

# Why a discharge ban?

Seagulls flying overhead, a clear blue sky, wonderful surroundings, and people enjoying a refreshing swim in the water; a typical summer's day on the Zeeland waters. Zeeland is well-known for its abundance of water and magnificent dunes. With a coastline stretching for about 300 kilometres, the waters of Zeeland have much to offer. Every year, hordes of tourists from both at home and abroad are drawn by the many attractions that the water offers. For many visitors, water sports form a healthy balance between work and leisure. Swimming, yachting, surfing, canoeing, diving; Zeeland is a perfect place for watersport lovers. What makes the province of Zeeland so special are the peace and quiet, the open spaces and the clean waters. To make sure that this water is kept clean, the discharge ban will take effect in the Netherlands from 2009.

In summer, the Zeeland waters are a nice place to be. When the temperature rises, many visitors take to the water. Often, we forget to think about whether the water we recreate on is clean. Many pleasure craft with a toilet on board discharge the toilet water straight into the water. Due to the large number of visitors during the summer, the water will become seriously polluted. This pollution is mainly found near mooring and anchorage places.

## Bacteria - Bacterial contamination

Zeeland is located in the deltaic region of the Scheldt estuary. The river Scheldt supplies nutrients from upstream. As a result of this, the Zeeland waters are rich in nutrients (eutrophic).

Water is also often used for other recreational purposes, for swimming for example. The idea of swimming in water in which a toilet has been flushed is not an attractive one. Bathers risk being contaminated by



Large numbers of nutrients also end up the water through human activity, such as agriculture, wastewater treatment and recreational shipping.

pathogenic bacteria. Children in particular are highly sensitive to this. Common complaints after bathing in water contaminated by toilet water include itching, earache and stomach ache.

This leads to an excess of nutrients in the water, which in its turn encourages excessive growth of blue algae and all kinds of pathogenic bacteria. Water quality manager see to it that the water is polluted as little as possible.

## Blue algae - Blue algae contamination

Besides the growth of bacteria, the discharge of toilet water also leads to an increase in nutrients in the water for the algae to feed on. This will encourage excessive algal growth. Algae grow optimally at temperatures between 20° and 30° C in stagnant water with much light. So you can imagine what happens when toilet water is discharged in the summer. Water with a high concentration of blue algae can usually be recognised by the green and often smelly layer on the surface of the water. Blue algae have a harmful effect on water plants, animals and people. Bathers can be affected by the blue algae through the skin, the eyes or by swallowing water. Contact with blue algae may cause stomach and bowel disorders. If blue algae are detected, a swimming ban will usually be put in place.

Since we all want to continue to enjoy ourselves in clean water, the government has imposed a ban on the discharge of toilet water from pleasure craft, which will take effect from 2009.



In addition to this, 25 ports in Zeeland have pump-out stations where visitors can dispose of their toilet water from their pleasure craft. From 2009 onwards, marinas with over 50 mooring places will be obliged to have a pump-out station.

It is important to know that the ban on the discharge of toilet water from pleasure craft is not the same as the

## Discharge ban: what does it imply and to whom does it apply?

obligation to have a waste water collection facility on board. This is a personal choice. You may also choose to use the toilet facilities on shore. There are several types of on-board collection systems available, including a waste water tank, a portable (chemical) toilet or an eco-toilet. For vessels sold from 2006 onwards, a different system applies: the construction standard requires that such a collection facility should be installed. Owners of existing vessels will therefore have until 2009 to install the right facilities on their boats. In the future, different legislation will also impose a discharge ban on commercial craft, such as charter vessels, cargo sailing vessels, round-trip boats and party boats.

The discharge ban means that from 2009 all vessels that come under the Recreational Craft Directive will no longer be allowed to discharge toilet water into the surface water. As a rule, it will apply to pleasure craft for leisure activities with a length of 2.5 to 24 metres, which are not older than 1950. This ban, incorporated in the Wastewater Discharge Act Domestic Users, is a natural result of the more stringent requirements of the new European Bathing Water Directive and the Water Framework Directive. It obliges the authorities to ensure good (swimming) water quality.

# Waste water collection

Many visitors ask themselves: 'What is the best solution for me to comply with the discharge ban?' Every boat is different and, likewise, there are different waste water collection systems. It is often difficult for the visitor to decide which collection system best suits his boat. The most common waste water collection systems will be discussed below.

Tip: When you buy a waste water collection system, always ask yourself the following three questions:

1. How many flushes are there a day?
2. How many litres of water does the toilet use per flush?  
Assume that 0.5 litres of faeces / urine are flushed per toilet visit. Add this to the previous number.
3. How many days do you intend to sail before you wish to empty the tank?

By simply multiplying the three answers, you will know the minimum capacity of your waste water tank. Remember: this is the minimum tank capacity that you need. To be absolutely sure, it is best to have a slightly larger tank installed.

## Points meriting attention

When choosing a waste water system, there are several points you should take account of to ensure that it offers the best possible solution.

- **Comfort**  
Your boat is a kind of second home, a comfortable toilet is therefore essential. You should be able to use your on-board toilet without problems.
- **Easy assembly**  
The entire system should be easy to install, preferably without electrical components.
- **Electricity consumption**

It is a shame to waste a lot of energy on a toilet. Therefore, pay attention to the electricity consumption.

- **User friendliness**  
Like a toilet at home, an on-board toilet should be easy to use so that both you and your guests and children can use it without problems.

- **Low noise**  
When choosing a toilet, also give some thought to the noise produced by the toilet when it is flushed. Especially at night, it is good to know that a toilet produces as little noise as possible.

- **Hygiene**  
It is important that the toilet is hygienic. A toilet that is easy to clean is an advantage and flushing with clean water will ensure that it does not smell. Remember, however, that many chemical cleansing agents may affect the hoses and parts of the waste water system. This may cause leaks and, consequently, unpleasant odours.

- **Quality**  
Quality is very important because who of us wants to fix a broken toilet. Therefore, select a good quality product, which works without problems.

- **Safe**  
Safety is all important. Make sure that mechanical parts are positioned in such a way that they do not cause danger of injuries, trapping and stumbling. It is also advisable not to use any electrical components in order to limit the danger of short-circuiting.

- **Water consumption**  
When you buy a toilet, also pay attention to the water consumption; there are considerable differences depending on the type of toilet. A traditional pump toilet will use four to six litres of water per flush. A vacuum toilet system, on the other hand, only needs half a litre of water per flush. The main advantage of low water consumption is that you can do with a much smaller (waste) water tank.



By completing the diagram below, you will know the required minimum tank capacity that best suits your specific requirements.

Number of litres used per flush	-----
Assumed quantity of faeces per toilet visit	0,5 litres +
Number of flushes per day (total of all persons on board)	----- x
Number of days you intend to sail without having to empty the tank	----- x
<b>Required tank capacity in litres</b>	-----

## Toilets

On-board toilets are available in various types and sizes. Which toilet you choose will depend on the size of your boat, whether you have an electrical connection or not, your budget, the desired comfort and the use of the boat.

## Portable toilet

Portable toilets are available in two designs: the well-known chemical toilet and the less well-known dry toilet. Both toilets are available in various models. The chemical toilet is cleaned after use by pushing the flush button (manual or electrical) by means of a powerful water flush. The lower part can be removed from the top part and the contents emptied in an appropriate facility in a marina. A dry toilet is very environmentally friendly; it uses no water, no chemicals, it is odourless, hygienic and does not make any noise. The almost odourless contents are kept in a compostable bag, which can easily be discarded in a kitchen and garden waste bin or on the compost heap.

- Advantages:**
- Compact, light weight and easy to use;
  - Can be installed everywhere;
  - No connection to drain or water system needed;
  - Cheap.
- Disadvantages:**
- Limited capacity.

## Toilet with hand pump

If the boat has no connection to the electricity grid but you still want a 'real' toilet on board, the toilet with hand pump may be an option. It offers the same comfort as your toilet at home.



- Advantages:**
- No electricity needed;
  - Manual pump allows you to decide how much water is used;
  - Relatively cheap to buy and maintain;
  - Relatively easy to install (no electricity needed).
- Disadvantages:**
- The user has to use the hand pump to flush.

## Electric toilet

If you have an electrical connection and you want a simple push button operation, the electric toilet may be a suitable choice. This type of toilet has an electric pump installed where the manually operated toilet has a hand pump.

- Advantages:**
- Easy push button operation;
  - Usually in combination with a macerator, which reduces the waste immediately (prevents blockage);
  - Easy to combine with waste water collection system.
- Disadvantages:**
- You need electricity; a hand pump will therefore be needed as a back-up;
  - Installation is more complicated than a portable or hand pump toilet;
  - More expensive.

