

## Petro Star North Pole Refinery

Tel: 907-488-1288  
Fax: 907-488-3655

1200 H and H Lane  
North Pole, Alaska 99705

### JP-4 Product Specification

CONTRACTOR:	Petro Star Refinery
CITY:	North Pole
STATE/COUNTRY:	Alaska
PRODUCT:	JP-4
CRUDE OIL SOURCE:	ANSC
CRUDE PROCESSING TECHNIQUE:	ATMOSPHERIC DISTILLATION

TEST	UNIT	MIL-T-5624P SPECIFICATION	METHOD
SAYBOLT COLOR	Number	Report	D156
ACID NUMBER - TURBINE FUELS	mgKOH/g	0.020 Max.	D3242
AROMATIC CONTENT, MAX	Vol%	25	D1319
OLEFIN CONTENT, MAX	Vol%	5	D1319
MERCAPTAN SULFUR, MAX	Wt%	0.002	D3227
TOTAL SULFUR, X-RAY	Wt%	0.40	D4294
HYDROGEN CONTENT - EST., MIN DISTILLATION, AUTO	Wt%	13.5	D3343
INITIAL BOILING PT	Celsius	Report	D86
10% RECOVERY PT	Celsius	Report	D86
20% RECOVERY PT, MAX	Celsius	145	D86
50% RECOVERY PT, MAX	Celsius	190	D86
90% RECOVERY PT, MAX	Celsius	245	D86
FINAL BOILING PT, MAX	Celsius	270	D86
RESIDUE, MAX	Vol%	1.5	D86
LOSS, MAX	Vol%	1.5	D86
VAPOR PRESSURE	psi	2.0 - 3.0	D5191
	kPa	14 - 21	D5191
API GRAVITY	API	45 - 57	D1298
DENSITY	kg/L	0.751 - 0.802	D1298
FREEZE PT, MAX	Celsius	-58	D2386
NET HEAT OF COMBUSTION, MIN	MJ/kg	42.8	D3338
	BTU/lb	18,400	D3338
COPPER CORROSION, MAX	Code	1	D130
JFTOT @275 Deg C			
PRESSURE CHANGE	mm HG	25	D3241
VISUAL RATING	Method Defined	<3	D3241
SERIAL NUMBER FOR TUBE	N/A		D3241
EXISTENT GUM, MAX	mg/100ml	7	D381
PARTICULATE MATTER, MAX	mg/L	1.0	MIL-T-5624P
FILTRATION TIME, MAX	minutes	10	MIL-T-5624P
WATER REACT RATING, MAX	Method Defined	1b	D1094
WSIM/MSEP	1 Unit	85	D3948
<b><u>ADDITIVES INJECTED AT POINT OF SHIPMENT:</u></b>			
CONDUCTIVITY	pS/m	150 - 600	D2624
CONDUCTIVITY TEMP	Celsius	*	D2624
FSII	vol%	0.10 - 0.15	D5006
CORROSION INHIBITOR	mg/L	12 - 22.5	QPL-25017

**Remarks:**

Item 100C Waiver on acidity 0.020 max. C16.64.7A per contract SP0600-06-D-0503 with Petro Star Inc

Specification Exceptions 10.b: Conductivity measurement procedures outlined in SA-ALC/SFT letter dated October 15, 1998.

\*Conductivity tested @ 0 C from October through March or

\*Conductivity tested @ 15.6 C from April through September.

Specification Exceptions 10.c: Total water content required by C16.64-3 "shall not apply"

Waiver on premixing of stadis and CI (5403) additives; Amendment/Modification P00003, date January 24, 2006

QAR approves the segregated batch as represented by these test results for DESC procurement.