

Cargo Care Checklist: Grain

ACTION TO BE TAKEN WHEN DEALING WITH **GRAIN** **CARGO**

This checklist should be used in conjunction with the ship operator's procedures, charterer's or shipper's instructions and the IMO Grain Code.

It is suitable for use with all naturally-occurring unprocessed seeds, beans and grains including soya bean.

01 HOLD PREPARATION

Grain clean unless otherwise stated in shipper's or charterer's voyage instructions.

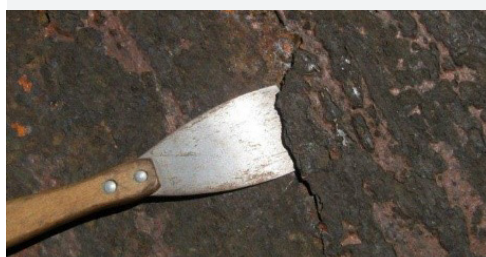
- Record of previous cargoes available
- Crew understand what standards are required
- Holds free of previous cargo and residues
- Holds free of loose rust and paint scale
- Holds free from other contaminants
- Holds free from odours
- Holds free of moisture
- Tank manhole lids leak - checked and properly secured
- Bilges clean and dry - cover where required
- Planned maintenance on bilge non-return valves checked and up to date
- Time stamped photos taken showing hold preparation
- Maintain details of any hold cleaning agents used inc. MSDS
- Records of any recent hold maintenance available including hold paint specification
- Planned maintenance records for hatch covers checked and up to date
- Record of any recent hatch cover weather-tight testing available
- Planned maintenance records for cargo hold ventilation checked and up to date
- Accurate log timings maintained throughout preparations
- Records of any hold surveys maintained

Note:

The National Cargo Bureau definition of grain clean is:

Compartments are to be completely clean, dry, odour-free, and gas-free. All loose scale is to be removed.

- In the USA, the Federal Grain Inspection Service places a limit on the amount of rust and paint scale - not more than 25 square feet (2.3m²) of loose rust scale or paint scale in a single area or not more than 100 square feet (9.2m²) of loose rust scale or paint scale in total.
- Loose scale will break when struck with the fist or when light pressure is applied with a knife blade under the edge of the scale.
- Do not confuse rust scale with oxidation rust which typically forms on exposed metal surfaces. Oxidation rust does not flake off when light pressure is applied



Example of loose scale



Example of oxidisation rust which would not affect the cargo

Planned maintenance records should where possible include notes and photographs of the checks done, findings and any resolved issues.

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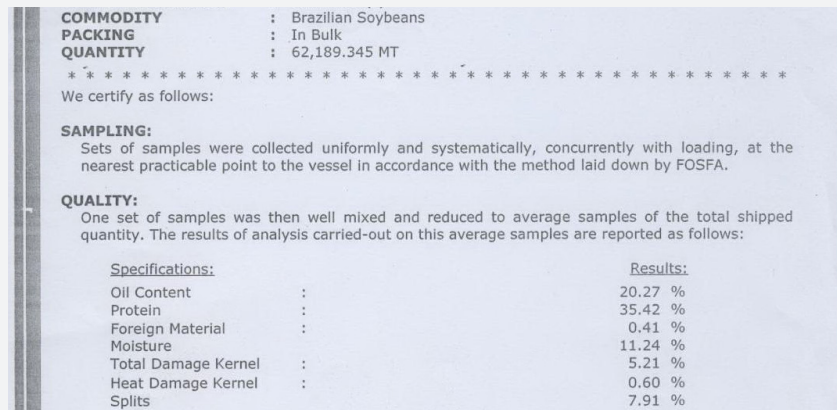
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02 PRIOR TO LOADING

△ In known claims hotspots such as soya beans in Brazil, consider appointing local surveyor.

- Port tidal ranges and times known and posted
- Arrival draughts and tank conditions noted
- Cargo details including quantity provided
- Shipper's instructions on cargo care received
- Fumigation requirements provided in writing
- Cargo loading sequence discussed and agreed
- Actual average moisture content of cargo is provided in copy of certificate of quality or export certificate (not a MAX moisture as shown below)
- Recorded moisture content here:

Note:



Correct formatted cert of quality showing the actual average moisture content.

PROPERTY	SPECIFICATION
FAT	MIN. 18,00%
MOISTURE	MAX. 14,00%
TOTAL DAMAGED	MAX. 8,00%
HEAT DAMAGED	MAX. 4,00%
FOREIGN MATTERS	MAX. 1,00%
BROKEN BEANS	MAX. 30,00%

Incorrectly formatted cert of quality showing a maximum moisture content

- If average moisture content not available in correct format, protest issued by Master
- Reported average moisture content is not >14% (if yes, inform your operations team)
- If carrying soya beans, the reported average moisture content is not >11.5% (if yes, inform your operations team)
- Equipment for measuring the cargo temperature ready
- Weather report obtained and reviewed
- Consider use of radar to monitor for approaching rain
- Camera ready and fully charged with date and time set for evidence taking
- Deck officers briefed on how to monitor loading operations

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03 LOADING

- Deck officers monitoring loading operations throughout
- Time stamp photographic evidence taken throughout
- Monitor weather at all times in case of rain
- Maintain accurate records of cargo operations
- Colour of cargo in apparent good order
- Colour of cargo the same throughout
- No unusual smells from cargo
- Samples of cargo taken during loading and properly bagged
- No caking or lumping of cargo noted
- No excess dust noted
- No foreign matter noted
- On hold completion, cargo temperature accurately recorded

Note cargo temperature on loading and average moisture here:

Hold No	Cargo Temp on Loading	Reported Average Moisture content
1		
2		
3		
4		
5		
6		
7		

Note:

Approximate storage time in days that soya bean cargoes can be stored before high risk of mould growth:

Average moisture content	Cargo temperature on loading		
	16°C	21°C	27°C
12%	240 days	125 days	70 days
14%	75 days	45 days	20 days
16%	35 days	20 days	10 days

Source: North Dakota State University

- Fumigator onboard and instructions received and understood by Master and crew

Fumigant type:

- Instructions for fumigation in accordance with IMO recommendations

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Note:

If Master is concerned about fumigation instructions from the charterer's appointed fumigator (for example: "fumigate for the entire voyage"), written confirmation from the charterer should be requested.

- Holds sealed upon completion and seal numbers noted and agreed
- Draught survey results to be confirmed as accurate and agreed by all parties

Note:

Ship's crew should be present and conduct their own draught survey with all surveyors present. Figures and results should be agreed.

See North's draught survey guide for more details on conducting and agreeing a draught survey.

04 ON PASSAGE

- Passage plan attempts to avoid adverse weather
- Three Degree rule used to decide ventilation and accurate records maintained
- Maintain accurate weather records for the passage
- Maintain accurate record of all hatch or hold operations
- Fuel heating and transfers carefully monitored and recorded to prevent heat damage to adjacent holds
- Any ballasting operations carefully monitored and recorded
- Any operations that use the bilge system recorded
- Accurate tank and bilge soundings maintained

Note:

Three Degree Rule : Ventilate the cargo when the outside air temperature is at least three degrees below the temperature of the cargo taken on loading.

It is extremely important that accurate records of ventilation are maintained throughout the voyage including reasons why ventilation was stopped if at all.

Refer to North's guide Cargo Ventilation for more details.

05 DISCHARGE

△ Consider appointing a local surveyor, particularly in claims hotspots such as China.

- Camera full charged, ready with date and time set for evidence taking
- Arrival times noted including when notice of readiness tendered
- Vessel condition known including draughts
- Review all charterers' and agents' instructions
- Certificates required for permitting discharge received and maintained
- Weather forecast received – ensure no operations in the rain
- Discharge sequence agreed by Master
- Removal of seals witnessed by interested parties and recorded
- Deck officers briefed and are on deck monitoring operations
- Time stamp photographic evidence taken throughout

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- Monitor weather at all times in case of rain
- Consider use of radar to monitor approaching rain
- Maintain accurate records of cargo operations
- No signs of self-heating
- No signs of mould growth
- No colour changes to the cargo
- No unusual odours
- No signs of infestation
- Cargo temperature recorded on discharge
- Monitor any tally operations
- Draught survey results to be confirmed as accurate and agreed by all parties
- Received copies of any third party surveyor reports
- Ensure on completion an empty hold certificate is issued
- Ensure an out turn report / certificate is agreed

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