# Student Information Sheet

Cargo Handling Simulator

### Year of education: MBO 2 /HBO 2 (Module 2)

Exercise: Combined exercise**:**

1. Assess loadmaster plan
2. Ballast procedures
3. Loading
4. Discharging slops

Number of persons: Four, occasionally three, students.

### Initial conditions: Cargo\_module2\_newsetup.cab

Feedback: Feedback by rating system mstc.nl

Duration: Approximately 20m briefing, 180m simulation, 40m debriefing

**Ships name Tanker Zaria**

**Initial Condition:**

Cargo: Gasoil; density is 0,820 t/m3 @ 15 oC, temperature of cargo is 35 oC

CT1P: empty CT1S: empty

CT2P: 6073MT CT2S: 6061MT

CT3P: empty CT3S: empty

CT4P: 5700MT CT4S: 5500MT

CT5P: empty CT5S: empty

CT6P: 5500MT CT6S: 5700MT

Sloptank PS: 42MT slops Sloptank SB: empty

Ballast: All ballast tanks are empty.

**Cargo specifications EN590 Diesel**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Unit** | **Minimum** | **Maximum** | **Typical** |
| Appearance | - | - | Clear & Bright , Cherry Red  Free from visible sediment | Pass |
| Density at 15°C | Kg/m3 | 0,820 | - | 0,860 |
| Kinematic viscosity at 40°C | Mm2/s | 1,5 | 5,5 | 3,0 |
| Flash point (PMCC) | °C | 56 |  | >62 |

**Pump specifications**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type Pump** | **Max Pump speed** | **Max Discharge pressure** | **Max cavitation Index** |
| Ballast pump | 2000 rpm | 20 bar | 40% |
| Cargo pump | 2000 rpm | 20 bar | 40% |
| Slop pump | 3300 rpm | 20 bar | 40% |

**Feedback items for this exercise:**

1. Using cargo parameters (density/temperature) - STCW AII/1 c1.10

2. Planning cargo / ballast - STCW AII/2 c1.12

3. Connecting shore and tank the proper way - STCW AII/2 c1.12

4. Using load over pump and dropline - STCW AII/2 c1.12

5. Load the right amount of cargo

6. Making ready for ballast conform (loadmaster) plan - STCW AII/1 c1.10

7. Ballast the ship - STCW AII/2 c1.12

8. Understanding cargo system - STCW AII/1 c1.10

9. Washing and stripping slop/shore - STCW AII/2 c1.12

Students are informed by email with regards to the written feedback, which will reflect the verbal feedback of the debriefing. This feedback can be consulted by their school teacher.

# Assignment

Cargo Handling Simulator

The vessel Zaria just arrived in port of Terschelling, 53°36,5’N 005°22,4’E .

During this assignment there are three roles. One student will act as Chief Officer, he or she will keep an overview on the ship and is in charge of safe operations. There will be 1 or 2 operators to perform the ballast and cargo operations, depending on the total amount of students. Lastly, one student will act as a Technical Operator, responsible for hydraulics, diesel generator and pump control. The instructor will take the role of shore operator.

**Short Assignment description**

The vessel has ended cargo operation last night and is partially loaded. The office notified that they have a total of 36000MT cargo under contract with the supplier. CT2P, CT2S, CT4P, CT4S, CT6P and CT6S can be used to store the cargo. All other cargo tanks must remain empty. Ballast the vessel accordingly, in order to ensure vessel meets all stability regulations. Slop tanks should be empty before departure.

Maximum tanks level is 98%.

Vessel is required to depart with a trim between 0,00 - 2,00m and no list.

**Assignment Step by Step**

1. *Make stowage plan (TEAM one by one)*

The stowage plan can be made in the loadmaster computer. Ensure all requested cargo will be loaded and ballast the vessel accordingly stability regulations. Slops have to be discharged to the reception facility at the dock.

Chief Officer will be in charge to conduct all operations.

1. *Loading (Operators / Technical Operator / Chief Officer)*

The Cargo DIESEL EN590, is located in the centre shoreside tank. Ensure the cargo loading system is ready for use. Cargo tanks can be loaded simultaneously. Once ready to receive cargo, ask the Shore Operator to start connect the arm to the manifold. Confirm save operations, and ask Shore Operator to start shore pump. Chief Officer can instruct the Shore Operator to decrease of increase flowrate.

Once loading of all designated tanks started; note the flow and calculate the estimated time of completion of cargo operations.

Once cargo operations are completed, inform Shore Operator and make the correct entry in Oil Record Book.

1. *Ballast procedures (Operators / Technical Operator)*

Ensure ballast system is ready for use. Line up the system to the ballast designated ballast tanks, and start the ballast pumps.

Once loading of all designated tanks started; calculate the estimated time of completion of ballast operations.

Once ballast operations are completed, make entry in Oil Record Book.

1. *Discharging slops (Operators / Technical Operator / Chief Officer)*

Slops can be discharged to the left shoreside tank. Note that this shore tank is located at an altitude of 30m. Ensure slops can be discharged accordingly. Ask the Shore Operator to connect the arm to the manifold. Confirm save operations. Once slops operations are completed, make the correct entry in Oil Record Book.