

## PERMANGANATE VALUE (PV)

(BOD / COD & TOC)

The Permanganate Value is determining the general quality of Final Effluents in sewage. Based on the results it will give the OK for the discharge of Sewage water. The test procedure is relatively easy and consists of 4 steps:

- Three sample containers in the set must be filled with 100 ml of Sewage Effluent.
- Add two Acidifying SE tablets per sample container and shake it to mix well.
- Add one permanganate value tablet to the first sample container, then add two permanganate tablets to the second and three tablets to the third, and again shake them well until it all of them are mixed and dissolved.
- Wait 30 minutes! Then check how many tubes have remained pink and read the result from the following table:

Container Pink	Permanganate Value	Grading
3	0 - 10	Perfect
2	10 - 20	Satisfactory
1	20 - 30	Dubious
None	30 or more	Not allowed to discharge

In the Test Kit you will also find instructions for the testing of Crude waste, the same is valid for Settled sewage.

## BOD / COD & TOC

*BOD = Biochemical Oxygen Demand*

*COD = Chemical Oxygen Demand*

*TOC = Total Organic Carbon*

The results from this test are in connection with the Permanganate Value (PV) as done in paragraph 1. to convert the PV for domestic sewage and effluent to probable BOC, COD and TOC values multiply by the following factors:

	Sewage	Effluent
Probable BOD	PV x 5	PV x 1,5
Probable COD	PV x 10	PV x 7
Probable TOC	PV x 3	PV x 2

In general there is a connection between the Turbidity and the BOD-value of settled sewage and effluent. The BOD can also be calculated from the result of the turbidity test using the formula:

$$\text{Probable BOD} = \frac{\text{Turbidity}}{2} + 5$$

BOD-values can be cross checked that way with the PV tests. Recommendation for Effluent is not more than 20 mg/l.

Kit contains:

3 x 100 ml shaker tube (SVZdev100)

Stirring rod (SPstr1)

Cleaning brush (SPclb1)

200 tablets Acidifying SE (TbsHASE200)

100 tablets Permanganate Value (TbsPPMGNV100)

Attention!  
Wear protective gloves and safety goggles when performing any tests using corrosive, harmful or irritant reagents. Do not ingest.