

Brand till följd av utsläpp av kolväten på en petrokemisk anläggning.

920528 MARS 1992_06

Olyckan inträffade på en petrokemisk anläggning. En begränsad läcka uppstod vid en fläns på en rörledning i omedelbar närhet till en ugn. LPG läckte ut och man sökte strypa tillflödet, isolera rörsektionen och blåsa ren röret med inert kvävgas. Kvävgasen tryckte ut en större mängd LPG genom en andra och större läcka. LPG antändes och en explosion inträffade. Branden bekämpades av automatiska system och företagets interna brandkår. Manskap iförd skyddsutrustning stängde somliga ventiler manuellt. Proceduren att strypa tillflöden, avlägsna antändningskällor och isolera katastrofområdet fortsatte.

Inblandade ämnen och mängder

	CAS Nr.	Mängd
LPG		1000 kg

Skador:

Människor: 2 personer skadades av utsläppet.
Materiella: Omfattande ospecificerade skador på anläggningen.
Miljö/ekologi: Inga effekter rapporterade.
Infrastruktur: Inga.

Erfarenheter redovisade (Ja/Nej): Ja

Kortfattat anges förebyggande åtgärder.

Report Profile

Identification of Report:

country: FA ident key: 1992_006_01

reported under Seveso I directive as major accident reports: SHORT

Date of Major Occurrence: Time of Major Occurrence

start: 1992-05-28 start: 15:00:00

finish: finish:

Establishment:

name:

address:

industry: - not applicable -

Petrochemical (Processing crude oil for ethylene production by pyrolysis)

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:** 1992_006_01

Accident Types:

release: No **explosion:** No

water contamination: No **other:** No

fire: Yes

description:

SAFETY SYSTEMS OR OPERATORS INTERVENTION:... see Appendix Short Report / description of accident types

Substance(s) Directly Involved:

toxic: No **explosive:** No

ecotoxic: No **other:** No

flammable: Yes

description:

- Liquefied gas, 1000 kg;

Immediate Sources of Accident:

storage: No **transfer:** No

process: Yes **other:** No

description:

- not applicable -

Suspected Causes:

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

human: No **other:** No

description:

INITIATING EVENT AND CONSEQUENCES:... see Appendix Short Report / description of suspected causes

Immediate Effects:

material loss: Yes

human deaths: No

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

other: No

ecological harm: No

national heritage loss: No

description:

- 2 persons injured by release
- Material loss (About 1 mill DM), Damage by fire;

Emergency Measures taken:

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

external services: No **restoration:** No

sheltering: Yes **other:** No

evacuation: No

description:

INTERNAL TO THE ESTABLISHMENT:... see Appendix Short Report / description of emergency measures taken

Immediate Lessons Learned:

prevention: Yes **other:** No

mitigation: No

description:

MEASURES TO PREVENT ANY RECURRENCE OF SIMILAR ACCIDENTS:... see Appendix Short Report / description of

immediate lessons learned

Appendices for the FA / 1992_006_01 report

Appendix Short Report / description of accident types:

SAFETY SYSTEMS OR OPERATORS INTERVENTION:

Immediately after the start of the fire, the company fire brigade was alerted and the furnace taken out of service.

ENVIRONMENTAL AND ATMOSPHERIC CONDITIONS:

High atmospheric pressure, light wind.

ACCIDENT CASE HISTORY DESCRIPTION:

A leakage occurred in the power side flange of the pipeline in the immediate vicinity of a furnace which resulted in instantaneous discharge of the content of the pipeline. After taking out of operation the liquefied gas feed pump and depressurization of the pipeline via a flare, the pipeline was connected, via a hose, to the internal plant supply of nitrogen to prepare the flush cleaning of the pipeline with nitrogen. After starting the flush cleaning process, as described in 3.2, liquefied gas was released and ignited.

Appendix Short Report / description of suspected causes:

INITIATING EVENT AND CONSEQUENCES:

During flushing of a liquefied gas pipe with nitrogen, a release of accumulated liquefied gas took place through a leakage of the hose used. The emerging mixture ignited instantly in the on-duty furnace.

Causes:

The primary cause was the leak on the power side of the flange of the pipeline; the secondary through the unknown leak of the employed slush tube (nitrogen) conveyed to the leakage of the liquid/gas compound.

Appendix Short Report / description of emergency measures taken:

INTERNAL TO THE ESTABLISHMENT:

- Fire alarm according to emergency procedures;
- Closure of the input valves of liquefied gas and crude petroleum conducts;
- Fire fighting with internal fire extinguishing system;
- Closure of other valves using heat protective clothes/respirators and opening of the steam flush cleaning for ?? of the furnace.

- Disconnection of the furnace (F) from the system;
- The liquefied gas pipe was closed by blank flanges at the border of the installation;
- Control of pyrolysis furnace area for further leaks.

Appendix Short Report / description of immediate lessons learned:

MEASURES TO PREVENT ANY RECURRENCE OF SIMILAR ACCIDENTS:

- Evaluation of the incident in all production plants
- Renewed instruction of the service personnel on the production plant over the use of flexible tubes during drain and flush cleaning processes;
- Writing of service regulations for storage, characterization, test and use of hoses in process plants;
- The areas to give attention when working with liquefied gas are considered in the safety work training of the 3rd quarter of the year 1992.