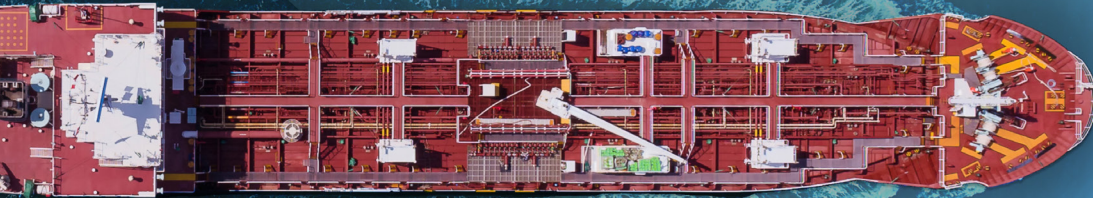


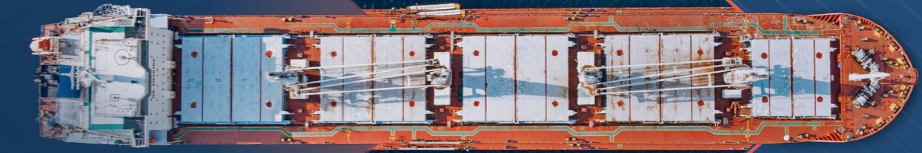
# Keep Moving with a new era in **Tank and Hold Cleaning**

**Unmatched speed. Unrivalled service.**

— Only with **NAVADAN**<sup>™</sup>  
by Wilhelmsen



Tankers and bulk carriers are the backbone of the global maritime industry, transporting essential commodities from crude oil, refined products, chemicals and consumable oils to mineral ores and grains.



// These vessels connect exporting countries to markets around the world and facilitate the wheels of international trade.

#### Why cleaning is critical

In every port where cargo is unloaded, thorough cleaning of tanks and holds is a critical process performed before the next cargo comes on board. This ensures valuable cargoes are not contaminated by residues from the previous cargo. For example, when a bulk carrier switches from carrying coal to grains or when a tanker switches from shipping waxy or sticky dirty petroleum products to clean products with lighter properties. Tank cleaning is also crucial for maintaining the integrity and extending the lifetime of internal tank coatings.

#### Time is of the essence, always

In the fast-paced and competitive world of maritime transport where every minute counts, effective and timely cargo hold cleaning (CHC) and tank cleaning (TC) plays a critical role in ensuring the financial performance of vessels and the safety of their cargoes. For ship owners and operators working to tight margins, ensuring ships are consistently clean and ready to sail on time is a crucial bottom-line priority.

Whenever a ship unloads its cargo at port, the race against time begins to prepare it for the next cargo mission. During these critical hours, the prompt application of cleaning products and solutions, assuming they are not already onboard, takes precedence over cost considerations. Consistently strong performance in this area can be the key to securing and maintaining important freight contracts with demanding charterers and cargo owners.

#### Operational challenges

The top priority for vessel operators and masters is to minimize turnaround time. It would help to have all the necessary supplies ready when your ship arrives in port. Working with reliable suppliers who deliver high-quality and compliant cleaning products on time and are easily contactable can significantly streamline operations and ensure overall efficiency.









# Effective cleaning is crucial in the maritime industry

// By ensuring vessels' safety, efficiency, and longevity we help maintain a pristine environment, support the crew's well-being and contribute significantly to the overall success of maritime operations.









## Consequences of poor cleaning

By promptly addressing cargo hold and tank cleaning issues, you can safeguard your vessels against potential risks such as preventing residual contamination of valuable cargo, avoiding structural damage to the tank or hold and the following challenges:

-  Expensive downtime
-  Loss of business
-  Reputational damage
-  Fines due to regulatory non-compliance
-  Customer complaints due to delayed departure or arrival
-  Health risks to both seafarers and cargo-handling personnel



## Best practices to ensure a timely turnaround

-  Prioritize quality over short-term savings to ensure long-term success.
-  Stay compliant to prevent safety risks and inspection failures. Conduct inspections before cargo loading to avoid downtime.
-  Partner with trusted suppliers for increased efficiency and optimal value.
-  Invest in high-quality Marpol Annex I, II and V compliant cleaning products to maintain the structural safety of holds and tanks, prevent contamination of cargo and reduce the risk of incidents and injuries.
-  Choose suppliers with an extensive inventory and distribution network to support your vessel globally.
-  Ensure your crew is trained and motivated to carry out cleaning properly, with good knowledge of equipment and cleaning agents.

\*MARPOL Annex V states that cargo residues and cleaning additives contained in cargo hold wash waters may not be discharged into the sea if these are harmful to the marine environment. Sodium hypochlorite is often used for cargo hold cleaning, but it is harmful to the marine environment. If wash waters contain substances harmful to the marine environment, they must be discharged at shore reception facilities and the burden of proof lies with the vessel.



## Unparalleled distribution network

Our extensive maritime supply network covers over 2,000 ports in more than 100 countries worldwide, ensuring we can deliver products and services precisely when and where you need them. Enhanced by a distribution network of local chemical blenders, we now offer reduced lead times and faster delivery of cleaning solutions to vessels globally.

// 100 Countries  
// 2,000 Ports

## The smart way to shorten turnaround time

Our strategic acquisition of Navadan and Stromme now brings all tank and cargo hold cleaning needs under one roof. Our new Navadan by Wilhelmsen brand is the embodiment of Navadan's agility and superior service, Stromme's efficiency and expertise, and Wilhelmsen's reach and resources.

With our expanded portfolio, you can expect the same high-quality products, technical support, simplified sourcing, and consistent, standardized products, saving you time and effort.

// It is our mission to bring you peace of mind through outstanding service and quality products that are always available.



# We will keep you —Moving

// Our key value pillars as your best choice for end-to-end cleaning care.



## Global availability with fast delivery

Our global presence and local blending facilities enable you to access solutions whenever and wherever you need them.



## Wide range of products catering to all your cleaning needs

Our comprehensive range of tank and hold cleaning products and equipment cover all your cleaning needs.



## High-quality products developed to meet your expectations

Our solutions are engineered to meet rigorous standards, ensuring your vessel's tank or hold is prepared for its next voyage.



## Products that make cleaning jobs compliant and safe

Our products help you comply with regulatory requirements without compromising safety.



## A team of experts is available 24/7 to help find the solutions best for you!

Our dedicated team of experts is ready to guide and support you in identifying the optimal tank and hold cleaning solution for your vessel.

# Tank and Hold Cleaning Products and Equipment

## Tailored solutions

Our comprehensive product range ensures effective cleaning with the best-suited equipment tailored to your needs. Our advisory team can accommodate all your specific needs pairing either standardised products or locally blended chemicals with the best-suited equipment for the job.



### Chemical, equipments and technical expertise need to be smaller than tailored solutions

Our cleaning agents have higher concentrations of active chemicals to provide exceptional cleaning properties. This can help you effectively reduce the need for excessive or repeated applications and minimize chemical wastage, for more efficient and responsible usage.



### Equipment

Our equipment is designed for tank and cargo hold cleaning in the tough marine environment, maximizing durability, and readiness for the next job.

For optimal cleaning results, our cleaning equipment complements for our chemicals, ensuring reliable and effective cleaning results every time and contributing to the overall maintenance and longevity of the vessel.



### Technical Expertise

Our Tank and Hold Cleaning Specialist Center offers round-the-clock technical expertise, support, and quotations, along with a dedicated team of technical specialists and Port Service Engineers for onboard support whenever needed.

# Tank and Hold Cleaning Product Portfolio

## Tank Cleaning Chemicals

### Navadan GentleTank

Water based alkaline cleaner for zinc coated vessels, ideal for liquid cargo changeover.

### Navadan CleanTank

Heavy duty water based alkaline tank cleaner for tanker vessels ideal for removal of Inert Gas System (IGS).

### Navadan EasyTank

Weak Acid Buffer cleaner for Zinc coated tanks. For removal of low PH cargo contamination.

### Navadan ShineCargo

Acid based cleaner used for removal of palm fatty acid distillate, white stains, ore and specific bauxite. Can be used as general rust and stain remover.

### Navadan OceanTank

Solvent based cleaner used for removal of heavy hydrocarbons, mineral oils, and waxes.

### Navadan ReadyTank

Water based pH neutral cleaner used for removal of light hydrocarbons, vegetable oils and animal oils.

## Hold Cleaning Chemicals

### Navadan CleanHold

Heavy-duty alkaline cleaner with high foam properties for dry-bulk vessels.

### Navadan FreshHold

Highly concentrated acid cleaner for removal of cement, limewash, concrete, clinker, rust, and scales in cargo holds.

### Navadan BarrierHold

Water resistant cargo hold barrier coating that provides a barrier for preparation of dry bulk vessels before loading challenging cargoes.

### Navadan ShineCargo

Acid based cleaner used for removal of palm fatty acid distillate, white stains, ore, and specific bauxite. Can be used as general rust and stain remover.



**Tank Cleaning Equipment**

<b>Navadan Pump &amp; Spray</b>	Complete kit for injection of chemicals and spot removal of stains in hard-to-reach places in tanker vessels.
<b>Navadan Protection Kit</b>	High quality acid personal protection equipment for 4 people, consisting of chemical suit, gloves and respiratory protection.

Dry bulk does not have preinstalled cleaning equipment and requires chemicals, chemical applicators, slop water evacuation, and high-pressure washers for common cleaning tasks.

**Hold Cleaning Equipment**

<b>Navadan Ultimate Kit</b>	Designed for efficient chemical application, rinse off and wash down of the entire cargo holds on board using a diaphragm pump.
<b>Navadan Essential Kit</b>	Designed for efficient chemical application, rinse off and wash down of the entire cargo holds on board with the minimal equipment needed.
<b>Navadan Panamax Kit</b>	Designed for efficient chemical application, rinse off and wash down of the entire cargo holds on board using a pressure tank.
<b>Navadan Applicator</b>	Designed for light cleaning and application of cargo barrier in height up to 12 meters.
<b>Navadan Tornado Kit</b>	Designed for cleaning and descaling of medium to large bulk carriers cargo holds, in height up to 30 meters.
<b>Navadan Maxi Kit</b>	Designed for cleaning, wash down and descaling of large to capesized bulk carriers cargo holds from the tank tops, in height up to 60-80 meters.



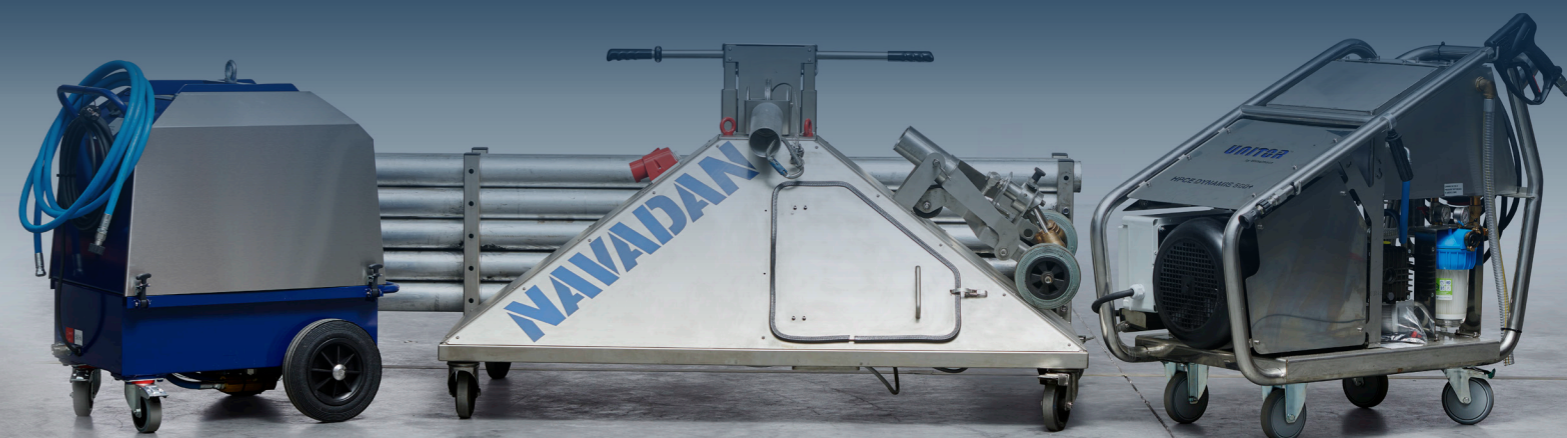
**Hold Cleaning Equipment**

<b>Navadan Diaphragm Kit</b>	Slop water evacuation kit using an air driven diaphragm pump.
<b>Navadan Submersible Kit</b>	Slop water evacuation kit an electric submersible pump.
<b>Navadan Protection Kit</b>	High quality acid personal protection equipment for 4 people, consisting of chemical suit, gloves and respiratory protection.

**High-pressure Equipment**

<b>Unitor™ HPCE Dynamis 300+™</b>	<b>Unitor™ HPCE Dynamis 300+™</b>
	<b>Unitor™ HPCE Dynamis 350+™</b>
	<b>Unitor™ HPCE Dynamis 500+™</b>
<b>Navadan Tool Carrier</b>	A tool carrier designed to clean cargo holds and substitute the use of chemicals. First tool is designed using high-pressure water.
<b>Navadan Anaconda</b>	A high-pressure pole designed to do spot cleanings after chemical cleanings.
<b>Navadan Python</b>	A high-pressure pole designed to mainly clean box-shaped cargo holds up to 20m, substituting chemicals.
<b>Navadan Hotbox</b>	A 500 bar hotbox that turns high pressure cleaners into hot washer by heating a pressurized water stream.

Please contact your local WSS sales representative for the availability and prices of the Tank & Hold Cleaning product portfolio.



wilhelmsen.com



**Wilhelmsen Ships Service**

Phone: (+47) 67 58 40 00

Fax: (+47) 67 58 40 80



**Postal Address**

PO Box 33, NO-1324

Lysaker, Norway

For more information, please contact us at:

[wss.tankandholdcleaning@wilhelmsen.com](mailto:wss.tankandholdcleaning@wilhelmsen.com)

— Only with **NAVADAN**<sup>™</sup>  
by Wilhelmsen

V1.0-072024