

Sewage Effluent Test Kit

MARPOL Annex IV contains a set of regulations regarding the discharge of sewage into the sea from ships, including regulations regarding the ships' equipment and systems for the control of sewage discharge, the provision of port reception facilities for sewage, and requirements for survey and certification (ISPPC –International Sewage Pollution Prevention Certificate).



MARPOL Annex IV entered into force on the 27th September 2003. All new ships 400 gross tonnage and above; and new ships less than 400 gross tonnage which are certified to carry more than 15 persons must comply with these regulations.

From the 27th September 2008, all existing ships 400 gross tonnage and above; and existing ships less than 400 gross tonnage which are certified to carry more than 15 persons must comply with these regulations.

Regulations

As set out in Annex 22 Resolution MEPC. 227(64) adopted on the 5th October 2012, sewage treatment plants installed prior to 1st January 2016 and on or after 1st January 2010, on ships other than passenger ships operating in MARPOL Annex IV special areas and intending to discharge treated effluent into the sea, should comply with resolution MPEC.159(55) adopted on 13th October 2006.

Resolution	Required Tests	Compliance
MEPC.2(VI)	Coliforms - up to 250 CFU/100ml Total Suspended Solids (TSS) (shore test) – up to 50 mg/l Total Suspended Solids (TSS) (onboard test) – up to 100 mg/l Biological Oxygen Demand (BOD) – up to 50 mg/l	Sewage Effluent Test Kit 1 (Complies with MEPC.2(VI)) (Sewage Treatment Plants Installed Prior to 1st January 2010)

As set out in Annex 22 Resolution MEPC. 227(64) adopted on the 5th October 2012, sewage treatment plants installed prior to 1st January 2016 and on or after 1st January 2010, on ships other than passenger ships operating in MARPOL Annex IV special areas and intending to discharge treated effluent into the sea, should comply with resolution MPEC.159(55) adopted on 13th October 2006.

Resolution	Required Tests	Compliance
MEPC.159(55)	Coliforms – up to 100 CFU/100ml Total Suspended Solids (TSS) – up to 35 mg/l Biological Oxygen Demand (BOD) – up to 25 mg/l Chemical Oxygen Demand (COD) – up to 125 mg/l pH – between 6.0 – 8.5 Chlorine (Free) – up to 0.5 mg/l	Sewage Effluent Test Kit 2 (Complies with MEPC.159(55)) (Sewage Treatment Plants Installed After 1st January 2010 & Prior to 1st January 2016) (Sewage Treatment Plants Installed After 1st January 2016 (on ships other than passenger ships & passenger ships operating outside MARPOL Annex IV areas)

As set out in Annex 22 Resolution MEPC.227(64) adopted on the 5th October 2012, for new passenger ships when operating in a MARPOL Annex IV area and intending to discharge treated sewage effluent into the sea on or after 1st January 2016, and existing passenger ships on or after 1st January 2018, should comply with resolution MPEC.159(55) adopted on 13th October 2006 and the following additional effluent tests:

Resolution	Required Tests	Compliance
MEPC.159(55)	Coliforms – up to 100 CFU/100ml Total Suspended Solids (TSS) – up to 35 mg/l Biological Oxygen Demand (BOD) – up to 25 mg/l Chemical Oxygen Demand (COD) – up to 125 mg/l pH – between 6.0 – 8.5 Chlorine (Free) – up to 0.5 mg/l	Sewage Effluent Test Kit 3 (Complies with MEPC.159(55) & MEPC.227(64)) (New Passenger Ships from the 1st January 2016 & Existing Passenger Ships from the 1st January 2018 operating within MARPOL Annex IV areas)
MEPC.227(64)	Total Nitrogen – up to 20 mg/l Total Phosphorus – up to 1 mg/l	

Note: A passenger ship means a ship which carrying more than twelve passengers.

Note: A passenger means every person on board other than: The master and the members of the crew or other persons employed or engaged in any capacity on board a ship on business of that ship; and a child under one year of age.

Contents

Feature	Sewage Effluent Test Kit 1	Sewage Effluent Test Kit 2	Sewage Effluent Test Kit 3	Budget Sewage Effluent Test Kit
Marine Heavy Duty Case & Foam Set	•	•	•	•
Coliform Bacteria Test (0 – 2424 CFU/100ml) (12 pcs)	•	•	•	
Coliform/TVC Bacteria Dip Slides (0 – 100,000 CFU/ml) (10 pcs)				•
Total Suspended Solids Test (5 – 500 mg/l) (Unlimited Tests)	•	•		•
Total Suspended Solids Test (0 – 750 mg/l) (Unlimited Tests)			•	
Biological Oxygen Demand (BOD) Test (7.5 – 255 mg/l) (Unlimited Tests)	•	•	•	•
Chemical Oxygen Demand (COD) Test (0 – 300 mg/l) (100 Tests)				•
Chemical Oxygen Demand (COD) Test (0 – 1500 mg/l) (25 Tests)				
pH Test Strips (4 – 10 pH) (100 Tests)		•		
pH Test Strips (5 – 11 pH) (50 Tests)			•	
Universal PH Comparator Test (4 – 11 PH) (100 Tests)				•
Photometer			•	
Chlorine (Free) LR Comparator Test (0 – 1 mg/l) (100 Tests)		•	•	•
Chlorine (Free) Drop Test (0 – 30 mg/l) (100 Tests)		•	•	•
Total Nitrogen Test (0.5 – 25 mg/l) (25 Tests)			•	
Total Phosphorus Test (0 – 2.6 mg/l) (25 Tests)			•	
Spirit Thermometer	•	•	•	•
Digester Unit (For COD, Total Nitrogen & Total Phosphorus Test)			•	
Digital Incubator (110v/240v)	•	•	•	

The Bruusgaard System



TBS is a unique turnkey portable gas detection solution, giving you increased safety and substantial cost savings through standardised instruments, routines, training and procurement.

Logistic Support

At any given time we know the status of all vessels and sites covered by The Bruusgaard System. We consolidate all shipments and make sure you have everything you need on board until next scheduled delivery. This results in fewer shipments and substantial savings!

- Year round follow up of instruments, spares and consumables
- Handling of all shipments & logistics
- Annual reports per vessel including budgeting



Safety

QA – strict routines and logging

- Crew are able to use instruments and follow routines correctly
- Instruments are in proper working condition at all times
- Instruments are calibrated at correct intervals
- Sensors and other items are replaced at correct intervals
- Usage of instruments is logged, including abnormal observations
- Traceability – instrument history and usage
- Routines and procedures can merge into the overall QA-system

Effective and proven training is an integrated part of The Bruusgaard System.

Instruments

All the equipment used for gas detection and calibration is placed in a custom-made wall cabinet. Including Log & Instruction Manual, which are crucial to maintaining the safety integrity.

- Standardised vessel specific gas detector solutions
- Total solutions including all equipment and routines necessary for efficient and safe use, storage and maintenance

Cost Savings

Some of our customers have been able to go from 8 to 10 suppliers down to 1 – translating into cost savings of up to 40-50%. For one vessel, this could be thousands of dollars annually, and for a whole fleet, the cost savings can be dramatic. This is achieved through:

- One contact for worldwide supply of spares & gases
- All service and calibration can be done on site.
- Reductions of instrument types from 10-12 to 2-3

Reduced maintenance costs through:

- On board calibration
- Fewer instruments on board
- No need for spares on board
- One PO per year
- Increased safety
- Less use of administrative time