

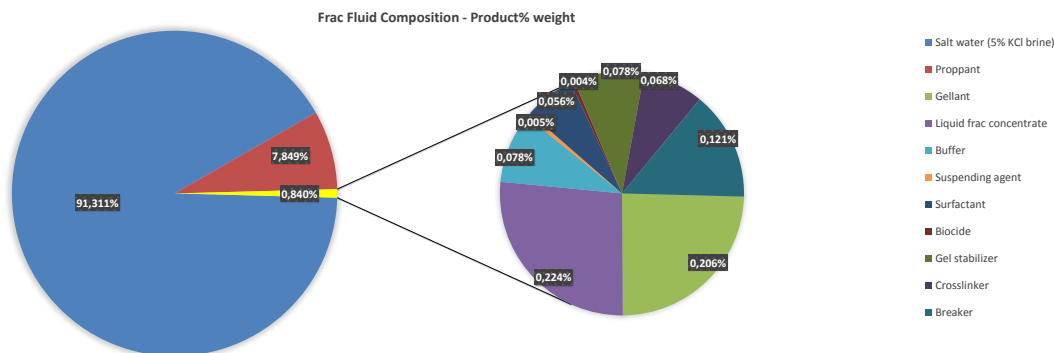
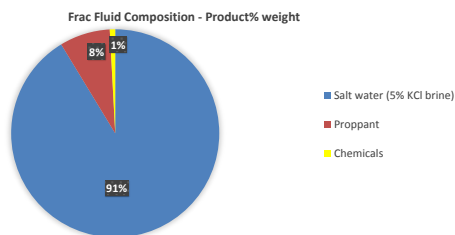
## OVERVIEW USED PRODUCTS, Krabburen (KBB-4), 22 Nov 2013

Final list (with used products and actual weights/percentages)

Products	Use	Product Weight (kg)	Product Weight (%)	Ingredient	Ingredient CAS number	Ingredient % *	Product Classification <sup>#</sup>
Salt water (5% KCl brine)	Carrier	439001,30	91,311	Non-hazardous ingredients		100	none
Resin coated ceramic proppant	Proppant	37738,00	7,849	Non-hazardous ingredients		100	none
GW-4AFG	Gellant	988,30	0,206	Non-hazardous ingredients		100	none
BioBase 637	Liquid frac concentrate component	1075,00	0,224	Hydrocarbons C14-C17, n-alkanes, <2% aromatics	917-828-1	100	Xn;R65,R66
				Hydrocarbons C10-C14, n-alkanes, <2% aromatics	920-274-3	5	
BF-1	Buffer	37,10	0,008	Non-hazardous ingredients		100	none
PSA-3	Suspending Agent	24,70	0,005	Crystalline Silica Quartz	14808-60-7/238-878-4	5	Carc cat 1A;R49
				Non-hazardous ingredients		100	
D-4G	Surfactant	8,30	0,002	Alcohols, C9-11-iso-, C-10-rich, ethoxylated	78330-20-8	100	Xn;R22, Xi;R41
Grotan OX	Biocide	19,90	0,004	3,3'-Methylenebis[5-methylloxazolidine]	66204-44-2/266-235-8	100	R21/22, C;R34, R52
GS-1	Gel Stabilizer	375,00	0,078	Non-hazardous ingredients		100	none
BF-7L	Buffer	338,10	0,070	Potassium Carbonate	584-08-7/209-529-3	60	Xi;R36/37/38
XLW-30G	Crosslinker	326,60	0,068	Non-hazardous ingredients		100	Xn;R22, Xi;R36/37/38
				Sodium Bisulphate	7681-38-1/231-665-7	0,1	
				Sodium Chloride	7647-14-5/231-598-3	0,1	
				Crystalline Silica Quartz	14808-60-7/238-878-4	0,1	
Enzyme G-I	Breaker	566,00	0,118	Non-hazardous ingredients		100	none
GBW-5	Breaker	17,00	0,004	Diammonium Peroxodisulphate	7727-54-0/231-786-5	100	O;R8, Xn;R22, Xi;R36/37/38, R42/43
Flo-Back 30	Surfactant	262,20	0,055	1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	61789-40-0/263-058-8	100	Xi;R36/38
<b>TOTALS</b>		<b>480777,5</b>	<b>100,000</b>				

Contingency chemicals	Use	Contingency product Weight (kg)	Contingency product Weight (%)	Ingredient	Ingredient CAS number	Ingredient % *	Product Classification <sup>#</sup>
Liquid Nitrogen	Stored nitrogen gas	2158,50	99,907	Nitrogen		100	none
Citric Acid	pH control	2,00	0,093	Citric acid	77-92-9/201-069-1	100	Xi;R36
<b>TOTALS</b>		<b>2160,5</b>	<b>100,000</b>				

Summary	Product Weight (kg)	Product Weight (%)
Salt water (5% KCl brine)	439001,30	91,311
Proppant	37738,00	7,849
Chemicals	4038,20	0,840
Gellant	0,206	
Liquid frac concentrate	0,224	
Buffer	0,078	
Suspending agent	0,005	
Surfactant	0,056	
Biocide	0,004	
Gel stabilizer	0,078	
Crosslinker	0,068	
Breaker	0,121	
<b>Total</b>	<b>480777,50</b>	<b>100,000</b>



\* Total percentage of composition might not equal 100% - exceedance of 100% is possible because maximum concentrations of hazardous chemicals are included if ranges are given in MSDS, totals lower than 100% are possible because non-hazardous solvents (i.e. water) are not included in the composition

<sup>#</sup> Classification according to Dutch law at time of execution, explanation about the danger symbols or the R-sentences can be found on Wikipedia ([https://en.wikipedia.org/wiki/European\\_hazard\\_symbols](https://en.wikipedia.org/wiki/European_hazard_symbols) resp. [https://en.wikipedia.org/wiki/List\\_of\\_R-phrases](https://en.wikipedia.org/wiki/List_of_R-phrases))