

Utsläpp av kväveoxider från en kemikaliefabrik.

930708 MARS 1993_13

Vid katalytisk produktion av en nickellösning från metalliskt nickel och salpetersyra produceras normalt kväveoxider. Dessa avlägsnas normalt problemfritt. På grund av att kylvattensflödet utsattes för störningar av okänd anledning kom reaktionen att fortlöpa vid högre temperatur än normalt. Därmed producerades mer kväveoxider än anläggningen klarade av att avlägsna och ett utsläpp uppstod. Man sänkte omedelbart temperaturen på reaktionskärlet. Räddningstjänsten spolade vatten på reaktorns utsida. Allmänheten varnades.

Inblandade ämnen och mängder

	CAS Nr.	Mängd
kväveoxider		93 kg

Skador:

Människor:	Inga.
Materiella:	Utrustning skadades.
Miljö/ekologi:	Inga effekter rapporterade.
Infrastruktur:	Allmänheten uppmanades att stanna inne bakom stängda dörrar och fönster.

Erfarenheter redovisade (Ja/Nej): Nej

Report Profile

Identification of Report:

country: FA ident key: 1993_013_01

reported under Seveso I directive as major accident reports: SHORT

Date of Major Occurrence: Time of Major Occurrence

start: 1993-07-08 start: 12:00:00

finish: finish:

Establishment:

name:

address:

industry: - not applicable -

Plant for fabrication of substances through chemical transformation

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:** 1993_013_01

Accident Types:

release: Yes **explosion:** No

water contamination: No **other:** No

fire: No

description:

During catalyzer operation it is produced a nickel solution starting from nickel-metal and nitric acid. During the reaction it formed nitrous gas, that were sucked and absorbed in a coupled washer. Although the reaction temperature had been... see Appendix Short Report / description of accident types

Substance(s) Directly Involved:

toxic: Yes **explosive:** No

ecotoxic: No **other:** No

flammable: No

description:

Release of nitrous gases

Immediate Sources of Accident:

storage: No **transfer:** No

process: Yes **other:** No

description:

- not applicable -

Suspected Causes:

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

human: No **other:** No

description:

The cause of the uncontrolled reaction is still under investigation, being the cooling water line almost obstructed, for deposits in the valves, the available cooling water flow was insufficient. There were in the suction pipes of the solv... see Appendix Short Report / description of suspected causes

Immediate Effects:

material loss: Yes

human deaths: No

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

other: No

ecological harm: No

national heritage loss: No

description:

Within the establishment

damage in the electrical installation due to water and acids penetration.

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: No **other:** No

mitigation: No

description:

- not applicable -

Appendices for the FA / 1993_013_01 report

Appendix Short Report / description of accident types:

During catalyzer operation it is produced a nickel solution starting from nickel-metal and nitric acid. During the reaction it formed nitrous gas, that were sucked and absorbed in a coupled washer. Although the reaction temperature had been adjusted at 70oC it rised up to 120oC notwithstanding the application of usual procedures. Hence occurred an unusually strong development of nitrous gas (nitrogen dioxide) that from sucking off of NO2-absorption plant, could be no more handled.

Approximately 93 kg of nitrous gas escaped over the chimney of the washer and arrived in the katalisator building.

Appendix Short Report / description of suspected causes:

The cause of the uncontrolled reaction is still under investigation, being the cooling water line almost obstructed, for deposits in the valves, the available cooling water flow was insufficient. There were in the suction pipes of the solvent's vessel deposits of silicon, which generated as consequence a damage of the suction pipe.

Appendix Short Report / description of emergency measures taken:

Internal to the establishment:

As first action taken the temperature was decreased to the minimal value. In the aim to cool the vessel it was set a maximum cooling water quantity through throttling of the cooling water transport from other use. The plant was evacuated. The firebrigade executed an external spraying of the vessel.

External to the establishment:

Externally the streets in the interference zone were closed. The population was warn't by loud-speaker.