



Australian Government

Wine Australia

Bulk Wine Loading Procedure

Procedure for the Preparation and Transportation of Exported Bulk Wine

Scope

This procedure applies to the export from Australia of any wine despatched in a container larger than 20 litres, forming all or part of a consignment greater than 100 litres. Compliance with this procedure is required in order to fulfill the general conditions for export under Wine Australia Corporation Regulation 6(1)(c).

Introduction

This procedure is an integral component of the Australian wine industry's risk management plan. It is designed to control the potential for wine to be substituted, oxidised or contaminated during transit and thus contributes to the maintenance and development of Australia's reputation for wines of quality and integrity. Aspects of this procedure also protect the consigner in the event of a dispute with the shipper or consignee over the quality, purity or quantity of wine shipped off shore in bulk.

Responsibility and Authority

The licensed exporter is responsible for ensuring the requirements outlined in this document are met. Wine Australia Corporation Inspectors have the authority to audit the loading and despatch process in order to ensure compliance with this procedure (Section 44 Part V11 Wine Australia Corporation Act 1980). The licensed exporter must, when requested, supply Wine Australia with the name of the suitably qualified person engaged to supervise the loading operation (the 'Supervisor').

Procedure

1. Wine Preparation

It is essential to ensure that wine for shipment in bulk is in good condition prior to loading.

- **Oxygen**

Dissolved oxygen level must be controlled for all non-fortified wine.

- i. It may be necessary to sparge the wine with food grade Nitrogen or Carbon Dioxide prior to and/or during preparation. Hoses should be purged with inert gas prior to use. Tank filling should be performed in such a manner that oxygen pick-up is minimised.
- ii. Dissolved oxygen levels should be measured at the completion of wine preparation using suitably accurate equipment. *The recommended maximum dissolved oxygen is 1.5 mg/L. A record of this analysis must be retained.*

- **Microbial stability**

Non-fortified wines with greater than 2 g/L residual sugar or 0.2 g/L malic acid can potentially undergo undesirable changes in transit due to microbiological agents.

- i. Appropriate filtration must be carried out. Pumps, hoses, filters and other wine preparation equipment must be adequately sanitised.
- ii. Prior to loading, wine meeting the criteria for potential microbial degradation should be assessed for microbial stability. For such wines evidence of microbial stability must be provided upon request.

- **Organoleptic status**

It is good practice to ensure that the wine is in sound condition prior to loading.

- i. Prior to loading, the wine should be tasted by a suitably qualified person.
- ii. A record of this assessment must be retained.

- **Wine Chemistry status**

Chemical analysis of product prior to loading must be carried out.

- i. The following analyses must be conducted:
 1. Alcohol
 2. Total Acidity and pH
 3. Free and Total SO₂
 4. Residual Sugar

Other analyses such as colour, cold/heat stability, metals, ascorbic acid etc are highly recommended.

- ii. The results should be compared against agreed standards. Records of analysis must be retained.

- **Samples**

It is recommended that pre-loading hold back samples are taken for reference in the event of any dispute.

- i. Samples should be taken in glass bottles of 187 mL minimum size and sealed with a non-cork closure. These samples must be taken at the last possible point upstream of the container loading, for example, from the outlet of any in-line filtration that is carried out during loading.
- ii. Samples must be retained by the consigner for at least 6 months. Samples must be identified in a way that links them to both the wine batch and the bulk shipment to which the wine batch is allocated.

- **Pre-shipment approval**

A formal pre-shipment approval must be carried out.

- i. A review of the microbiological, wine chemistry and tasting results should be carried out by a suitably qualified person.
- ii. If the wine meets criteria for shipment, a signature or other suitable releasing process must be recorded against the wine batch.

2. Container Inspection and Preparation

- **Container status**

It is essential that the container is sound and free from contaminants.

- i. The Supervisor must sight and retain a copy of a certificate of cleanliness for each container loaded. The supervisor should also inspect the container to ensure:
 1. Freedom from taint or odour
 2. Freedom from traces of water, detergents, sanitising agents and previous cargo
 3. Integrity of seals and general soundness.
- ii. A record of container approval must be retained.

- **Flexible containers**

Containers must be made from inert material suitable for wine contact. The material must provide adequate protection against oxygen ingress to ensure the maintenance of wine quality during transit. Appropriate measures must be taken to protect against contamination from volatile compounds (eg, TCA) during transit.

3. The Loading Process

- **Oxygen**

It is important to exclude oxygen from non-fortified wine during loading.

- i. The container should be filled in a way that minimises oxygen pickup, using processes such as inert gas cover and low turbulence pumping.
- ii. Dissolved oxygen testing should be carried out at the completion of filling to verify that the oxygen content of the product remains below the recommended maximum of 1.5 ppm. A record of this analysis should be retained.

- **Temperature**

Wine temperature at filling is important as wine in bulk can expand and contract.

- i. It is recommended that wine is filled into bulk tankers at between 15 and 20° C.
- ii. The temperature of filling should be recorded for each container.

- **Ullage**

Some containers require ullage or headspace to accommodate expansion and contraction during shipment.

- i. Bulk containers should be positioned on a level surface prior to filling. The ullage should be appropriate for the container configuration. If possible, the ullage space should be purged with inert gas prior to sealing the container.
- ii. The ullage space should be recorded for each container.

- **Volume**

An accurate measurement of shipment volume must be carried out.

- i. Volume must be measured either by use of a calibrated flowmeter, a calculation based on the net shipment weight and wine density or accurate dipping.
- ii. The volume of each shipment must be recorded.

- **Seals**

Pilfer-proof seals must be applied to each container.

- **Samples**

Further holdback samples must be taken directly from the tanker at the completion of loading. If the wine is potentially subject to microbial degradation, these samples must be taken in a way that does not threaten microbial integrity. Samples should be sent to the consignee for comparison with wine in the tanker at unloading.

- **Chemical and organoleptic status**

It is highly recommended that the chemical and organoleptic status of the wine is verified at the completion of filling.

- **Traceability**

Records must be taken and retained of the container number, the volume despatched, the seal number, the product code and the tank from which it was drawn.

Shipping Arrangements

It is recommended that shipment to the consignee follows as direct a route as possible, avoiding delays, transshipping and other potential opportunities for interference or degradation of the product.