

ECTA WORKSHOP 2016

NOVOTEL BRUSSELS AIRPORT hotel, Belgium

Thursday 25th February 2016, 10:00 -16:00

INCIDENT DESCRIPTION

Driver + truck:

French speaking driver with basic knowledge of the Dutch language.

Fully trained for the product carried and the equipment that he was handling.

Fully aware of the site regulations and habits at the site since he often unloads there.

The tank was equipped with automatic pneumatic valves and two hoses.

The tank was not the one the driver was used to working with but it was of the same type.

Site:

Milk factory, unloading site near to the storage tanks with separate connections for each product to be unloaded.

Although the unloading area is fully contained with separate connections for each potential product, it is not separated from the areas around. During unloading FLT's and people on bikes pass approximately 3 meters from the unloading spot.

Product:

25 Tons of Nitric acid 67 % (UN2031, PGII & Transport Category 2) – may wish to make it clear that this makes it reportable under ADR 1.8.5

Weather conditions:

7° with some raindrops

Scenario:

Since the driver is well-known at the site the receiving operator just welcomes him and leaves him alone after arrival at the unloading spot.

The driver puts on all his protection including acid suit, rubber boots, gloves, facial shield, etc and connects his hose to the correct connection.

Has always he has to bend his hose significantly due to the fact the connection point of the tank and the tanktruck are close to each other. Then the driver opens his end and bottom valves, the receiving valves and after checking his connections, starts his compressor.

He ensures that the pressure reaches 1,6 bar, which is necessary for the site, and inspects again the hose and connections.

He is assured that the unloading is going well and he leaves the unloading area to grab a coffee in the canteen which is only 10 meters in front of his truck with a clear view of the unloading point. This is a habit that all drivers have at this site and is never questioned by the site operators.

The moment he's inside the canteen (behind a glass door) the driver sees a huge vapour/gas release

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at/behind his truck.

The alarm plan is launched and the factory fire brigade starts the necessary measures to contain the incident.

The driver is not allowed to come near his truck (although fully equipped) to shut down his compressor and so to release the pressure from the tank.

After a while the driver makes himself clear to the fire marshal and under a protection of a water spray they manage to shut down the compressor, release the pressure and stop the leakage by closing the hydraulic valves on the truck (all outside the danger zone).

Result of the incident

No personal injuries occurred but the material damage is significant. A steel construction near to the unloading spot and the nearest tank as well as the rear end of the truck were sprayed by the corrosive cloud and corroded. About 500 litres of product was lost and the plant had to shut down for five hours. Also a production of half a day was lost due to the accident.

Supplementary elements after investigation:

The leakage occurred in a bend of the unloading hose. The hose being made of EPDM with only a minor resistance towards nitric acid, was a spare one on the truck. Normally UPE hoses are used to unload this product. General procedure is that nitric acid trucks are always equipped with 2 of the same hoses. The reason that one was of a lesser quality could not be detected, probably a driver had changed in the days before the accident.

The hose as such was within inspection period but the outer indication (a purple line) wasn't very clear anymore. However, the identification plate on the hose clearly indicated the material of the hose.