



Australian Grain Industry – Code of Practice Technical Guideline Document

No. 10 TRUCK CLEANING

**Compiled on behalf of the Australian Grain Industry by:
Grain Trade Australia**

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Technical Guideline Document

No. 10 Truck Cleaning

Version Control

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For more information contact Grain Trade Australia

www.graintrade.org.au

Phone: 02 9235 2155

Email: admin@graintrade.org.au

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1. Application

Refers to the cleaning of the trailer/s of a bulk commodity truck to an adequate standard prior to loading with grain, or a grain related product.

2. Discussion on Truck Cleaning

2.1 What is Truck Cleaning

Cleaning of a truck prior to loading involves removal of all relevant foreign material in or upon that truck.

2.2 Why Clean a Truck

A truck that will be used for the purposes of carrying grain may need to be cleaned for a number of reasons:

- Foreign material remaining in the truck may contaminate the grain to be loaded, causing that grain to:
 - Be unsafe for its intended use;
 - Fail to meet the relevant Grain Trade Australia (GTA) Trading Standards; and
 - Violate relevant industry and/or legislative transport standards and Codes.
- Good industry practice is to ensure all equipment used in the handling and transport of grain is of an adequate standard.
- Grain is a food commodity. The grain industry operates to a system of best management practice, as referred to in the Australian Grain Industry Code of Practice (Code).

2.3 Principles of Truck Cleaning

There are different methods available to adequately clean a truck. The method to be used depends on a range of factors including, but not limited to:

- Availability of clean down equipment and infrastructure;
- Commodity to be loaded;
- Contaminant type in the truck;
- Prior loads;
- Transport company procedures; and
- Time available for cleaning.

Regardless of the method of cleaning used, there are a number of key principles to consider:

- The method used must be appropriate for the type of commodity to be loaded.
- The method used must be appropriate for the type of contaminant.
- Cleaning procedures must be conducted in accordance with the transport company and any other relevant procedures.
- Persons conducting the cleaning should be appropriately trained.
- The order of cleaning is important to maximise its effectiveness and reduce the time taken:
 - Where required clean exterior surfaces of the trailer before cleaning the interior.
 - Clean from the top down i.e., tarpaulin, then walls, then floor.
 - Clean from the closed to open end, i.e., moving towards the open end of the trailer.
 - Lastly, clean the tailgate area and other areas around the tailgate.
- The relevant Code may stipulate the cleaning procedure to be used based on the prior load.
- Cleaning must be done in an appropriate location, in compliance with relevant regulations.

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- Work Health and Safety (WHS) and other applicable regulations must be followed at all times. Personal Protective Equipment (PPE) must be used where relevant, consistent with the use of any sanitisers as outlined in Materials Safety Data Sheet (MSDS).
- The time taken to undertake cleaning will vary depending on a range of factors including but not limited to:
 - The level of cleanliness at the start of the operation;
 - The size of the vehicle;
 - The grain to be loaded;
 - The prior loads; and
 - Resources available to undertake the task.
- Cleaning may be required of all parts of the “truck trailer”, including the inside and outside of the truck trailer, cross beams, the tarpaulin, submarine door, tailgate, discharge chute and any internal augers and hoppers.
- Contaminant residues and any rinsate material removed from the trailer during cleaning, including any wash down water, must be disposed of in an applicable manner.
- Records of the cleandown operation should be kept.

Refer to:

- GTA Grain Transport Code of Practice Prior Loads <http://www.graintrade.org.au/grain-industry-codes>
- AOF Transport Code of Practice http://www.australianoilseeds.com/Technical_Info/codes_of_practice
- GTA TGD No. 18 Truck Cleaning Procedures – Treated Fertiliser http://www.graintrade.org.au/sites/default/files/GTA_Technical_Guidelines/TGD%20No.18%20-%20Truck_Cleaning_Procedure%20-%20Treated_Fertiliser.pdf

2.4 Methods for Truck Cleaning

There are several methods for truck cleaning, depending on the contaminant type. As a general guide, the following methods may be used and may be effective based on common contaminants detected in trucks:

Contaminant Type	Cleaning Method				
	Sweeping	Compressed Air	Washing	Sanitising	Insect Treatment
Chemical Residues			Yes	Yes	
Fertiliser - treated	Yes	Yes	Yes	Yes	
Fertiliser - untreated	Yes	Yes	Yes		
Grain, chaff, weed seeds	Yes	Yes			
Infested products	Yes	Yes			Yes
Live Stored Grain Insects					Yes

Note:

- Several cleaning options may be required for each contaminant type depending on the extent of contamination.
- Sanitising options include a number of different materials, including detergents or sanitising compounds.

2.4.1 Sweeping

This is the simplest form of cleaning:

- It generally only includes sweeping with a broom the inside walls and floor of the trailer and also potentially the outside surfaces including tarpaulins.
- Only suitable for removal of visible contaminants.
- May not be suitable for removal of material adhering to the truck, which may require physical scraping or use of a stiff brush (wire etc).
- It should be noted that just sweeping with a broom is unlikely to adequately remove minute dust particles (e.g., fertiliser residues) and chemicals. May be required to be conducted at the completion of cleaning a truck using other forms of cleaning e.g., following treatment to eradicate live stored grain insects.
- Presents a WHS issue and should only be done following strict procedures.

2.4.2 Compressed Air

Using compressed air is a common cleaning method:

- To remove visual contaminants detected in or on the truck surfaces where the operator may have difficulty operating.
- Is effective for cleaning a range of materials detected in the truck, however may not be suitable for complete decontamination such as infested material, or when live stored grain insects are present.
- The pressure must be sufficient to remove the excess material. Sweeping prior to using compressed air may be required in some instances.
- It should be noted that just using compressed air is unlikely to adequately remove minute dust particles (e.g., fertiliser) and chemicals.

2.4.3 Washing

Washing generally refers to using potable water without any additives.

- The water is generally at ambient temperature, although higher temperatures may assist cleaning.
- Water may be introduced via a high-pressure spray or a low pressure hose with acceptable water flow volume.
- Following washing, water should be drained from the truck. Drying of the vehicle should also be required prior to commencement of loading.
- Washing may be more effective following sweeping or the use of compressed air to remove all visible contaminants, especially minute dust particles and chemicals.

2.4.4 Sanitising

In the context of this TGD, sanitising is a term used to refer to:

- Treatment using water combined with an additive.
- It should only be done following removal of all visible contaminants through other cleaning methods outlined above.
- The additive used depends on a range of factors but is mainly related to
 - The contaminant type; and
 - The commodity to be loaded.
- Sanitising may involve the use of a range of material, including
 - Caustic solution
 - Detergents

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- Sanitising compounds
- Commercially available cleaning solutions
- Alcohol based sanitisers are not recommended as these may cause WHS issues.
- The solution may or may not be heated.
- Sanitising is often required where the contaminant may pose a food safety issue to the grain to be loaded. For example, chemical residues from a prior load or treated fertiliser.

Refer to

- Fertiliser Australia, Fertiliser Handling Code of Practice
<https://www.fertilizer.org.au/Portals/0/Documents/COPs/Fertilizer%20Handling%20COP%2020161026.pdf?ver=2017-08-24-114100-190>
- GRDC Grain Marketing and Pesticide Residue fact sheet <https://grdc.com.au/resources-and-publications/all-publications/factsheets/2014/07/grain-marketing-and-pesticide-residues>
- GTA TGD No. 18 Truck Cleaning Procedures – Treated Fertiliser
http://www.graintrade.org.au/sites/default/files/GTA_Technical_Guidelines/TGD%20No.18%20-%20Truck_Cleaning_Procedure%20-%20Treated_Fertiliser.pdf
- Only food grade sanitisers should be used. This will prevent contaminating the grain to be loaded with an objectionable odour, residue or taint.
- Where there is a risk of the cleaning solution contaminating the grain to be loaded through an odour, it should not be used or appropriate approval should be granted prior to its use.
- Following the use of sanitisers, rinsing with water should be conducted.
- Following washing/rinsing, drying of the vehicle may be required prior to commencement of loading.

Refer to:

- Grain Storage Fact Sheet: Hygiene and structural treatments for grain storages
<http://www.grdc.com.au/GRDC-FS-HygieneStructuralTreatments>
- GRDC Grain Marketing and Pesticide Residues Fact Sheet sheet <https://grdc.com.au/resources-and-publications/all-publications/factsheets/2014/07/grain-marketing-and-pesticide-residues>
- GTA TGD No. 18 Truck Cleaning Procedures – Treated Fertiliser
http://www.graintrade.org.au/sites/default/files/GTA_Technical_Guidelines/TGD%20No.18%20-%20Truck_Cleaning_Procedure%20-%20Treated_Fertiliser.pdf

2.4.5 Insect Treatment

Where live stored grain insects are detected in a truck, cleaning of the truck involves:

- The use of an approved insect treatment (contact insecticide or fumigant) to disinfest the truck.
- It is recommended other cleaning methods such as compressed air and washing occur before this step is used.
- Only treatments approved for the commodity to be loaded are permitted to ensure any residues carrying over to the next load do not compromise its integrity or other relevant regulations.
- Treatments must be carried out:
 - By suitably trained personnel;
 - In a suitable area;
 - In compliance with WHS issues; and
 - According to label requirements.
- As fumigation should only occur when the trailer can be adequately sealed, this is generally not a suitable option to be used.
- The type of treatment selected should consider any adverse impacts on the electrical and other systems on the truck.
- Treatments such as fumigation in-transit are not approved.

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2.4.6 Removing Chemical Residues

If not removed, chemical residues may remain in the truck and contaminate the commodity subsequently loaded. Initial scrubbing with detergent/soap and water is recommended prior to loading.

As previously outlined, sanitisers such as soap or detergent are usually the most readily available materials for decontamination. However, other chemicals available on the commercial market may be useful.

Note that prior to loading, ensure residues of all sanitisers and other cleaning products are removed from the truck before loading commences. Washing and/or flushing with grain should be considered if time permits to potentially reduce residue levels on the surface of the trailer. Swabbing to check for the presence of pesticide residues should be considered.

The following outlines general material available for removing chemical residues:

- Organophosphorous compounds can be treated by sodium carbonate (washing soda). Note that bleach (sodium hypochlorite or hydrogen peroxide) is corrosive to stainless steel and may not be able to be removed and thus be a contamination risk for grain to be loaded. Organochlorine compounds are persistent chemicals. Ammonia and washing soda can be used.
- Carbamates should be scrubbed with sodium carbonate or strong soap.

Refer to:

- <http://www.depi.vic.gov.au/agriculture-and-food/farm-management/chemical-use/agricultural-chemical-use/chemical-residues/managing-chemical-residues-in-crops-and-produce/managing-chemical-cross-contamination-risks>
- Hygiene & Structural Treatments for Grain Storage – GRDC Fact Sheet June 2013
<http://storedgrain.com.au/hygiene-structural-treatments/>

2.5 Who is Responsible for Cleaning

The grain transport operator is generally responsible for cleaning of the truck within their charge.

2.6 Grain Industry Requirements

Industry requirements for cleaning trucks vary based on a range of factors including:

- No reference may be made, leaving any procedures to be carried out according to the transport operator. This may or may not imply compliance with industry Codes or more simply, good agricultural practices.
- As per industry practices, such as the GTA Transport Code of Practice.
- As per a specific company Transport Code of Practice.
- Generally, all requirements must be complied with no matter the intended end-use, whether the grain is intended for the human consumption, stockfeed market or industrial market. Variations may exist.
- To confirm compliance, most Codes of Practice require appropriate records to be maintained of the cleaning operation. This may include:
 - The method of cleaning;
 - The date of cleaning;
 - Who performed the cleaning; and
 - A requirement to keep those records for a minimum period of time.
- Appropriately trained personnel may also be required to inspect the truck following cleaning and prior to loading commencing.

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2.7 Impacts of Incorrect Cleaning

If trucks are not adequately cleaned, there is a risk of contamination of the subsequent load. This may render the grain unsuitable for its intended use or lead to a loss in value.

The impact varies depending on the contaminant type.

For contaminants that pose a food safety issue, the consequences of incorrect cleaning may be extensive:

- For example, failure to adequately remove all traces from a truck previously carrying fertiliser treated with a fungicide may lead to detection of unapproved chemical residues in the grain subsequently loaded.
- Loading a truck that has been used previously in the carriage of Class 2 products - as outlined in the Prohibited Prior Loads and Cleaning Requirements based on Prior Loads section of the GTA Transport Code of Practice.
- Failure to adequately treat and remove live stored grain insects may lead to rejection of the subsequent grain cargo.

3. Cleandown Facilities

A suitable area must be made available and used for cleandown of trucks.

The cleandown area may, or may not be provided by the facility where the grain is to be loaded:

- Some sites stipulate vehicles are not to be cleaned on that site where grain is to be loaded i.e., trucks entering the site must be clean and ready for loading grain.
- To prevent spillage and possible biosecurity issues, it is recommended that vehicles are cleaned following discharge of the load and prior to leaving that site. Note that this may not always be practical or available.
- Some commercial and public truck wash facilities are available in most states. Refer to National Truck Wash System - <http://www.avdata.com.au/pdfs/truckwashChargeRates.pdf>

The cleandown area should be constructed, operated and maintained according to applicable regulations and company procedures. All users of that facility need to ensure their operations comply with those regulations and procedures.

Following cleaning of the truck, the material removed during the cleaning operation including sweepings, washings, rinsate and other residues must be appropriately disposed of. This may occur through:

- Placement in an appropriate receptacle; or
- Removed off-site and disposed of in an appropriate manner; or
- In any other manner that meets relevant legislation such as environmental requirements.

4. Further Information

- South Australian Road Transport Association (SARTA): Grain Carriers' Code of Practice <http://www.sarta.org.au/userfiles/Grain%20Carriers%20Code%20of%20Practice%20signed%20current%20as%20at%20140810.pdf>
- GTA Grain Transport Code of Practice <http://www.graintrade.org.au/grain-industry-codes>
- CBH Supplies and Contractor procedures: <https://www.cbh.com.au/suppliers%20and%20contractors>
- AOF Road and Rail Haulage of Cereals, Oilseeds, Pulses and Vegetable Protein Meals and Hulls and Edible Liquid Products Code of Practice http://www.australianoilseeds.com/Technical_Info/codes_of_practice
- Viterra Vehicle Operators Handbook: <http://viterra.com.au/wp-content/uploads/2017/07/Vehicle-Operators-Handbook.pdf>
- Farm Biosecurity Manual for the Grains Industry: <http://www.farmbiosecurity.com.au/wp-content/uploads/2017/01/Biosecurity-Manual-for-Grain-Producers.pdf>