

Explosion i ett slakthus.

941208

Extremt kortfattad

En kokare på 2,8 m³ som arbetade vid 10 bars tryck exploderade och dödade tre personer.
Delar av kokaren slungades 150 meter bort.

Inblandade ämnen och mängder

	CAS Nr.	Mängd
vattenånga		

Skador:

Människor:	Tre personer omkom.
Materiella:	Inga detaljer rapporterade.
Miljö/ekologi:	Inga effekter rapporterade.
Infrastruktur:	Inga effekter rapporterade.

Erfarenheter redovisade (Ja/Nej): Nej

Report Profile

Identification of Report:

country: FA ident key: 1800_121_01

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

Date of Major Occurrence: Time of Major Occurrence

start: 08/12/1994 start: 08:15:00

finish: 08/12/1994 finish:

Establishment:

name:

address:

industry: 2019 food and drink

meat production factory (butchery)

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: 1800_121_01

Accident Types:

release: No explosion: Yes

water contamination: No other: No

fire: No

description:

boiler explosion resulting in three fatalities.

Substance(s) Directly Involved:

toxic: No explosive: No

ecotoxic: No other: Yes

flammable: No

description:

water /vapour

Immediate Sources of Accident:

storage: No transfer: No

process: Yes other: No

description:

explosion of a boiler

Suspected Causes:

plant or equipment: No environmental: No

human: No other: Yes

description:

no information is given

Immediate Effects:

material loss: Yes

human deaths: Yes

human injuries: No community disruption: Yes

other: No

ecological harm: No

national heritage loss: No

description:

no information is given

Emergency Measures taken:

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

external services: Yes **restoration:** No

sheltering: No **other:** Yes

evacuation: No

description:

no information is given

Immediate Lessons Learned:

prevention: No **other:** Yes

mitigation: No

description:

no information is given

A Occurrence Full Report

country: FA **ident key:** 1800_121_01

1 Type of Accident

remarks: - not applicable -

2 Dangerous Substances

remarks: - not applicable -

3 Source of Accident

illustration: a series of photographs showing the exploded boiler, detached parts and the explosion site, a list of fragments of the boiler, a description of the boiler and a 1/1650 map of the area in which the accident occurred

remarks: The accident occurred with an industrial boiler producing steam for 5 steamers (cookers). The boiler is made in the form of a cylindrical body closed with 2 flat bases (lids). The boiler comprises a focus tube and 24 exhaust gas tubes. Its ... see Appendix Full Report A / source of accident -
remarks

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 5102 operation: component/machinery failure/malfunction

- not applicable -

- not applicable -

- not applicable -

- not applicable -

human / organizational - not applicable -

- not applicable -

- not applicable -

- not applicable -

- not applicable -

remarks: The supposed cause of the explosion is the drainage (dewatering) of the focus tube, perhaps caused by the failure of the water feeding system. Other hardware related causes might be possible as well.

6 Discussion about the Occurrence

- not applicable -

Type of Accident country: FA ident key: 1800_121_01

event:

major occurrence 1301 explosion: pressure burst (rupture of pressure system)

initiating event - not applicable -

associated event - not applicable -

Dangerous substances

country: FA ident key: 1800_121_01

a) total establishment inventory

CAS number: identity: water in form of steam

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): 7

use of substance as: - not applicable -

b) substance belongs to relevant inventory directly involved: Yes

actual quantity: 7 **potential quantity:** -1

c) substance belongs to relevant inventory indirectly involved: No

actual quantity: 0 **indir_pot_quant:** 0

Source of Accident - Situation country: FA ident key: 1800_121_01

situation

industry

initiating event - not applicable -

associated event - not applicable -

activity/unit

major occurrence 3106 process: power generation (burning fuel, etc.)

initiating event - not applicable -

associated event - not applicable -

component

major occurrence 4009 heat exchanger (boiler, refrigerator, heating coils, etc.)

initiating event - not applicable -

associated event - not applicable -

B Consequences Full Report

country: FA **ident key:** 1800_121_01

1 Area concerned

affected

extent of effects installation: Yes

establishment: Yes

off-site; local: Yes

off-site; regional: No

off-site; transboundary: No

illustration of effects the map shows the points in which the boiler and its fragments were

thrown... see Appendix Full Report B / area concerned - illustration of

effects

remarks the body of the boiler was thrown about 150 meters to the north, whereas the foc... see Appendix

Full Report B / area concerned - remarks

2 People

establishment popul. emergency personnel off-site population

total at risk -1 -1 -1

immediate fatalities 3 0 0

subsequent fatalities 0 0 0

hospitalizing injuries 0 0 0

other serious injuries 0 0 0

health monitoring 0 0 0

remarks - not applicable -

3 Ecological Harm

pollution/contamination/damage of:

- residential area (covered by toxic cloud) Yes

- common wild flora/fauna (death or elimination) No

- rare or protected flora/fauna (death or elimination) No

- water catchment areas and supplies for consumption or recreation No
- land (with known potential for long term ecological harm or No preventing human access or activities)
- marine or fresh water habitat No
- areas of high conservation value or given special protection No

remarks a nearby locksmith's shop is damaged

4 National Heritage Loss

effects on:

- historical sites None - historic monuments None
- historic buildings None - art treasures None

remarks - not applicable -

5 Material Loss

establishment losses off site losses

costs (direct costs to operator) (social costs)

in ECU FFR ECU FFR

material losses -1 -1 -1 -1

response, clean up, restoration -1 -1 -1 -1

remarks - not applicable -

6 Disruption of Community Life

establishment/plant evacuated disabled/unoccupiable destroyed

- nearby residences/hotels No No No
- nearby factories/offices/small shops No Yes 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 Yes
- 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 No No
- media interest No No No
- political interest No No No

remarks a nearby locksmith's shop was damaged and an electrical line is cut... see Appendix Full Report B

7 Discussion of Consequences

Ecological Components involved

country: FA ident key: 1800_121_01

type: - not applicable -

threatened: not applicable affected: No

C Response Full Report

country: FA ident key: 1800_121_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

no information is given

measures to mitigate consequences:

no information is given

useful references:

no information is given

5 Discussion about Response

- not applicable -

Appendices for the FA / 1800_121_01 report

Appendix Full Report A / source of accident - remarks:

The accident occurred with an industrial boiler producing steam for 5 steamers (cookers). The boiler is made in the form of a cylindrical body closed with 2 flat bases (lids). The boiler comprises a focus tube and 24 exhaust gas tubes. Its capacity is 2.8 m3 and its heating surface is 25 m2. Its operating pressure is 10 bars. It can produce 1 tonne of steam per hour. The boiler has been installed in 1981, was again tested in 1990, was inspected in 1993, and was inspected again 6 days before the accident occurred, following a repair.

Appendix Full Report B / area concerned - illustration of effects:

the map shows the points in which the boiler and its fragments were thrown

Appendix Full Report B / area concerned - remarks:

the body of the boiler was thrown about 150 meters to the north, whereas the focus tube was thrown 200 meters to the south. A hot water tank has been found 150 meters to the south, inside a locksmith's shop.

Appendix Full Report B / disruption of community life:

a nearby locksmith's shop was damaged and an electrical line is cut