföljdes av explosioner då lösningsmedelsburkarna detonerade uppstod viss panik i närheten av varulagret och folk flydde från sina hem.

**Materiella:**

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

**Infrastruktur:**

### Erfarenheter redovisade (Ja/Nej):

Kortfattat anges förebyggande åtgärder.

## Report Profile

### Identification of Report:

country: FA ident key: 1988\_022\_01

reported under Seveso I directive as major accident reports: SHORT+FULL

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

start: 1988-12-15 start:

finish: finish:

### Establishment:

name:

address:

industry: - not applicable -

Organic Chemical (Warehouse)

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:** 1988\_022\_01

**Accident Types:**

**release:** Yes **explosion:** Yes

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

**fire:** Yes

**description:**

A welding operation in the warehouse caused the fire of a pallet of naphtha which propagated to a naphtha tank storage and solvent cans and to the stockage of bitumen and phenolate. A big fire resulted with intense evolution of smoke accompa... see Appendix Short Report / description of accident types

**Substance(s) Directly Involved:**

**toxic:** Yes **explosive:** Yes

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

**flammable:** Yes

**description:**

- Naphtha (C.A.S. CODE: 8030-30-6): amount involved = not known.... see Appendix Short Report / description of substances involved

**Immediate Sources of Accident:**

**storage:** Yes **transfer:** No

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

**description:**

The accident occurred in the warehouse of an organic chemical industry. The components involved were a pallet of naphtha, a naphtha reservoir, solvents cans and bitumen and phenolate stored together.

**Suspected Causes:**

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

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

**description:**

CAUSES:... see Appendix Short Report / description of suspected causes

**Immediate Effects:**

**material loss:** Yes

**human deaths:** No

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

**other:** No

**ecological harm:** No

**national heritage loss:** No

**description:**

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:** No

**description:**

INTERNAL TO THE ESTABLISHMENT:

Fire brigade and safety devices were activated.

**Immediate Lessons Learned:**

**prevention:** No **other:** Yes

**mitigation:** No

**description:**

INTERNAL TO THE ESTABLISHMENT:

Maintenance of the warehouse facilities affected by the fire had been carried out.

## A Occurrence Full Report

**country:** FA **ident key:** 1988\_022\_01

### 1 Type of Accident

**remarks:** A welding operation in the warehouse caused the fire (code 1202) of a pallet of naphtha which propagated to a naphtha tank storage and solvent cans and to the stockage of bitumen and phenolate (code 1201). A big fire resulted with intense ev... see Appendix Full Report A / type of accident

### 2 Dangerous Substances

**remarks:** No data are available about the amount of the substances involved in the accident and about the composition and the amount of smoke produced by the fire.

### 3 Source of Accident

**illustration:** - not applicable -

remarks: - not applicable -

#### 4 Meteorological Conditions

precipitation none: fog: rain: hail: snow:

No No No No No

wind speed (m/s):

direction (from):

stability (Pasquill):

ambient temperature (°C):

remarks: - not applicable -

#### 5 Causes of Major Occurrence

main causes

technical / physical - not applicable -

- not applicable -

- not applicable -

- not applicable -

- not applicable -

human / organizational 5303 organization: organized procedures (none, inadequate, inappropriate, unclear)

5304 organization: training/instruction (none, inadequate, inappropriate)

5401 person: operator error

- not applicable -

- not applicable -

remarks: The accident occurred during a welding operation in the warehouse and was caused by operator's unawareness of the hazards involved with naphta (code 5401). This was due, both, to an insufficient operator training (code 5304) and to insuffic... see Appendix Full Report A / causes of major occurrence

#### 6 Discussion about the Occurrence

- not applicable -

**Type of Accident** country: FA ident key: 1988\_022\_01

event:

major occurrence 1307 explosion: VCE (vapour cloud explosion; supersonic wave front)

initiating event - not applicable -

associated event - not applicable -

event:

major occurrence 1201 fire: conflagration (a general engulfment fire)

initiating event 1202 fire: pool fire (burning pool of liquid, contained or uncontained)

associated event 1401 other: combustion products into air

#### Dangerous substances

country: FA ident key: 1988\_022\_01

**a) total establishment inventory**

CAS number: identity: Solvents

name from Seveso I Directive: - not applicable -

name from Seveso II Directive: - not applicable -

category from Seveso II: - not applicable -

other hazards (1): - not applicable -

other hazards (2): - not applicable -

maximum quantity (tonnes): -1

use of substance as: NORMAL FINISHED PRODUCT

**b) substance belongs to relevant inventory directly involved: Yes**

actual quantity: -1 potential quantity: -1

**c) substance belongs to relevant inventory indirectly involved: No**

actual quantity: -1 indir\_pot\_quant: -1

**a) total establishment inventory**

CAS number: 1310-73-2 identity: Sodium Hydroxide

name from Seveso I Directive: - not applicable -

name from Seveso II Directive: - not applicable -

category from Seveso II: - not applicable -

other hazards (1): - not applicable -

other hazards (2): - not applicable -

maximum quantity (tonnes): -1

use of substance as: STARTING MATERIAL

**b) substance belongs to relevant inventory directly involved: Yes**

actual quantity: -1 potential quantity: -1

**c) substance belongs to relevant inventory indirectly involved: No**

actual quantity: -1 indir\_pot\_quant: -1

**a) total establishment inventory**

CAS number: identity: Smoke [ Combustion Products ]

name from Seveso I Directive: - not applicable -

name from Seveso II Directive: - not applicable -

category from Seveso II: - not applicable -

other hazards (1): - not applicable -

other hazards (2): - not applicable -

maximum quantity (tonnes): -1

use of substance as: ABNORMAL PRODUCT

**b) substance belongs to relevant inventory directly involved: No**

actual quantity: -1 potential quantity: -1

**c) substance belongs to relevant inventory indirectly involved:** Yes

actual quantity: -1 indir\_pot\_quant: -1

**a) total establishment inventory**

CAS number: 8030-30-6 identity: Naptha

name from Seveso I Directive: - not applicable -

name from Seveso II Directive: - not applicable -

category from Seveso II: - not applicable -

other hazards (1): - not applicable -

other hazards (2): - not applicable -

maximum quantity (tonnes): -1

use of substance as: STARTING MATERIAL

**b) substance belongs to relevant inventory directly involved:** Yes

actual quantity: -1 potential quantity: -1

**c) substance belongs to relevant inventory indirectly involved:** No

actual quantity: -1 indir\_pot\_quant: -1

**a) total establishment inventory**

CAS number: 8052-42-4 identity: Bitumen (asphalt)

name from Seveso I Directive: - not applicable -

name from Seveso II Directive: - not applicable -

category from Seveso II: - not applicable -

other hazards (1): - not applicable -

other hazards (2): - not applicable -

maximum quantity (tonnes): -1

use of substance as: STARTING MATERIAL

**b) substance belongs to relevant inventory directly involved:** Yes

actual quantity: -1 potential quantity: -1

**c) substance belongs to relevant inventory indirectly involved:** No

actual quantity: -1 indir\_pot\_quant: -1

## **B Consequences Full Report**

country: FA ident key: 1988\_022\_01

### **1 Area concerned**

affected

extent of effects installation: Yes

establishment: Yes

off-site; local: No

off-site; regional: No

off-site; transboundary: No

**illustration of effects** - not applicable -

**remarks** As the fire resulted with intense evolution of smoke and was accompanied by the ... see Appendix

Full Report B / area concerned - remarks

## **2 People**

**establishment popul. emergency personnel off-site population**

**total at risk**

**immediate fatalities**

**subsequent fatalities**

**hospitalizing injuries**

**other serious injuries**

**health monitoring**

**remarks** As the fire resulted with intense evolution of smoke and was accompanied by the ... see Appendix

Full Report B / people

## **3 Ecological Harm**

**pollution/contamination/damage of:**

- **residential area (covered by toxic cloud)** Suspected
- **common wild flora/fauna (death or elimination)** Suspected
- **rare or protected flora/fauna (death or elimination)** Suspected
- **water catchment areas and supplies for consumption or recreation** Suspected
- **land (with known potential for long term ecological harm or preventing human access or activities)** Suspected
- **marine or fresh water habitat** Suspected
- **areas of high conservation value or given special protection** Suspected

**remarks** In the Original Report there is no evidence of significant ecological harms.... see Appendix

Full Report B / ecological harm

## **4 National Heritage Loss**

**effects on:**

- **historical sites** not applicable - **historic monuments** not applicable
- **historic buildings** not applicable - **art treasures** not applicable

**remarks** No data available.

## **5 Material Loss**

**establishment losses off site losses**

**costs (direct costs to operator) (social costs)**

**in ECU ECU**

**material losses**

**response, clean up, restoration**

**remarks** The accident caused the breakage of windows and glasses inside the establishment... see Appendix

Full Report B / material loss

## **6 Disruption of Community Life**

**establishment/plant evacuated disabled/unoccupiable destroyed**

- **nearby residences/hotels** Yes No No

- **nearby factories/offices/small shops** No No No

- **schools, hospitals, institutions** No No No

- **other places of public assembly** No No No

**interruption of utilities etc. no / yes duration**

- **gas** No

- **electricity** No

- **water** No

- **sewage treatment works** No

- **telecommunications** No

- **main roads** No

- **railways** No

- **waterways** No

- **air transport** No

**significant public concern none local level national level**

- **off site populations** No Yes No

- **media interest** No No No

- **political interest** No No No

**remarks** As the fire resulted with intense evolution of smoke and was accompanied by the ... see Appendix

## **7 Discussion of Consequences**

# **C Response Full Report**

country: FA ident key: 1988\_022\_01

## **1 Emergency Measures**

**taken - on site** - not applicable - - not applicable -

- not applicable - - not applicable -

- not applicable - - not applicable -

- **off site** - not applicable - - not applicable -

- not applicable - - not applicable -

- not applicable - - not applicable -

**still - on site** - not applicable - - not applicable -

**required**

- not applicable - - not applicable -

- not applicable - - not applicable -

- **off site** - not applicable - - not applicable -

- not applicable - - not applicable -

- not applicable - - not applicable -



**continuing contamination or danger**

**-on site** not applicable

**-off site** not applicable

**remarks** - not applicable -

## **2 Seveso II Duties**

### **pre-accident evaluation**

**Article item not due yet not done done/submitted evaluated**

**6 notification** No No No No

**7 policy (MAPP)** No No No No

**9 safety report** No No No No

**9, 10, 11 update** No No No No

**11 internal plan** No No No No

**11 external plan** No No No No

**13 informing public** No No No No

**9, 12 siting policy** No No No No

### **post-accident evaluation**

**Seveso II duty was actual were actual compared with actual**

**contingency consequences consequences, the**

**addressed? addressed? predicted extent was?**

**Article item**

**7 policy (MAPP)** not applicable not applicable not applicable

**9 current safety report** not applicable not applicable not applicable

**11 internal plan** not applicable not applicable not applicable

**11 external plan** not applicable not applicable not applicable

**13 informing public** not applicable not applicable not applicable

**9, 12 siting policy** not applicable not applicable not applicable

### **evaluation of safety organisation**

**organisational element element existed did element relate to actual circumstances of**

**yes / no no / partly / yes adequate?**

**- written policy objectives** No

**- specified management** No

**structure**

**- specified responsibilities** No

**- specified working procedures** No

**- specified procedures for** No

**assessment/auditing of**

**management system**

**- specified procedures for** No

**review and update of**

**management policy**

- specified general training No

**procedures**

- specified emergency No

**training procedures**

**evaluation of ecological impact control**

**organisational element element existed did element relate to actual circumstances of**

yes / no no / partly / yes adequate?

- ecological status review No

**before incident**

- potential ecological No

**consequences assessment**

- ecological impact review No

**after incident**

- ecological restoration No

**procedures**

- subsequent review of No

**restoration success**

remarks - not applicable -

### **3 Official Action Taken**

**legal action**

- not applicable -

**other official action**

- not applicable -

### **4 Lessons Learned**

**measures to prevent recurrence**

Maintenance of the warehouse f... see Appendix Full Report C / lesson learned - prevent

**measures to mitigate consequences:**

- not applicable -

**useful references:**

- not applicable -

### **5 Discussion about Response**

- not applicable -

## **Appendices for the FA / 1988\_022\_01 report**

### **Appendix Short Report / description of accident types:**

A welding operation in the warehouse caused the fire of a pallet of naphtha which propagated to a naphtha tank storage and solvent cans and to the stockage of bitumen and phenolate. A big fire resulted with intense evolution of smoke accompanied by the explosions of empty cans due to the heat intensity. The accident caused the breakage of windows and glasses inside the establishment.

### **Appendix Short Report / description of substances involved:**

- Naphtha (C.A.S. CODE: 8030-30-6): amount involved = not known.

- Sodium Hydroxide (C.A.S. CODE: 1310-73-2): amount involved = not known.

- Bitumen [Asphalt] (C.A.S. CODE: 8052-42-4): amount involved = not known.

- Solvents: amount involved = not known.

- Smoke produced by the combustion of the substances listed above: amount involved = not known.

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

#### **CAUSES:**

The accident occurred during a welding operation in the warehouse and was caused by operator's unawareness of the hazards involved with naphtha. This was due, both, to an insufficient operator training and to insufficient maintenance procedures.

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

#### **MATERIAL LOSS:**

The accident caused the breakage of windows and glasses inside the establishment but no data are available about the amount of the material losses.

#### **COMMUNITY DISRUPTION:**

As the fire resulted with intense evolution of smoke and was accompanied by the explosions of empty cans due to the heat intensity, the accident generated panic in the proximity of the installation and people escaped from their houses.

### **Appendix Full Report A / type of accident:**

A welding operation in the warehouse caused the fire (code 1202) of a pallet of naphtha which propagated to a naphtha tank storage and solvent cans and to the stockage of bitumen and phenolate (code 1201). A big fire resulted with intense evolution of smoke (code 1401) accompanied by the explosions of empty cans due to the heat intensity (code 1307).

### **Appendix Full Report A / causes of major occurrence:**

The accident occurred during a welding operation in the warehouse and was caused by operator's unawareness of the hazards involved with naphtha (code 5401). This was due, both, to an insufficient operator training (code 5304) and to insufficient maintenance procedures (code 5303).

### **Appendix Full Report B / area concerned - remarks:**

As the fire resulted with intense evolution of smoke and was accompanied by the explosions of empty cans due to the heat intensity, the accident generated panic in the proximity of the installation and people escaped from their houses but in the Original Report there is no evidence of significant effects outside the establishment.

### **Appendix Full Report B / people:**

As the fire resulted with intense evolution of smoke and was accompanied by the explosions of empty cans due to the heat intensity, the accident generated panic in the proximity of the installation and people escaped from their houses. No data are available about the number of people which escaped.

### **Appendix Full Report B / ecological harm:**

In the Original Report there is no evidence of significant ecological harms.

### **Appendix Full Report B / material loss:**

The accident caused the breakage of windows and glasses inside the establishment but no data are available about the amount of the material losses.

### **Appendix Full Report B / disruption of community life:**

As the fire resulted with intense evolution of smoke and was accompanied by the explosions of empty cans due to the heat intensity, the accident generated panic in the proximity of the installation and people escaped from their houses but in the Original Report there is no evidence of significant effects outside the establishment.

### **Appendix Full Report C / lesson learned - prevent:**

Maintenance of the warehouse facilities affected by the fire had been carried out.