

AT-06

Ver 2.1

Road Transport





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AT-06 : Road Transport

1. Application scope

This document is intended for companies transporting animal feed and other products intended for the feeding of animals, for own account as well as for account of third parties.

This document focuses on the cleaning and disinfection of the loading space, prior to the loading and transportation of a product intended for the feeding of animals (see point 2).

Special attention is being paid to the application of the Legislation concerning transport of animal by-products not intended for human consumption, or of products containing them. This is addressed in point 3 and 4 of this document.

The specific case of transport of medicated animal feed is treated in point 13 of document « AC-02: Production of animal feed » and in documents « AT-13 – Procedure for the use of a fine dosing device ».

With the exception of these specific cases described in the Legislation, there are for the majority of transports no specific cleaning required prior to the loading of a product intended for animal feed.

It is up to the Company to determine which cleaning regime will be most effective, and thus contribute the most to food safety. Through suggestions and examples, point 5 of this document will aid the company in determining the most adequate cleaning regime.

2. Basic principles as regards cleaning and disinfection.

As also mentioned in document 'AC-05: Road Transport of Animal Feed', cleaning and disinfecting may be required before loading the compartments.

The following basic principles for cleaning and disinfection can be distinguished:

- A: Dry cleaning (e.g. brush, air pressure)
- B: Cleaning with water
- C: Clean with water and cleaning agent
- D: Cleaning with water, (cleaning agent) and disinfectant I.

A cleaning with a disinfectant may be recommended, if necessary, following transportation of animal by-products or feed containing them (see point 3).

Some of the products, because of their chemical composition, will only require a specific cleaning agent (possibly without use of water).



Choice of a cleaning agent

When a cleaning agent is required, the choice will be made in function of:

- The loading space (steel/aluminum/stainless steel, the presence of joints (rubber) etc.
- The type of previous load
- The resources available to the company (cleaning installation, presence of warm water etc.
- No adverse effects for the animal feed which will then be transported.

After transportation of certain chemical products and/or fat (fat or oil), which are not soluble in water, a cleaning agent will be required, if one really wants to make the loading space suitable for transport of animal feed.

Other materials may also result in crust formation (e.g. concrete). In this case, a quick water cleaning after transport will limit the risks

The addition of water to a cleaning agent (acid or alkaline) may sometimes be necessary in order to eliminate the last dirt.



It is important to note, that certain product residues may react to the cleaning agent, thus constituting a danger for the user.

Upon choosing a cleaning agent, the same considerations must be taken into account.

In addition should be checked whether the product has indeed been approved for surfaces coming into contact with animal feed (see AC-01: General provisions).

As the above mentioned examples show, strict compliance with the supplier's instructions are required, both, for the sake of the operator's safety as well as for the efficiency of the cleaning

2.1. Cleaning Regime A (dry cleaning)

With a dry cleaning, the loading space, after unloading, is cleaned by means of vacuuming, blowing or sweeping. Areas that are difficult to access, should be cleaned manually, if necessary, by means of a duster or something similar. If after dry cleaning, the result still seem unsatisfactory, a switch to water cleaning will be required.

2.2. Cleaning Regime B (water cleaning) or C (cleaning with water and a cleaning agent)

After transport of e.g. wet or sticky substances or products, a water cleaning (with or without cleaning agent) may be required.

The cleaning agent will be adapted according to the nature of the previous transport, and is used in accordance with the supplier's instructions for use.

Areas difficult to access should be cleaned manually.

During cleaning it is important for water to drain away. Allow drying of the transport vehicle, in function of the subsequent load..

2.3. Cleaning regime D (cleaning with water + cleaning agent+ disinfection)

Such a treatment will generally only be effective after a prior cleaning with water and a cleaning agent (as described above).

In all cases, only the legally authorized (approved) disinfecting agents may be used, and only in doses indicated in the instructions for use.

The choice of disinfecting agents will depend on the nature of the biological risks linked to the previous load. Criteria will include the following:

- The structure of the transport means (open/closed vehicle, steel/stainless steel, presence/absence of rubber, etc.)
- It's intended purpose (bactericidal, fungicidal and/or operation of the virucidal disinfecting agent)
- Compatibility of the disinfecting agent with the nature of the products, intended for animal feed.

The instructions for use, drawn up by the manufacturer, and the precautionary measures related to the disinfecting agent, are required to be followed.

2.4. Elaboration of basic principles (for cleaning and disinfection) and validation

The actual transport operator should develop a detailed cleaning (instruction) protocol including the basic principles for each type of transport means. This cleaning protocol must describe in a detailed manner the



way as to how the different cleaning regimes, depending on the previous load, are carried out. In this cleaning protocol, the attention must primarily be focused on those areas difficult to clean, such as accessories, tubes, pipes, hoses, pumps, dead angles, corners etc. These points of attention should, per transport means, be reported in the protocol, indicating which parts might possibly need to be disassembled before cleaning. Advice relating to specific procedures and products to be used, should be obtained from the supplier of the cleaning- and disinfecting agents.

Each cleaning protocol, drawn up for a specific loading area must be checked for its effectiveness (validated) by the company. Then this cleaning protocol may be used, for each loading area constructed in a similar way, as a reference cleaning method.

2.5. Control and inspections

After each cleaning one should check if the cleaning was sufficient .

For tanks, sealing after a cleaning regime might be used as an additional control.

3. Transport of animal by-products, not intended for human consumption, or products containing them

3.1. General

Specific measure have been defined in the legislation for transport of animal by-products or animal feed containing animal by-products.

The Regulations (EC) No. 999/2001, (EC) No. 1069/2009 and (EC) No. 142/2011 determine these specific conditions.

It is possible that a transport operator, in the context of his activities, may be required to transport the following products:

- Animal by-products not intended for human consumption.
- Derivate products (e.g. fish meal) or animal feed containing them.

All necessary measures should be taken in order to ensure that these products are identifiable, and are kept separate during transport, and remain identifiable.

The transport of animal by-products should be conducted in suitable temperature conditions, in order to avoid any danger to human or animal health.

Depending on the destination of the collected materials, a distinction should be made between the following requirements:

- 1) Category-3 materials, derived from meat or meat products, intended for the production of raw feed for pet animals: max. + 7 °C.
- 2) Category-3 materials, intended for feed materials or feed for pet animals (other than raw) :
 - a. Under refrigerated form: max. + 7 °C.
 - b. Under frozen form: min. - 18 °C.
 - c. Exceptions:
 - If the product is collected within 24 hours prior to processing, and the subsequent transport is conducted with the aid of a transport vehicle whereby the storage temperature is maintained.
 - For milk products or milk-derivatives, stable at room temperature due to the treatment and/or characteristic inherent to these materials.
 - If intended for feed for fur animals.



Refrigerated vehicles used for transportation, must be designed in a way so as to maintain the required temperature for the entire duration of the transport.

Vehicles and reusable containers, as well as all reusable equipment or devices, coming into contact with animal by-products (category-3 materials) must be kept clean (Regulation (EU) 142/2011– Annex VIII – Annex I).

Unless they are intended for transporting specific animal by-products, in a way so as to prevent any danger of cross-contamination (e.g. dedicated transport), they must:

- a) Be clean and dry before use; and
- b) Must be cleaned, rinsed and/or disinfected after every use (where necessary) in order to prevent cross-contamination.

It is primarily the company who decides which cleaning will be the most adequate to be compliant with the requirements. It is however, recommended, to perform a disinfection after each transport of animal products.

Reusable containers must be specifically intended for transport of a particular animal by-product, to the extent necessary, in order to prevent cross-contamination.

If allowed by the Competent Authorities, reusable containers may be used:

- a) For transport of different animal by-products, provided they are cleaned and disinfected after every transport, in order to prevent cross-contamination;
- b) For transport of products of animal origin, or feed materials containing products of animal origin, no longer intended for human consumption because of commercial reasons (e.g. not sold), or because of manufacturing defects or packaging defects (or other problems not constituting a risk to human or animal health. In this case, the reusable containers must have been used for transport of products intended for human consumption, and the transport should have been performed under conditions preventing cross-contamination.

Vehicles and reusable containers, as well as all equipment or devices coming into contact with feed of animal origin, or products containing them, should be kept clean. Except in particular cases (see point 3.2), the most adequate cleaning regime will be defined and applied by the company with the aim of preventing any form of cross-contamination.

Document 'AT-11 : Animal by-products provides additional information as regards these products.

3.2. Specific provisions

In some specific cases, as described in the legislation (see Annex IV of Regulation No. (CE 999/2001) vehicles and reusable containers, used for bulk transport of certain derivative products or products containing derivative products, may only be reused for other purposes following cleaning and after having been inspected by the competent authorities of that country.



Transport of derivative products (Regulation (EC) no. 999/2001 –Annex IV)

Bulk transport of processed animal proteins and products containing them.

Bulk transport of processed animal proteins, with the exception of fishmeal and products containing such proteins, including organic fertilizers and soil improvers, must be performed in vehicles designated to that purpose (dedicated transport).

The vehicles may only be used for other purposes following cleaning, and after having been inspected by



the competent authorities (in Belgium : FASFC) Regulation (EC) No – Annex IV – Point III.C. a.

Bulk transport of fishmeal intended for animal feed

Bulk fishmeal transported in vehicles dedicated to that purpose (dedicated transport) [Regulation (EC) No. 999/2001 - Annex IV – Point III. C.b], may possibly be used for transport of animal feed containing the same derivative products. [Regulation (EC) No. 999/2001 - Annex IV – Point III.C.c.i].

Where relevant, these vehicles may also be used for other purposes:

- If the company has a control system in place, recognized by the competent authority, to prevent cross-contamination. This control system consists of at least the following measures:
 - a. An administration of transported material, and of the cleaning of the vehicle, and
 - b. Regular sampling and analysis of animal feed transported to detect the presence of fishmeal [Regulation (EC) No. 999/2001 - Annex IV – Point III.C.c.iii].
- Or, following cleaning and after they have been inspected by the competent authority (in Belgium : FASFC) Regulation (EC) No. 999/2001 Annex IV – Point III.C.c.ii].

Bulk transport of dicalcium phosphate and tricalcium phosphate of animal origin, blood products and blood meal, intended for animal feed.

Bulk transport of dicalcium phosphate and tricalcium phosphate of animal origin, blood products derived from non-ruminants and blood meal originating from non-ruminants must be performed in vehicles designated to that purpose (dedicated transport), [Regulation (EC) No. 999/2001 Annex IV – Point III.C.b]

They may possibly be used for transport of animal feed, containing the same derivative product [Regulation (EC) No. 999/2001 - Annex IV – Point III. C.c.i]

When necessary, these vehicles may also be used for other purposes following cleaning and after having been inspected by the competent authorities (in Belgium : FASFC) Regulation (EC) No – Annex IV . 999/2001 - Annex IV – Point III.C.c.ii].



Transport of animal feed containing derivative products (Regulation (EC) No. 999/2001 – Annex IV)

Bulk transport of animal feed containing animal proteins

Bulk transport of animal feed containing processed animal proteins (with the exception of fishmeal), must be performed in vehicles designated to that purpose (dedicated transport).

The vehicles may only be used for other purposes, following cleaning and after having been inspected by the competent author (in Belgium: FASFC [Regulation (EC) No – Annex IV – Point III.C.a].

Bulk transport of animal feed containing blood products originating from ruminants or processed animal proteins, with the exception of fishmeal

Bulk animal feed, including feed for pet animals, containing blood products originating of ruminant origin, or processed animal proteins other than fishmeal, must be transported in vehicles, physically separated from vehicles for bulk feed intended for farmed animals, with the exception of feed for carnivorous fur animals (Annex IV – Point III.D).

Bulk transport of animal feed (for non-ruminating farm animals), containing fishmeal, phosphates of animal origin, or blood products originating from non-ruminants

Bulk transport of animal feed, containing the following derivative products:

- Fishmeal (Annex IV – Point II.B.e) (with the exception of carnivorous fur animals);
- Dicalcium phosphate and tricalcium phosphate of animal origin (Annex IV – Point II.C.c (with the exception of carnivorous fur animals);



- Blood products originating from non-ruminants (Annex IV – Point II.D.e)

Must be transported by means of vehicles which do not at the same time transport feed for ruminants. These vehicles may subsequently be used for transport of feed for ruminants, following the procedure described in Point 4 of this document AT-06.

Bulk transport of fishmeal containing milk replacers for young farmed animals of the ruminant species

Fishmeal containing milk replacers in bulk, intended for young farmed animals of the ruminant species, must be transported by means of vehicles which do not at the same time transport other feed for ruminants. If the vehicle is subsequently used for transport of other feed for ruminants, it shall be cleaned thoroughly in accordance with the procedure described in Point 4 of this document AT-06 (Annex IV – Point II.B bis f).

Bulk transport of feed for fish, containing blood meal

Bulk feed for fish containing blood meal, must be transported in vehicles which do not at the same time transport feed for farm animals other than fish. If the vehicle is subsequently used for transport of feed for farm animals other than fish, it must be cleaned thoroughly in accordance with the procedure described in Point 4 of this document AT-06 [Annex IV – Point II.D.e]

Bulk transport of feed for pet animals, and feed for carnivorous fur animals containing dicalcium phosphate or tricalcium phosphate or blood products originating from non-ruminants.

Feed for pet animals and feed for carnivorous fur animals, containing dicalcium phosphate or tricalcium phosphate or blood products originating from non-ruminants must be transported in vehicles, which do not at the same time transport feed for ruminants. If the vehicle is subsequently used for transport of feed for ruminants, it must be cleaned thoroughly in accordance with the procedure described in Point 4 of this document AT-06 [Annex IV – Point III.D].

4. Sector based cleaning procedure following transport of feed containing certain animal by products.

4.1. Application scope of the procedure

In Belgium, a sector based cleaning procedure intended for the application in all cases for which annex IV of the Regulation (EC) Nr.999/2001 (and modification) requires a cleaning procedure approved by the competent authorities to avoid cross contamination:

- Vehicles in which bulk feed containing fishmeal was transported, and which will be used subsequently for transporting feed intended for ruminants;
- Vehicles in which milk replacers in bulk, intended for young ruminants, and containing fish meal, have been transported and will be used subsequently for transporting other feed for ruminants.
- Vehicles in which animal feed in bulk containing dicalcium phosphate or tricalcium phosphate of animal origin was transported and are used subsequently for transportation of feed intended for ruminants;
- Vehicles in which animal feed in bulk containing blood products was transported and subsequently used for transporting feed intended for ruminants;
- Vehicles in which animal feed in bulk containing blood meal was transported and are used subsequently for transporting of feed intended for farm animals other than fish.



It should be noted, that the application of the sector based cleaning procedure remains an exception and is to be applied only to a limited number of animal feed containing a limited number of derivative products. This procedure is not applicable for all transportation of derivative products (see box above).

4.2. Sector based cleaning procedure

1.	Basic principles
	An individual transport company must at least follow the recommendations of the sector based cleaning procedure. Any adjustments should not be in conflict with these provisions.
	A cleaning procedure, established for a specific type of transport vehicle, should be checked for its effectiveness. The cleaning procedure can then be applied to any type of transport vehicle, identically constructed.
	All parts of a transport vehicle, having been into direct contact with the transported load, need to be cleaned
	The transport operator should, for each type of transport vehicle, be made aware of those areas difficult to clean, such as accessories, pipes, hoses, gaskets, pumps, blind spots etc. It should be clear prior to cleaning which parts are to be disassembled.
2.	Available means
	The cleaning area must thus be located as such, so as to exclude cross-contamination with animal by-products or other undesirable substances.
	The necessary equipment and devices should be available in order to perform a thorough cleansing.
	There should be sufficient time to perform a thorough cleaning.
3.	Dry cleaning
	In case of a previous dry load, a dry cleaning may be satisfactory. Dry cleaning may offer some advantages from a practical and microbiological point of view. With a dry cleaning the transport vehicle, after unloading, is cleaned by vacuuming, blowing or sweeping. Preference is given to vacuuming, since no spreading of dirt occurs.
	Areas difficult to access should, if necessary, be cleaned manually through means of a brush, or something similar.
	If after cleaning, the result seems to be inadequate, a water cleansing will thus be required.
4.	Water cleaning
	The company will ensure that the quality of the water, used in the context of the cleaning operations in their own installations, or with their own equipment, is adapted to the nature of the products to be transported. The company must demonstrate the way in which they manage potential risks linked to the quality of the water.
	Prior to any wet cleaning, the residues of previous loads must be removed as much as possible in a dry condition.
	For a wet cleaning, it is recommended to use a high pressure cleaner.
	In order to facilitate the removal of residues, an increased water temperature may be used. However the temperature must not exceed 60°C, in order to prevent coagulation of the proteins, and thus preventing adhering to the surfaces.
	Areas difficult to access must be cleaned separately by using suitable means, such as brushes.
	If after cleaning the result after cleaning seem unsatisfactory, a cleaning with a suitable cleaning agent will then be required.
	During cleaning, it is important for waste water to flow. Depending on the nature of the next load, allow drying of the vehicle by applying sufficient natural ventilation or by using a hot air gun,
5.	Water cleaning with a suitable cleaning agent



	<p>In case of protein-rich or fatty loads, it is necessary to use a cleaning agent. To facilitate removing fats, a higher water temperature is required. However, the temperature must not exceed 60° Celsius in order to prevent coagulation of proteins, and thus preventing adherence to surfaces.</p> <p>To facilitate the elimination of fats and proteins, a moderate to strong alkaline cleaning agent is recommended in a dose prescribed by the manufacturer. For open loading spaces, it is recommended to use a foaming, degreasing agent. For closed bulk transport a foaming agent should not be used however, but it is better to make use of a so-called "Cleaning In Place" (CIP) cleaning agent with a higher temperature.</p>
	Advice regarding the specific working methods and products to be used, must be provided by the supplier of the cleaning agent.
	For any cleaning with a cleaning agent, the residues of previous loads must be removed as much as possible in a dry condition. The load space is pre-rinsed with warm water, and the areas difficult to access will be cleaned manually.
	Foaming with a cleaning detergent for open loading spaces, or rinse with a CIP cleaning agent for of bulk wagons.
	Rinse with hot water.
	During cleaning, it is important to drain waste water. Depending on the nature of the following load, allow drying of the vehicle by applying sufficient natural ventilation or by using a hot air gun.
6.	Inspection
	After every cleaning a visual inspection must be performed.
	After every cleaning, the following data must be recorded: date, identification of loading space and of the vehicle, transported load, cleaning, and result of evaluation.

5. The choice of cleaning and examples

With the exception of a certain number of cases whereby cleaning is probably not required (e.g.. sequential transport of animal feed originating from the same batch), the transport operator will preferably perform a cleaning before the loading of animal feed. The cleaning usually depends on the nature of the previous load (see AC-05: Road transport of animal feed).

The driver should be informed of the minimum cleaning to be performed for each load of animal feed, in one of the following ways:

- Either the transport operator will inform him of the minimum cleaning required.
- Or he disposes of a list including the minimum cleaning depending on the product previously transported.


In order to determine the most adequate cleaning regime, the company can rely on:

- His experience
- Existing literature
- The conditions imposed by the client and the existence of possible road sheets
- The information provided by the manufacturer of the product (MSDS, database references etc.)
- A hazard analysis (see 'AT-04: Practical implementation of the HACCP-plan')

A variety of different products may be transported by a company also transporting animal feed, but previous loads most encountered are:

- Fertilizers (nitrates, potassium salts, mineral phosphates, etc.);
- Materials such as sand, earth, gravel, etc.);
- Food (e.g. backing wheat, potatoes);
- Or other animal feed.

The following practical examples are inspired by frequently performed transport.

 Examples
<p>A transport operator transports ammonium nitrate (artificial fertilizer). Subsequently he transports cereals intended for animal feed. After transport of fertilizers, he then carefully sweeps the loading space, leaving no traces of fertilizers behind. He can then load the cereals. On another day, he once again performs a transport of fertilizers. Due to condensation, the fertilizers are sticking somewhat to the wall, and despite sweeping, all traces cannot be eliminated. The transport operator must then perform a water cleaning (possibly with a cleaning agent) in order to eliminate all traces of the fertilizers, and still perform a safe transport of the animal feed.</p>
<p>A transport operator is ready to load pressed rapeseed cake. It is pointed out to him that salmonella has been detected in the batch from which the pressed cake originates. After transport and unloading of the pressed cake, the transport operator then performs a thorough cleaning of the loading space. Subsequently he proceeds with the disinfection of the loading space with the aid of an authorized cleaning agent, of which the instructions for use are carefully followed.</p>
<p>A transport operator has transported a load of earth, after which he wants to transport animal feed. He starts sweeping the loading space. He then notices that there is still some earth sticking to the walls. Subsequently he cleans the loading space with water until all traces have disappeared.</p>
<p>A trader, transports cereals treated with an insecticide. After transport, and a subsequent sweeping of the loading space, there are no more traces of the cereals left, but there is still an odor noticeable of 'a chemical product' originating from the insecticide. The trader subsequently performs a water cleaning (possibly with a cleaning agent) until the loading space is odor free.</p>
<p>A transport operator has been called upon during the beet campaign. He transports sugar beets on a daily basis. He is asked to transport pressed pulp. He must clean the loading space, prior to loading. It is clear that a simply sweeping is not sufficient. Indeed, after sweeping, and given the weather conditions during the harvest of the beets, some traces of earth remain in the loading space. Therefore it is necessary to clean the compartment with water. That way, there is not risk that the earth, still present after sweeping, can contaminate the pulp.</p>
<p>A transport operator has just unloaded linseed oil in a soap factory. The next scheduled transport is a transport of molasses intended for a compound feed manufacturer. The linseed oil cannot be removed through a dry cleaning. A cleaning with warm water will not be entirely satisfactory. Water and oil do not really go well together, and traces of fat might be left behind. Remain. For such a sequence of transport, the driver must perform a cleaning with the help of a cleaning agent, that is suitable for coming into contact with animal feed, while following carefully the in instruction of the cleaning agent;</p>