

PSC¹ Analyses and Comparison of B-TANE™ with No. 2, and No.6 Fuel Oils

Sample Type	Ash Content	Heat Value (HV) (BTU/lb)	Density	Heat Value HV (BTU/Gal)	HV as % of No. 2 oil	Specific Gravity	Sulfur	Water of Distillation	Pour Point °C	Pour Point °F
#2 Fuel Oil	0.010	19,640	7.051	138,481	100	0.8648	0.010	0.010	0 to -6	21 to 32
B-TANE	0.010	16,822	7.661	129,000	95	0.9240	0.010	0.010	-3	27
#6 Fuel Oil	0.150	18,680	7.920	147,945	107	0.9487	0.490	0.010	12	54
#2 : B-TANE										
90 : 10	0.020	18,820	7.137	134,318	97	0.8568	0.010	< 0.010	-27	-17
80 : 20	0.020	18,770	7.215	135,425	98	0.8667	0.010	< 0.010	-21	-5.8
70 : 30	0.030	18,520	7.282	134,862	97	0.8747	0.010	< 0.010	-15	5
60 : 40	0.040	17,890	7.351	131,509	95	0.8827	0.010	< 0.010	-12	10.4
50 : 50	0.040	17,710	7.401	131,071	95	0.8887	0.010	< 0.010	-12	10.4
40 : 60	0.070	17,360	7.448	129,297	93	0.8946	0.010	< 0.010	-9	15.8
30 : 70	0.010	17,070	7.514	128,264	93	0.9026	0.010	< 0.010	-6	21.2
20 : 80	0.020	16,750	7.602	127,333	92	0.9126	0.010	< 0.010	-6	21.2
10 : 90	0.030	16,510	7.646	126,235	91	0.9186	0.010	< 0.010	-3	26.6
#6 : B-TANE										
90 : 10	0.110	18,390	7.868	144,692	104	0.9428	0.420	0.010	12	54
80 : 20	0.080	18,150	7.768	140,989	102	0.9308	0.400	< 0.010	9	48
60 : 40	0.060	17,680	7.742	136,878	99	0.9278	0.260	< 0.010	5	41
50 : 50	0.050	17,640	7.696	135,757	98	0.9220	0.240	< 0.010	1	34
40 : 60	0.020	17,500	7.679	134,382	97	0.9202	0.200	< 0.010	0	32
20 : 80	0.020	17,210	7.663	131,880	95	0.9183	0.120	< 0.010	-6	21

EMISSION FACTOR COMPARISON¹

Performed by Trigon Environmental

Pollutant	No. 2 Oil 0.5% Sulfur (lb/mmBTU)	No. 6 Oil 2% Sulfur (lb/mmBTU)	SVO Pittsburgh, PA (lb/mmBTU)	SVO Wadesboro, NC (lb/mmBTU)	SVO Average (lb/mmBTU)
PM	0.0236	0.1540	0.012	0.05	0.034
SO2	0.5071	2.0933	NA	0.013	0.011
NOx	0.1429	0.3667	0.263	0.225	0.260
VOC	0.0014	0.0019	0.0005	0.014	0.013
CO	0.0357	0.0333	0.0031	0.017	0.007

No. 2 oil is based on 140,000 BTU/gal, No. 6 oil is based on 150,000 BTU/gal, and cooking oil is based on 127,023 BTU/gal.

¹ Data from Valley Protein and PSC Environmental Services, Hatfield, PA

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B-TANE™

TECHNICAL DATA SHEET

Ameristar is privileged to recommend solutions to the challenges you face in such disciplines as energy and fuel economics, as well environmental and ecological exposure inherent in the use of petroleum based fuels to generate energy for your facilities. We are introducing AmeriStar's B-TANE™ to organizations such as yourselves who have current usage rates of at least 1 million gallons per year of fuel oil or spec. oil as boiler feed. We would like you consider the specifications of B-TANE™ and review the data as compared to No. 2 and No. 6 diesel fuel. We believe you will find, as we have, that it makes economic, ecological, and environmental sense to evaluate and convert your facilities to the use of B-TANE™ especially when you will likely have to meet more aggressive cost control measures as well as emission standards generated by local and federal regulatory agencies.

B-TANE™, a biologically synthesized organic substitute for No.2 oil or Spec. oil, has chemical and physical properties, as described below, which can provide enormous savings to your energy portfolio as well as provide a series of precise environmental attributes which provide additional benefits to your facility. At a time when most organizations such as yourselves are looking for solutions to problems, AmeriStar believes it can provide those solutions in these two critical areas.

Specification	No. 2 Fuel Oil	No. 6 Fuel Oil	B-TANE™
Heat Value	138,482 BTU/gallon	147,945 BTU/gallon	130,840 BTU/gallon
ash	< 0.010 %	0.150 %	< 0.010 %
Sulfur	0.050-0.500 %	0.490	< 0.010 %
Water	0.010 %	0.010	< 0.010 %
Density	7.051	7.920	7.701
Average Efficiency	80.5%	n/a	75.6% - 80.9%
VOC lb/MM BTU	0.0014	0.0019	0.0005
SO ₂ lb/MM BTU	0.393	2.0933	0.001
CO lb/MM BTU	0.036	0.0333	0.012
NO _x lb/MM BTU	0.1429	0.3667	0.225
PM lb/MM BTU	0.0236	0.1540	0.012