Start the application by clicking the icon **Stowage Assist** on your desktop or by double clicking the *Stowage Assist.exe* in the directory. The application will open with the following screen (see **figure 1**):

Stowage Assist Ship Initialize Voyage Products Rotation Trim	Bunkers About					- 0	×	0
1P = 254.3	1S = 254.6	Cargo Details Product : Ton :	<u>^ Ок</u>	IMO :			5	window of the program.
2P = 318.2	25 = 318.0	Volume : Actual Dens : Loading Port :	* •	UN : MARPOL : Vapour Press :	[	Ŷ	(	
3P = 480.6	3S = 479.7	Disch. Port : Temperature :	97,0 🗘	MAC : Solubility :				
4P = 580.9	45 = 580.4	Clause : Slack : Don't Load in :			Slack			
SP = 850.7	55 = 851.1	F/N nr :	B/L:	CBM_Offered (	Save	idport Dischport		
6P = 120.1	65 <b>=</b> 120.8						^	
7P = 170.6	75 = 170.8							
8P = 440.9	85 = 441.1							
9P = 450.1	9S = 450.2						*	

#### Figure 1

In this dialog window you will find the following widgets:

- All cargo tanks inserted in the 'Combinations' are stated as clickable items on the left side, carrying their Name and 100% Volume.
- On the right side of the dialog window, there is a Table which will contain the values of Ton, Volume, Available Volume and Slack Volume of the product what will be stowed.
- On the right side from the top to the Table there are fields which show the gathered information regarding the product that is to be stowed. This information is collected on a child window, titled <u>Products</u>, of this dialog window.
- On the top side of the dialog window there is a menu bar. From here, all child windows can be opened.

From here you can start to stow products.

## **Products**

By clicking on the menu bar action button, a 'Products sub menu will open as shown in *figure 2*.

D X

# Stowage Assist Ship

Initialize	Voyage	Proc	ducts	Rotation	Trim	Bunkers
1P = 254	.3	١	Produ	uct Details		Ctrl+F
		۲	Cargo	History		Ctrl+H
2P = 318	.2	ţ,	Remo	ve Produ	ct	Ctrl+R

This picture shows the sub menus. The first to open is the 'Product Details' menu. This will open the Dialog Product Details as shown in *figure 3*. The submenus <u>'Cargo History'</u> will be explained on page 33.

Figure 2

Product Details

	Product Name : Family :
	Synonyms :
	Density/15°: UN Number: OTV:
	Freezing Point : MARPOL Cat : Conductor :
	Ventilation : IMO Class : Heating :
	Soluble : Coastguard : Skin abs. :
	Vapour Pressure : Acute :
	MAC : Chronic :
	Reaction With :
	Remarks : Print Products O .xlsx O .t
	Extinguishing PPE Respiratory Inhalation Skin cont Ingestion
	Water Hands BA Set Fresh Air Water Water
	Powder Face Press Suit Med 02 Creme Throw U Foam Total Nil First Aid Dressing Other
	Foam Total Nil First Aid Dressing Other CO2 Nil Hospital Hospital Hospital
leaning for Methanol Standard	
Leaning for Hethanol Standard Detergents Soft Water Rinse Ventilation	
Detergents Soft Water Rinse	Insert Quantities and Ports here
Detergents Soft Water Rinse Ventilation	Tons: Loadingport:
Detergents Soft Water Rinse Ventilation	
Detergents Soft Water Rinse Ventilation	Tons: Loadingport:

On the top left side, there is a dialog window with a list widget that will normally be empty. On the upper right side, there are read only fields for the physical and natural values of a product.

On the right centre there are print statements. The tick boxes can be used to read only safetyrelated data has been retrieved from the data sheet of the corresponding product.

On the lower right side, there are a group of input fields, titled 'Insert Quantities and Ports here'. This will be explained further on the next page.

Back on the lower left side, there are alphabetical tool buttons. Use these tool buttons to search the cargo database for products.

Figure 3

The first step is to see if a product exists in the database. Use the # tool button to run thorough the complete database or use the first letter of the product name and the corresponding alphabetic tool button. If the product does not exists inform you operations department to create this product.

#### Note

> The Stowage Assist Office has full control of the cargoes database on board.

Now that there is a physical copy of the 'Product', one can use the 'Insert Quantities and Ports here' to create the data known for the upcoming voyage. Insert the loaded **Tons** to be carried according to the Voyage Instruction for that product, together with the **Clause**, **Fixture Note**, **Load Port**, **Discharging Port** and **Temperature**.

# Note

- > Examples for the clauses can be:
  - Heating;
  - o N2;
  - Wall wash;
  - Etcetera.
- ➢ For temperature, use degrees ℃.

When all data has been inserted for the upcoming Voyage concerning that product, send this data to the Main Dialog Window by choosing 'Send to Stowage'.

# Note

> This must be repeated for all products to be carried for that upcoming voyage.

# Note

- If a product already exists in the database, simply press the alphabetical tool button on the left, and look for the first letter of the product. The database will now be searched for all products in the database starting with this letter. All found results will be shown in the list widget on the upper left. By clicking the correct name, the rest of the physical data will be shown to the right side again.
- Every carried product must have their data inserted into 'Insert Quantities and Ports here'.

Use 'Return to Stowage' to leave this dialog window and to return to the Main Dialog Window as shown in figure 1.

Using the 'Print button' on the right side, centre and the Print sub menu, will print all existing cargoes in Excel or in Notepad (ASCII table), depending on whether the radio button '.xlsx' or '.txt' is ticked. This Excel file can be stored on the working partition of your Local or Network system.

An Excel example is shown in *figure 4*.



#### Figure 4

In the example, two products have been loaded into the Ship, knowing Acetic Acid and Benzene, see *figure 5.* 

Product Details	– 🗆 ×	O Product Details
About		About
ACH ^	Product Name : Acetic Acid Family :	BBP 5160  Product Name : Benzene Family :
Acetic Anhydride	Synonyms :	BDGE Synonyms :
Acetone	Density/15°: 1.0500 UN Number: 2789 OTV:	BTX mix Density/15°: 0.8802 UN Number: 1114 OTV:
Achisor 3/sp Acrylonitrile	Freezing Point: 16.6 MARPOL Cat: Y Conductor:	Base Fluid
Adiponitrile		
Alcohols C12-15	Ventilation : No IMO Class : 8 Heating : Yes	Base Oil star 5 Ventilation : No IMO Class : 3.2 Heating : Yes
Alkane 60	Soluble : 100% Coastguard : Skin abs. :	Benzene Soluble: 0.18% Coastguard: Skin abs.:
Alkyl Benzene	Vapour Pressure : 16 mb/20 Acute :	Benzene Concentrate Vapour Pressure : 100 mb/20 Acute :
Alpha Methyl Styrene Alpha Olifines	MAC: 10 ppm Chronic:	Benzine Heart Cut MAC : 10 ppm Chronic :
Alpha Olifines C18	Reaction With :	Bioverno Diesel Reaction With :
Alphanol 79	Remarks : Print Products O .xlsx O .txt	Bioverno Naphta
Amyl Alcohol Aniline Oil		Bisol K Remarks: Print Products O .xlsx O .txt
Anti Freeze D824	Extinguishing PPE Respiratory Inhalation Skin cont Ingestion	Butane Diol Extinguishing PPE Respiratory Inhalation Skin cont Ingestion
Anti Freeze D979	Water Hands BA Set Fresh Air Water Water	Butane iso Water Hands BA Set Fresh Air Water Water
Aromasol 12		Butanolin
Aromasol H		Butyl Acetate -N Powder Face Press Suit Med 02 Creme Throw Up
Aromasol N	✓ Foam Total Nil First Aid Dressing Other	Butyl Acetate - P Foam Total Nil First Aid Dressing Other
Aromasol Stillbottom 🗸	CO2 Nil Hospital Hospital Hospital	Butyl Acrylate CO2 Nil Hospital Hospital Hospital
Cleaning for Methanol Standard		Cleaning for Methanol Standard
Detergents Soft Water Rinse Ventilation		Detergents Soft Water Risse Ventilation
A B C D E F	Insert Quantities and Ports here	A B C D E F
GHIJKL	Tons: 1000 Loadingport: Tees	G H I J K L Tons: 500 Loadingport: Rdam
MNOPQR	Temperature : 26 Discharging Port : Rdam	
	Clausule : Heating	
S T U V W X		
Y Z #	F/N nr : A Return to Stowage Send to Stowage	Y Z # F/N nr : b Return to Stowage Send to Stowage

### Figure 5

Back at the main Dialog they will be shown as per *figure 6*.

When a wrong product is sent to stowage, you can remove this product by using the submenu 'Remove Product in the 'Products'-menu of the main window (see *figure 8*).

# Manual Stowing

The first step is to give full Focus on the Table. Click on the first and second row of the Table. The

itialize Voyage Products Rotation Trim Bu		Cargo Details								
P = 254.3	15 = 254.6	Product :	[		Benzene					
		Ton :	500	^	OK		IMO :	3.2		
		Volume :			UK					
P = 318.2	2S = 318.0				+		UN:	111	4	$\sim$
		Actual Dens :		~	-		MARPOL :	Y		
P = 480.6	3S = 479.7	Loading Port :				Vapo	our Press :	100 mb		
e = 100.0	33 = 475.7	Disch. Port :		5			MAC:	10 pp		
		Temperature :			97,0 🗘		Solubility :	0.18	%	
IP = 580.9	4S = 580.4	Clause :								
		Slack :						Slack		
		Don't Load in :						Not in		
P = 850.7	5S = 851.1	F/N nr :	b	]	B/L:			Sav	e	
				,						
			Product	, 	Ton	CBM	Offered CB	1 Slack	Loadport	Dischport
P = 120.1	6S = 120.8			1	<b>Ton</b> 1000	CBM 962.9	Offered CB	M Slack	Loadport Tees	Dischport Rdam
P = 120.1	65 = 120.8		Product	1			Offered CB	M Slack		
			Product Acetic Add	1	1000	962.9	Offered CB	1 Slack	Tees	Rdam
	65 = 120.8 75 = 170.8		Product Acetic Add	1	1000	962.9	Offered CB	1 Slack	Tees	Rdam
			Product Acetic Add		1000	962.9	Offered CB	M Slack	Tees	Rdam
P = 170.6	75 = 170.8		Product Acetic Add		1000	962.9	Offered CB	1 Slack	Tees	Rdam
P = 170.6			Product Acetic Add		1000	962.9	Offered CB	1 Slack	Tees	Rdam
P = 170.6	75 = 170.8		Product Acetic Add		1000	962.9	Offered CB	M Slack	Tees	Rdam
P = 170.6	75 = 170.8		Product Acetic Add		1000	962.9	Offered CB	M Slack	Tees	Rdam
IP = 120.1       IP = 170.6       IP = 440.9       IP = 450.1	75 = 170.8 85 = 441.1		Product Acetic Add		1000	962.9	Offered CB	1 Słack	Tees	Rdam

products will appear without colour. Above the table, the physical data and voyage data will now also appear. By clicking the Name of the carried product in the Table, you select the product whose data will be shown on the top right side.

The next step is to start stowing the products. For example, if Acetic Acid is selected and we start clicking on the Cargo Tanks,

Figure 6

on the left side. Let us assume 1P. The Table row of Acetic acid will now show the total Tons to be carried, the Total Volume to be carried, the Available Volume (given by 1P) and the Slack Volume (if applicable, else this will be 0). The Acetic Acid will also be assigned its own colour, to help make a visual difference between multiple products.

Continue selecting tanks by clicking them for Acetic Acid until a slack volume is reached. Then the Available Volume, from the grouped loaded tanks, is bigger than the Total Volume needed.

To deselect a cargo tank for that product, click on this particular cargo tank again and all values involved in the Table will be adjusted.

# Note

In the centre of this Main Dialog Window is one numerical spin box. At this moment it is stated 98. This stands for maximum filling of the Cargo Tanks. When brought into focus by tab order or mouse click, the filling percentage in the desired filling can be adjusted. All stowage fillings will be calculated against this value.

	Acetic Acid Tees / Rdam	Acetic Acid Tees / Rdam		Product :			enzene						٢
				Ton :	500	^	OK		IMO:	3.			J
P = 318.2	Acetic Acid	Acetic Acid	25 = 318.0	Volume :	569.2	1	+		UN :	111		$\sim$	ĸ
	Tees / Rdam	Tees / Rdam		Actual Dens : Loading Port :	0.8784 Rd	×			MARPOL :	Y			
P = 480.6			35 = 479.7	Disch. Port :	Rd		_	vapo	our Press : MAC :	100 m			
				Temperature :	17		97,0 0		Solubility :	0.18	-		
				Clause :			97,0 •		Jonuonicy :	0.10			
P = 580.9			4S = 580.4	Slack :						Slack			
				Don't Load in :						Not in			
P = 850.7			5S = 851.1	F/N nr :	b		B/L :			Sav	/e		
P = 120.1			65 = 120.8		Product Acetic Acid		Ton 1000	CBM 962.9	Offered C	148.0	Loadport Tees	Dischport Rdam	í
° = 120.1			6S = 120.8										Í
P = 120.1 P = 170.6			65 = 120.8 75 = 170.8		Acetic Acid		1000	962.9	1110.9	148.0	Tees	Rdam	^
	Benzene Rdam / Tees				Acetic Acid		1000	962.9	1110.9	148.0	Tees	Rdam	
P = 170.6	Benzene Rdam / Tees				Acetic Acid		1000	962.9	1110.9	148.0	Tees	Rdam	
	Benzene Rdam / Tees	Benzene Rdam / Tees	75 <b>-</b> 170.8		Acetic Acid		1000	962.9	1110.9	148.0	Tees	Rdam	

As per example, the Acetic Acid has been loaded into 1P/S and 2P/S and the Benzene into 7P/8S, *figure* **7**.

The Benzene can be stowed when it is selected in the Table.

The Table has now for both products Slack Volume so that they fit into the selected tanks for loading. Inside each selected cargo tank, the name of the carried product and the load / discharge port name

			1S = 254.6	irgo Details								
	Acetic Acid Tees / Rdam	Acetic Acid Tees / Rdam		Product :			Benzene					1
				Ton :	500	^	OK		IMO :	3.3	2	-
2P = 318.2	Acetic Acid	to the second	2S = 318.0	Volume :	569.2		+		UN:	111	4	
1	Acetic Acid Tees / Rdam Slack	Acetic Acid Tees / Rdam Slack		Actual Dens :	0.8784	~			MARPOL :	Y		
	5.80	SIBOX		Loading Port :	Rd	am		Vap	our Press :	100 m	b/20	
3P = 480.6			35 = 479.7	Disch. Port :	Te	es			MAC:	10 p	pm	
				Temperature :	17		97,0 🗘		Solubility :	0.18	%	
₽ = 580.9			4S = 580.4	Clause :	N2							
				Slack :					_	Slack		
				Don't Load in :	75 - 8P				6	Not in		
SP = 850.7			55 = 851.1	F/N nr :	b		B/L:			Sav	e	
6P = 120.1		-	65 = 120.8		Product Acetic Acid		Ton 1000	CBM 952.9	Offered CB	M Slack	Loadport	Disc
6P = 120.1			65 = 120.8									
					Benzene		500	569.2	593.4	24.2	Rdam	1
7P = 170.6	-		7S = 170.8									
,	Benzene Rdam / Tees											
8P = 440.9		Benzene	8S = 441.1									
		Rdam / Tees Slack										
9P = 450.1			9S = 450.2									

will be shown. This allows you to go even further.

On the right side of the dialog window, you will find a check box called 'Slack'. When, per example, Acetic Acid is selected in the table, tick this box. You can now decide which tank for Acetic Acid will be slack. This selected tank will have the 'Slack' printed also on the bottom of this tank and its name will be printed into the slack line. This is shown in *figure 27*.

Beneath the 'Slack' checkbox there is a 'Don't' checkbox. When, per example, the Acetic is not allowed to be carried in the 3P/S cargo Tanks, tick this box. You now can click on these cargo tanks and their name will be printed in the 'Don't load in line'. This means when you start stowing again and both 'Slack' and 'Don't' checkboxes are unticked, you can click on the 3P/S, only they won't be selected for Acetic Acid. See *figure 8*.

#### Note

During stowing, selecting cargo tanks manual. Both 'Slack' and 'Don't' check boxes must be unticked

Basically, this is <u>manual stowing</u> with the Stowage Assist. In theory you can now stow as many cargoes as there are in numbers of cargo tanks.

# Semi-Automatic Stowing

Thanks to the program '*Combinations'*, instructions can be given so that the program selects the cargo tanks semi-automatically. On the right side there are tree buttons stating 'OK', '+' and '-'. When a product is selected in the Table, press 'OK'. The tree buttons will now change to a bright blue colour and the clickable cargo tanks to the left will become disabled (see *figure 9*). This means that the program is connected to the '*Combinations*' database.

By starting with the '+' search, the program will look into the database and search for the first group or single tank, which has the minimum 'Slack' space possible. When this is a not desirable group or single tank, press 'Search' again until a desirable selected group or single tank is found.

Use '-' to go backwards to the smallest combination or single tank. The value stated in the filling percentage, has been calculated. The Table will also be updated after every time '+' or '-' is used. When the desired result is reached, press 'OK' again and the tree buttons will deselect and return to their original colours. The cargo tanks on the left will be enabled again.

Stowage Assist Ship Initialize Voyage Products Rotation	Trim Bunkers About								-		>
1P = 254.3 Acetic Acid Tees / Rdam	1S = 254.6 Acetic Acid Tees / Rdam	Cargo Details Product :			Benzene					1	1
		Ton :	500	^	ОК		IMO :	3.2			Ŋ
2P = 318.2 Acetic Acid Tees / Rdam	25 = 318.0 Acetic Acid Tees / Rdam	Volume : Actual Dens :	569.2	-	+		UN :	1111 Y		$\sim$	
Sladk	Slack	Actual Dens : Loading Port :	0.8784	dam v	•		MARPOL :	Y 100 mt			
3P = 480.6	3S = 479.7	Disch. Port :		ees	_	vapo	MAC:	10 pp			
		Temperature :			97,0 0	,	iolubility :	0.18			
4P = 580.9	45 = 580.4	Clause :	N2				- L				
		Slack :	85					Slack			
		Don't Load in :	75 - 8P					Not in			
SP = 850.7	55 = 851.1	F/N nr :	b		B/L:			Sav	e		
			Product		Ton	CBM	Offered CBM	Slack	Loadport	Dischpor	+
6P = 120.1	6S = 120.8		Acetic Acid		1000	962.9	1110.9	148.0	Tees	Rdam	
			Bergene		500	\$69.2	593.4	24.2	Rdam	Tees	
7P = 170.6	75 <b>=</b> 170.8										
Benzene Rdam / Tees	73 - 1703										
8P = 440.9	85 = 441.1 Benzene										
	Rdam / Tees Slack										
9P = 450.1	9S = 450.2										
											_

When the program reaches the end of the search possibilities '+'or '-', the connection will be closed, and the tree buttons will also deselect and the cargo tanks to the left will be enabled again. This will be clarified with a beep sound.

Figure 9

Note

Stowing in the semi-automatic mode can be done as long as there are unselected cargo tanks and the 'Volume Needed' is smaller than the 'Volume Available'.

When a wrong product is loaded into the Main Dialog Window, this can simple be overcome by the submenu 'Remove Product', shown in *figure 22*. Select the product you wish to delete in the Table and then press the submenu 'Remove Product. Confirm 'Yes' in the pop-up window, to delete this product from the Table. Press 'No' to keep the product.

All white fields on the right side of the Main Dialog Window can be changed by the user. After pressing the 'Save' button, they will become implemented for that product, which has been selected in the table. When the 'Actual Density' and the 'Ton' fields are changed, the product needs to be restowed, as written above.

#### <u>History</u>

If the stowage was completed and the voyage has been performed according to the stowage logs, you can add this voyage to the 'History'. This is also the place to retrieve the last cargoes for each cargo tank on board.

By doing so select the menu 'Products' on the submenu 'Cargo History' (*figure 2*.). The following Dialog sequence will be shown as per *figure 10*.

Cargo History

/oyage	-	-	-	-	-	-	-	001
lopP	-	-	-	-	-	-	-	Acetic Acid
s	-	-	-	-	-	-	-	Acetic Acid
P	-	-	-	-	-	-	-	Acetic Acid
s	-	-	-	-	-	-	-	Acetic Acid
P	-	-	-	-	-	-	-	-
s	-	-	-	-	-	-	-	-
IP	-	-	-	-	-	-	-	-
s	-	-	-	-	-	-	-	-
P	-	-	-	-	-	-	-	-
iS	-	-	-	-	-	-	-	-
P	-	-	-	-	-	-	-	-
iS	-	-	-	-	-	-	-	-
P	-	-	-	-	-	-	-	Benzene
s	-	-	-	-	-	-	-	-
P	-	-	-	-	-	-	-	-
s	-	-	-	-	-	-	-	Benzene
P	-	-	-	-	-	-	-	-
s	-	-	-	-	-	-	-	-
					Add	Voyage Print Hist	ory Delete Voyage	Return to Stor

This Dialog Window will show the last cargoes carried. There are four push buttons with their stated actions: 'Add Cargo', 'Print Cargo', 'Delete Cargo' and 'Return to Stowage'.

Use 'Return to Stowage' to return to the Main Dialog Window without any further actions.

Use 'Add Cargo' to add the selected voyage in the Main Dialog Window to the History Database. All voyages will move one column to the left and the

Figure 10

last voyage is seen in the column the furthest to the right. Confirm 'Yes' in the Message Window, to run this action. Use 'No' to return to this Dialog Window.

Use 'Delete Cargo' to delete the last entry from the History database. All voyages will move one column to the right in the table. Confirm 'Yes' in the Message Window, to run this action. Use 'No' to return to this Dialog Window.

Use 'Print History' to create an Excel sheet, which shows an overview of the last voyages and last cargoes carried as per *figure 11*. This Excel file can be stored on the working partition of your Local or Network system.

			Last Cargoes Allad	in II Voyage: 001			<b>V</b>
	Last Voyage	2nd	3rd	4th	5th	6th	7th
Voyage	001	-	-	-	-	-	-
SlopP	Acetic Acid	-	-	-	-	-	-
1S	Acetic Acid	100 A.				-	
2P	Acetic Acid	-	-	-	-	-	-
25	Acetic Acid	-	-	-	-	-	-
3P						-	-
3S	-	-	-	-	-	-	-
4P	-	-	-	-	-	-	-
4S		-	-	-		-	-
5P				-	-	-	-
5S	-	-	-	-	-	-	-
6P		-	-	-		-	-
6S						-	-
7P	Benzene	-	-	-	-	-	-
7S	-	-	-	-	-	-	-
8P							-
8S	Benzene	-	-	-	-	-	-
9P	-	-	-	-	-	-	-
9S		-		-		-	-
N	Nethod off cleaning :					Date :	19-06-2

#### Figure 11

This print can go back to 50 voyages.

## Trim and draft

Use the menu bar action button 'Trim' and its submenu action button 'Draft Calculations' to open the 'Dialog Trim Calculation', as shown in *figure 12*.

	Product	CBM	SG	Ton	^	Calculat	ed Particula	rs : 1.025 t/m3
SlopP	Acetic Acid	246.7	1.0385	256.2		ΔSea		: 4307.9 mT
1S	Acetic Acid	247.0	1.0385	256.5		Total Ca	rgo	: 1499.9 mT
2P	Acetic Acid	234.7	1.0385	243.7		LCB LCF		: 55.42 mtr : 55.58 mtr
25	Acetic Acid	234.5	1.0385	243.5		LCG Draft on	LCF	: 55.82 mtr : 3.3 mtr
ЗP		0.0	0.000	0.0		Trim Draft Fo		: -0.22 mtr : 3.42 mtr
3S		0.0	0.000	0.0		Draft Af		: 3.19 mtr
4P		0.0	0.000	0.0		List		: 9.6 °
4S		0.0	0.000	0.0		Extra Su Extra Wi		: 6915.8 m : 6590.3 mt
5P		0.0	0.000	0.0			CBM	WGT
5S		0.0	0.000	0.0		Ballast	0.0	0.0
6P		0.0	0.000	0.0		FW	0.0	0.0
6S		0.0	0.000	0.0		IFO	0.0	0.0
7P	Benzene	165.5	0.8784	145.4		GO	0.0	0.0
7S		0.0	0.000	0.0		LO	0.0	0.0
8P		0.0	0.000	0.0		Misc	90.0	90.0
8S	Benzene	403.7	0.8784	354.6	<b>_</b>			

This Dialog Window will show the volumes, sg and tonnage of each tank listed on board, in the left table.

In the list widget, on the upper right, there will be a summary of the calculated valuas for 'Trim' and 'Draft' of the weight at that loading condition.

In the lower right table, there is a summary of all volumes and weight on board without cargo.

There are tree buttons in this dialog: 'Return to Stowage', 'Print' and 'Get Bunkers'.

Figure 12

Use 'Return to Stowage' to go back to the Main Dialog Window without any further actions.

Use 'Get Bunkers' to load the last entry of the values of volumes and weights on board (besides the ballast and the cargo tanks) from the Bunkers database. Confirm 'Yes' in the Message Window, to run this action. Use 'No' to return to this Dialog Window.

As seen in the table, the selected cargo tanks are forwarded to this Dialog. The listed calculated values are from the data of the Ship without 'Bunkers'. The same goes for the values listed in the summary table. By pressing 'Get Bunkers', an updated calculated draft and list will be made and the summary table will be updated.

	Product	CBM	SG	Ton	^	Calculat	ed Particular	s : 1.025 t/m3
8S	Benzene	403.7	0.8784	354.6		ΔSea		: 5396.8 mT
9P		0.0	0.000	0.0		Total Ca	rgo	: 1499.9 mT
9S		0.0	0.000	0.0		LCB LCG Draft on LCF Trim Draft Forward Draft Aft List		: 55.44 mtr : 55.39 mtr
Ballast 1	Ballast	0.0	1.025	0.0				: 50.64 mtr : 4.1 mtr
Ballast 2P	Ballast	0.0	1.025	0.0				: 3.23 mtr : 2.41 mtr
Ballast 2S	Ballast	0.0	1.025	0.0				: 5.64 mtr
Ballast 3	Ballast	0.0	1.025	0.0				: 8.5 °
Ballast 4P	Ballast	0.0	1.025	0.0			Extra Summer Extra Winter	
Ballast 4S	Ballast	0.0	1.025	0.0			СВМ	WGT
Ballast 5	Ballast	458.1	1.025	469.6		Ballast	458.1	469.6
Ballast 6P	Ballast	0.0	1.025	0.0		FW	146.0	146.0
Ballast 6S	Ballast	0.0	1.025	0.0		IFO	426.0	383.4
Ballast 7	Ballast	0.0	1.025	0.0		GO	57.0	51.3
Forepeak	Ballast	0.0	1.025	0.0		LO	15.7	13.4
DrWater P	Freshwater	23	1.000	23.0		Misc	115.2	115.2
DrWater S	Freshwater	23	1.000	23.0	•			
Return to Stowage	Print Get Bur			SG= 1,				

Furthermore, the state of the ballast and the state of the 'Bunkers' can be manipulated in the left table as shown in *figure 13*. The Volumes in the column CBM of these tanks are enabled. All the rest are disabled. Double-click these volumes to set them to maximum Volume. Singleclick to empty them again. **NB:** the numerical keys can be used here. When a value has been manipulated, use arrow up ( $\uparrow$ ) or arrow down ( $\downarrow$ ) to adjust.

Use 'Print' to create an Excel sheet with a summary of the Volumes, sg and Ton of all tanks on board,

Product Name Acetic Acid Acetic Acid Acetic Acid Acetic Acid Benzene Benzene	Vol 246.7 247.0 234.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	SG 1.0385 1.0385 1.0385 1.0385 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.8784 0.000 0.000	Ton 256.2 256.5 243.7 243.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
Acetic Acid Acetic Acid Acetic Acid Benzene	247.0 234.7 234.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 165.5 0.0 0.0	1.0385 1.0385 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.8784 0.000	256.5 243.7 243.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
Acetic Acid Benzene	234.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 165.5 0.0 0.0	1.0385 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.8784 0.000	243.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 145.4 0.0
Benzene	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 165.5 0.0 0.0	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.8784 0.000	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 145.4 0.0
	0.0 0.0 0.0 0.0 0.0 0.0 165.5 0.0 0.0	0.000 0.000 0.000 0.000 0.000 0.000 0.8784 0.000	0.0 0.0 0.0 0.0 0.0 0.0 145.4 0.0
	0.0 0.0 0.0 0.0 0.0 0.0 165.5 0.0 0.0	0.000 0.000 0.000 0.000 0.000 0.000 0.8784 0.000	0.0 0.0 0.0 0.0 0.0 0.0 145.4 0.0
	0.0 0.0 0.0 0.0 0.0 165.5 0.0 0.0	0.000 0.000 0.000 0.000 0.000 0.000 0.8784 0.000	0.0 0.0 0.0 0.0 0.0 0.0 145.4 0.0
	0.0 0.0 0.0 0.0 165.5 0.0 0.0	0.000 0.000 0.000 0.000 0.8784 0.000	0.0 0.0 0.0 0.0 145.4 0.0
	0.0 0.0 0.0 165.5 0.0 0.0	0.000 0.000 0.000 0.8784 0.000	0.0 0.0 0.0 145.4 0.0
	0.0 0.0 0.0 165.5 0.0 0.0	0.000 0.000 0.8784 0.000	0.0 0.0 0.0 145.4 0.0
	0.0 0.0 165.5 0.0 0.0	0.000 0.000 0.8784 0.000	0.0 0.0 145.4 0.0
	0.0 165.5 0.0 0.0	0.000 0.8784 0.000	0.0 145.4 0.0
	165.5 0.0 0.0	0.8784	145.4 0.0
	0.0	0.000	0.0
Benzene	0.0		
Benzene		0.000	
Benzene	408.7	0.8784	354.6
	0.0	0.000	0.0
	0.0	0.000	0.0
			0.0
			0.0
			0.0
			0.0
	0.0		0.0
	0.0		0.0
Ballast	458.1	1.025	469.6
Ballast	0.0	1.025	0.0
Ballast	0.0	1.025	0.0
Ballast	0.0	1.025	0.0
Ballast	0.0	1.025	0.0
Freshwater	23	1.000	23.0
Freshwater	23	1.000	23.0
IFO	90	0.900	81.0
IFO	54	0.900	48.6
IFO	101	0.900	90.9
IFO	147	0.900	132.3
IFO	0	0.900	0.0
IFO	9	0.900	8.1
IFO	25	0.900	22.5
			21.6
Gasoil	24	0.900	21.6
			3.6
	6		4.5
			4.0
			0.5
			0.5
			7.8
			5.4
			3.4
			4.0
			3.2
			0.2
			0.2
			0.2
			7.6
Freshwater	100	1.000	100.0
	Ballast Ballast Ballast Freshwater Freshwater IFO IFO IFO IFO IFO IFO Gasoil	Ballast:         0.0           Freshwater         23           IFO         101           IFO         107           IFO         1477           IFO         9           IFO         24           Gascoil         24           Gascoil         5           Misc <td>Ballast         0.0         1.025           Ballast         0.0         1.025           Freshvater         23         1.000           IFO         90         0.900           IFO         101         0.900           IFO         147         0.900           Gasoil         24         0.900           Gasoil         4         0.900           Gasoil         5         1.000           Misc</td>	Ballast         0.0         1.025           Freshvater         23         1.000           IFO         90         0.900           IFO         101         0.900           IFO         147         0.900           Gasoil         24         0.900           Gasoil         4         0.900           Gasoil         5         1.000           Misc

(see *figure 14.*).

Warning:

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This application cannot be used for checking the stability criteria. It only calculates the drafts, trim of that loading condition. The list is calculated against a fixed GM of 1.0 meter.

Figure 14

#### File New, Load, Save

#### Stowage Assist Ship Initialize Voyage Products Rotation Trim 1P = 254 🐻 New Voyage Ctrl+N Loading Voyage... Ctrl+L Saving Voyage... Ctrl+S 2P = 318Ctrl+D Delete Voyage 3P = 480 Print Voyage Ctrl+P a 🕑 End Ctrl+E Figure 34

Use 'Voyage' to open another submenu. See *figure 34* for the details of this submenu.

This submenu contains 'New Voyage', 'Loading Voyage', 'Saving Voyage', 'Delete Voyage', 'Print Voyage' and 'End'.

Use 'New Voyage' to clear all the content on the Main Dialog Window. From there, create new data or products.

Use 'Load Voyage'' to reload stored voyages into the Main Dialog Window. The stored voyages will be stored in the directory '..:/HRN/Stowage Assist/Data/\*/' with extension .stw.

Use 'Save Voyage' to save voyages in the directory '..:/HRN/Stowage

# Assist/Data/\*/' with extension .stw.

Use 'Delete Voyage' to delete voyages saved in the directory '..:/HRN/Stowage Assist/Data/\*/' with the extension .stw.

• \* = The name of the ship where it is installed and saved. This folder is for office use.

For all the actions above: Confirm 'Yes' in the Message Window, to run this action. Use 'No' to return to this Dialog Window.

# **Rotation**

In the menu bar, use 'Rotation' to open a submenu action button 'Ports of Call'. By pressing this button, the following dialog will show, see *figure 35*.



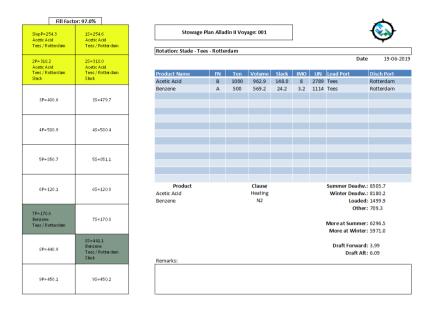
Figure 35

In this dialog window you can fill in the port rotation for that voyage.

Save the inserted ports by pressing 'OK' button. The dialog window will close.

## Stowage plan

Use 'Print Voyage' to create a Stowage plan in Excel for the voyage that is currently shown in the Main Dialog Window (see *figure 36.*). A pop-up window will inquire about the 'Trim' and list 'Calculation'.



This Excel file can be stored on the working partition of your Local or Network system.

Figure 36

#### Note

- > If a voyage is unsaved, a stowage plan without voyage number is created.
- > If the rotation is left blank, an empty rotation will print.