

POTASSIUM SULFATE (K₂SO₄)

Properties based on 20° and 100% purity

Saturation Point: 108.1kg per M³

WEIGHT (%)	DENSITY (KG / L)	DENSITY (LB / GAL)	K ⁺ (MG / L)	K ⁺ (%)	So ²⁻ (MG / L)	K ₂ SO ₄ (KG / M ³)	WATER (M ³)
0.5	1.004	8.37	2,244	0.22	2,756	5.0	0.997
1.0	1.008	8.41	4,532	0.45	5,568	10.1	0.996
1.5	1.012	8.44	6,821	0.68	8,379	15.2	0.995
2.0	1.016	8.47	9,110	0.91	11,190	20.3	0.994
2.5	1.020	8.51	11,443	1.14	14,057	25.5	0.993
3.0	1.024	8.54	13,776	1.38	16,924	30.7	0.992
3.5	1.028	8.58	16,110	1.61	19,790	35.9	0.991
4.0	1.032	8.61	18,488	1.85	22,712	41.2	0.989
4.5	1.037	8.64	20,911	2.09	25,689	46.6	0.988
5.0	1.041	8.68	23,290	2.33	28,610	51.9	0.987
5.5	1.045	8.71	25,758	2.58	31,642	57.4	0.986
6.0	1.049	8.75	28,181	2.82	34,619	62.8	0.984
6.5	1.053	8.78	30,649	3.06	37,651	68.3	0.983
7.0	1.057	8.82	33,162	3.32	40,738	73.9	0.981
7.5	1.061	8.85	35,675	3.57	43,825	79.5	0.980
8.0	1.066	8.89	38,188	3.82	46,912	85.1	0.979
8.5	1.070	8.92	40,746	4.07	50,054	90.8	0.977
9.0	1.074	8.96	43,304	4.33	53,196	96.5	0.976
9.5	1.078	8.99	45,907	4.59	56,393	102.3	0.974
10.0	1.083	9.03	48,509	4.85	59,591	108.1	0.973

When using K₂SO₄ for clay / shale inhibition, the quantity required as a rule of thumb is between 2 – 5%, depending on the reactivity of the clays. If in highly reactive formations or when required to drill a bore for long periods of time, the potassium that inhibits the clay will be consumed as it inhibits. Maintenance levels of K₂SO₄ added to the drilling fluid system will be required. Test kits to measure the level of free potassium are available from Mudex.

Using bentonite with a K₂SO₄ mud system requires the bentonite to be hydrate in fresh water for a minimum of 15 minutes prior to being added to the circulating system. Keep bentonite levels as per the recommended mud system or at 25kg per 1000 litres water.

In a K₂SO₄ system, bentonite will thin back even if it has been hydrated in fresh water. Use VIS PAC R to increase viscosity when required.

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