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Unloading Lye and Acid bulk chemicals	Revision : 1.0
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Standard	

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Rev. ¹	Date (dd-mm-yyyy)	Nature of change	Prepared by	Authorised by
1.0	20-09-11	First standard	W. Wold	J. v/d Rakt

¹ Only 5 latest revisions

1. Purpose/background

Purpose: To receive and unload bulk chemicals safely

Background: The basis for this standard is the analysis of a nitric acid accident that occurred during the unloading of a tanker and the PGS 30 (Dutch legislation), which is in itself based in part on European legislation such as the ADR (Accord Européen relatif au transport international des marchandises dangereuses par route).

2. Scope

This procedure applies to all FrieslandCampina production locations in Europe where bulk chemicals are received and stored. Where local legislation imposes more robust requirements, the local legislation applies.

This standard in general must be implemented before 31 December 2012, unless otherwise stated for some specific elements in this standard.

3. Responsibilities

Each location must assign the following responsibilities to a job holder and record this in the job profiles of these employees)

Because each organization is different, it is not possible to assign responsibilities to jobs in advance. The jobs listed serve as an example only.

Activity	Gate manager	Factory shift manager		
Receipt of lye and acid bulk chemicals				
Maintenance of the storage tanks and fittings				
Standards and conditions documented				

R = Responsible A= Accountable C=Consult I=Inform

4. Definitions

Supplier	The firm that delivers the lye and acid bulk chemicals
Transport company	The transporter that actually transports the consignment by road
Driver	The person who actually drives the vehicle
Shift manager / operator	The person who is employed by the company at the unloading bay who carries out /supervises the unloading and is responsible for releasing the load in accordance with regulations
MSDS / SIS	Materials safety data sheet / Safety information sheet
HL / HHL	High level / highest high level
SIL	Safety integrity level

5 Procedure/requirements

5.1 Unloading bay

An unloading bay must comply with at least the following conditions:

- demarcated area;
- no obstacles;
- adequate lighting;
- location is easy to reach with sufficient space around the vehicle to carry out the work without hindrance;
- has robust protection from the other "traffic" on site (for example, with a safety rail);
- has no passageway or footpaths in the direct area, or has ways to 'close' the passageway or footpaths during unloading;
- physical separation of unloading points;
- a spill containment tray under the connection for the unloading hose for each connection point;
- water repelling floor with gradient to the company sewerage system at existing unloading bays;
- fitted with tank ventilation
- fitted with an emergency stop facility (to close unloading hose and possibly inlet hose of compressed air);
- guarantee of personal supervision during unloading at the start and stop (other supervision by example camera is not allowed);

For unloading bays to be constructed or changed:

- Water repelling floor to prevent leakage to the soil and a drain to an emergency waste water buffer tank to contain at least the contents of a tanker;
- Has to be fitted with an unloading pump adapted to the required capacity

And anyway before 1 October 2014 the unloading bay

- has to be fitted with an unloading pump adapted to required capacity

5.2 Unloading

Each location must have operating instructions (separate instruction card) and training for the employees involved, establishing as a minimum:

- which conditions must be met to admit bulk chemical vehicles for unloading;
- how the unloading should proceed;
- ban on climbing on the bulk vehicle;
- how the connection and disconnection is supervised;
- what communication is possible during the unloading
- how the unloading should be carried out;
- the vehicle must be secured against unintended movement during unloading with chocks (wheel-blocks);
- which checks should be performed once unloading is completed;
- which emergency procedures there are in the event of an emergency during unloading;
- report dangerous situations / near misses and accidents.

The driver has to supervise the unloading process in the vicinity of the truck.

During connecting and disconnecting an employee of FrieslandCampina should be present. During unloading contact with a responsible employee of FrieslandCampina should be possible. The procedures/instructions should be available in the local language and other languages stated in the agreement with the supplier (see 5.6).

An agreement should be made with the suppliers if non-native speaker drivers may be used to ensure a limited number of languages with the objective to make sure that there is no failure in communication because of language barriers.

5.3 Tanks en fittings

- the connections must be attached so that it is impossible to mix acids and/or lyes together and/or with reacting substances;
- the system must be secured so that it is impossible to overburden the hoses / fittings / venting / tanks during unloading;
- the tanks must be fitted with a double fail safe (SIL) high-level security linked to an alarm at HL and an alarm and automatic system stop at HHL;
- the tanks must be fitted with an overflow safety device which empties into the spill containment tray safely and without risk to the environment;
- the tank should be placed in a collection tray or should be double-walled with a spill containment tray under the pump;
- the spill containment tray must be fitted with failsafe leak detection and may not be connected to the sewerage system;
- Gas washer on the tank outlet.

5.4 Maintenance

- the unloading facilities, hoses, fittings and bulk chemical storage must be maintained in accordance with the regulations.
- maintenance must be evidenced and carried out by experts.
- regular inspections must be evidenced and carried out in accordance with the regulations.
- the work carried out on the unloading facilities and storage must be documented.
- all hoses, fittings and tanks must be checked regularly in accordance with the regulations
- for all maintenance on tanks and pipes a work permit must be requested

5.5 Emergency provisions

- there must be at least one emergency shower and eye shower in the vicinity of the unloading bay and this must be freely accessible during an emergency;
- the water supply for the emergency shower is conditioned so that the rinse water is guaranteed to be of a constant temperature;
- a safety information sheet for the substance in question is available in the vicinity of the unloading bay;

- the personal protective clothing prescribed in the safety sheets must be present in the immediate vicinity of the unloading bay and must be worn during unloading;
- a wind vane must be visible from the unloading bay;
- the facility must have an emergency button and an emergency telephone;
- the company first aid team must be aware of the specific risks of the chemicals present, have the necessary resources to carry out first aid in the event of accidents involving chemicals and be adequately trained to deliver this specific aid;
- emergency protocol, to include: How supervision is organized, who should be warned, how the environment must be secured, how the internal and external alarm works, what action needs to be taken to avoid environmental damage /risk for the environment around the building;
- water hose to dilute any acid spillage / to wash clean and to clean the unloading hose.

5.6 Language of drivers

- drivers should be able to speak the local language;
- unless agreed otherwise in a contract with suppliers in which is stated what languages the driver may speak.

6 Documents to be used

- Transportation Bill of Loading
- Safety information sheet (at each unloading point, cleaning point, storage and dispensing point there must be a safety information sheet for the substance in question)

7 Process flow diagram

A flowchart has been drawn to clarify the proceedings of lye and acid bulk unloading in annex I

