

Utsläpp, explosion och brand på en kemikaliefabrik.

941102

Mycket kortfattad

Olyckan inträffade vid underhållsarbete på en tank som antogs vara tom. Tanken innehöll ett metomylbaserat ämne. Vid byte av en ventil kom ett dammoln av giftiga och brännbara ämnen att släppas ut. dammolnet exploderade och antände delar av anläggningen. Förbränningsprodukterna är också giftiga. De närmaste byggnaderna evakuerades och branden bekämpades.

Inblandade ämnen och mängder

	CAS Nr.	Mängd
phosmet	732-11-6	Max 10 ton
methomyl	16752-77-5	Max 2 ton
gödningsämnen ammoniumnitrat	6484-52-2	okänt

Skador:

Människor:	Tre av brandbekämparna skadades av utsläppet. Omfattningen av skadorna framgår inte.
Materiella:	Inga effekter rapporterade.
Miljö/ekologi:	Inga effekter rapporterade.
Infrastruktur:	Några tiotal personer evakuerades från de närmaste byggnaderna.

Erfarenheter redovisade (Ja/Nej): Nej

Report Profile

Identification of Report:

country: FA ident key: 1800_093_01

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

Date of Major Occurrence: Time of Major Occurrence

start: 02/11/1994 start: 12:30:00

finish: 02/11/1994 finish: 19:00:00

Establishment:

name:

address:

industry: 2004 pesticides, pharmaceuticals, other fine chemicals

chemical industry

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_093_01

Accident Types:

release: Yes **explosion:** Yes

water contamination: No **other:** No

fire: Yes

description:

release of toxic and flammable substances in air, resulting in health effects on 3 fire-fighters and evacuation of several tens of persons.

Substance(s) Directly Involved:

toxic: Yes **explosive:** Yes

ecotoxic: Yes **other:** No

flammable: Yes

description:

methomyl, phosmet, different fertilisers

Immediate Sources of Accident:

storage: No **transfer:** No

process: Yes **other:** No

description:

release of toxic dust in a conditioning installation

Suspected Causes:

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

human: Yes **other:** No

description:

equipment kept in operation during maintenance work

Immediate Effects:

material loss: Yes

human deaths: No

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

other: No

ecological harm: No

national heritage loss: No

description:

release of toxic dust, explosion of dust cloud, fire propagating to adjacent facilities

Emergency Measures taken:

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

external services: Yes **restoration:** No

sheltering: No **other:** No

evacuation: Yes

description:

evacuation of persons on-site

Immediate Lessons Learned:

prevention: No **other:** Yes

mitigation: No

description:

no information is given

A Occurrence Full Report

country: FA **ident key:** 1800_093_01

1 Type of Accident

remarks: the initiating event was the release of toxic and flammable pesticide dust in the air. The dust cloud explodes and a fire develops as a consequence of the explosion. Toxic combustion gas is released.

2 Dangerous Substances

remarks: the characteristics of methomyl and of phosmet can be found in the annexed sheet

3 Source of Accident

illustration: An information sheet on methomyl and phosmet is annexed

remarks: The accident occurred on a hopper (storage bin) which was supposed to be empty but which in fact contained lannate, a compound based on methomyl.

Some maintenance work was being executed on the hopper at that time

(substitution of a valve).

4 Meteorological Conditions

precipitation none: fog: rain: hail: snow:

No No No No No

wind speed (m/s): 0

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)

- not applicable -

- not applicable -

- not applicable -

- not applicable -

remarks: The design of the installation seems to be adequate, but the problem was that an operation

has been executed without having the equipment been "made available" - i.e. under the

highest safety conditions (problem of maintenance actions durin... see Appendix Full

Report A / causes of major occurrence

6 Discussion about the Occurrence

- not applicable -

Type of Accident country: FA ident key: 1800_093_01

event:

major occurrence 1101 release: gas/vapour/mist/etc release to air

initiating event 1401 other: combustion products into air

associated event - not applicable -

event:

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

initiating event 1101 release: gas/vapour/mist/etc release to air

associated event - not applicable -

Dangerous substances

country: FA ident key: 1800_093_01

a) total establishment inventory

CAS number: identity: Ammonium nitrate in form of fertilisers

name from Seveso I Directive: Ammonium nitrate in form of fertilisers

name from Seveso II Directive: Ammonium nitrate fertilisers

category from Seveso II: oxidising

other hazards (1): - not applicable -

other hazards (2): - not applicable -

maximum quantity (tonnes): 200

use of substance as: normal finished product

b) substance belongs to relevant inventory directly involved: Yes

actual quantity: 200 potential quantity: -1

c) substance belongs to relevant inventory indirectly involved: No

actual quantity: 0 indir_pot_quant: 0

a) total establishment inventory

CAS number: 732-11-6 identity: Phosmet (Phosphorodithioic acid,

S-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl]

O,O-dimethyl ester)

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): 10

use of substance as: starting material

b) substance belongs to relevant inventory directly involved: Yes

actual quantity: 10 potential quantity: -1

c) substance belongs to relevant inventory indirectly involved: No

actual quantity: 0 indir_pot_quant: 0

a) total establishment inventory

CAS number: 16752-77-5 identity: methomyl - Ethanimidothioic acid,

N-[[[(methylamino)carbonyl]oxy]-, methylester

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): 2

use of substance as: starting material

b) substance belongs to relevant inventory directly involved: Yes

actual quantity: 2 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_093_01

situation

industry

initiating event - not applicable -

associated event - not applicable -

activity/unit

major occurrence 3104 process: physical operations (mixing, melting crystallizing, etc.)

initiating event - not applicable -

associated event - not applicable -

component

major occurrence 4007 machinery/equipment (pump, filter, column separator, mixer, etc.)

initiating event - not applicable -

associated event - not applicable -

B Consequences Full Report

country: FA ident key: 1800_093_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 no information is given

remarks - not applicable -

2 People

establishment popul. emergency personnel off-site population

total at risk -1 -1 -1

immediate fatalities 0 0 0

subsequent fatalities 0 0 0

hospitalizing injuries 0 0 0

other serious injuries 0 0 0

health monitoring 0 3 0

remarks 3 fire-fighters were affected

3 Ecological Harm

pollution/contamination/damage of:

- residential area (covered by toxic cloud) No

- 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 preventing human access or activities) No
- marine or fresh water habitat No
- areas of high conservation value or given special protection No

remarks - not applicable -

4 National Heritage Loss

effects on:

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

remarks tests for the measurement of air toxicity performed at 100 meters distance from ... see

Appendix Full Report B / national heritage loss

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

- **media interest** No Yes No

- **political interest** Yes No No

remarks 4 houses were evacuated; the employees of a neighbouring plant were confined.... see Appendix Ful

7 Discussion of Consequences

- not applicable -

Ecological Components involved

country: FA **ident key:** 1800_093_01

type: 6103 inland: rural development

threatened: Suspected **affected:** Suspected

C Response Full Report

country: FA **ident key:** 1800_093_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_093_01 report

Appendix Full Report A / causes of major occurrence:

The design of the installation seems to be adequate, but the problem was that an operation has been executed without having the equipment been "made available" - i.e. under the highest safety conditions (problem of maintenance actions during operation).

Appendix Full Report B / national heritage loss:

tests for the measurement of air toxicity performed at 100 meters distance from the place of accident showed presence of HCl and H₂SO₄.

Appendix Full Report B / disruption of community life:

4 houses were evacuated; the employees of a neighbouring plant were confined.