Q: Can I use 35ppt NaCL buffer to calibrate 8372?

Edit: Mari 8 Feb. 2021

8372 cames with no calibration solution so when I purchased it I also bought a standard solution of **NaCl (35ppt salinity, 1.026sg, 53 uS/cm)** because I'm using the salinity pen to measure the salt in my saltwater aquarium which is 35ppt, 1.026sg.

When I received my salinity pen and read the instructions it said to calibrate with a KCl solution like. Now I'm confused because this pen supposedly doesn't have the ability to do conductivity. Can you please clarify? Can I use the 35ppt solution to calibrate and if so how do I go about doing this? For example do I leave the default setting of 1413uS which I think is P3.3.

If I have to calibrate with a solution of KCl will this give proper readings for my saltwater aquarium?

Answer:

The measuring principle of 8372 salinity pen is to measure conductivity value of liquid and convert the value into salinity value according to certain conversion factor. In model 8372, the conversion factor is to assume the measured liquid is NaCL salt solution, not KCL or NaCL+KCL. From below table, you may slightly understand the conversion factor is different based on different liquid and temperature. This table is in page 16 of manual.

Appendix A: Conductivity to TDS Conversion Factors

Conductivity at 25℃	TDS KCl		TDS NaCl		TDS 442	
	ppm value	Factor	ppm value	Factor	ppm value	Factor
23 μS	11.6	0.5043	10.7	0.4652	14.74	0.6409
84 μS	40.38	0.4807	38.04	0.4529	50.5	0.6012
447 μS	225.6	0.5047	215.5	0.4822	300	0.6712
1413 μS	744.7	0.527	702.1	0.4969	1000	0.7078
1500 μS	757.1	0.5047	737.1	0.4914	1050	0.7
2070 μS	1045	0.5048	1041	0.5029	1500	0.7246
2764 μS	1382	0.5	1414.8	0.5119	2062.7	0.7463
8974 μS	5101	0.5685	4487	0.5	7608	0.8478
12,880 μS	7447	0.5782	7230	0.5613	11,367	0.8825
15,000 μS	8759	0.5839	8532	0.5688	13,455	0.897
80mS	52,168	0.6521	48,384	0.6048	79,688	0.9961

442: 40% sodium sulfate, 40% sodium bicarbonate and 20% sodium chloride.

The calibration mode of model 8372 support conductivity value only. Fortunately since your calibration NaCl buffer clearly tell you it is NaCl 35ppt salinity, 1.026sg, **53 uS/cm**, you still can use it but please control your calibration buffer at around 25℃ for good result.

Please follow the page 11 of manual to conduct your calibration procedure, if you see the displayed value is not 53uS/cm but something like 51 or 54, you may press up or down key to adjust the value to 53.

Hope above help and enjoy your saltwater aquarium fun.