FITC ENERGY GROUP

Est. 2024

Product Technical Datasheets

Crude Oil | Refined Products | LPG & Gas

Standards: ASTM International / ISO / SAES

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Crude Grades	Refined Products	LPG & Gas Products

Source Field:	Shaybah / Hawtah	**SAES Ref:**	SAES-A-001 / SAES-A-002
Gravity Band:	Super Light (>45 API)	**ASTM Refs:**	ASTM D287, D4294, D445, D97

Premium ultra-low sulfur crude from Shaybah and Hawtah fields. Highly valued for excellent distillate yields, minimal contaminants, and strong refining eco

PHYSICAL & CHEMICAL SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / IP)
API Gravity	deg API	**50.0**	—	ASTM D287 / ISO 3675
Specific Gravity @15 C	—	**0.779**	**0.779**	ASTM D1298 / ISO 3675
Sulfur Content	wt%	—	**0.10**	ASTM D4294 / ISO 8754
Reid Vapor Pressure	kPa	—	**82.7**	ASTM D323 / ISO 3007
Pour Point	deg C	—	**-18**	ASTM D97 / ISO 3016
Kin. Viscosity @37.8 C	cSt	—	**5.0**	ASTM D445 / ISO 3104
Water & Sediment	vol%	—	**0.50**	ASTM D4007 / ISO 9029
Salt Content	ptb	—	**10.0**	ASTM D3230
Nickel Content	ppm	—	**1.0**	ASTM D5708
Vanadium Content	ppm	—	**2.0**	ASTM D5708
Total Acid Number	mgKOH/g	—	**0.10**	ASTM D664 / ISO 6618
Asphaltene Content	wt%	—	**0.5**	ASTM D6560 / IP 143

KEY TYPICAL VALUES

Fraction	Unit	Typical Yield
LPG (C5 and lighter)	vol%	**4.0**
Naphtha (C5 - 175 C)	vol%	**30.0**
Kerosene (175 - 240 C)	vol%	**12.0**
Gas Oil (240 - 370 C)	vol%	**24.0**
Residue (> 370 C)	vol%	**30.0**

API Gravity	**50.0 deg API**
Sulfur	**0.06 wt%**
Pour Point	**-24 deg C**
Viscosity @37.8C	**3.5 cSt**

Note: Specifications subject to change. Values represent typical/maximum limits per latest inspection certificates.

Source Field:	Abqaiq / Berri	**SAES Ref:**	SAES-A-001 / SAES-A-002
Gravity Band:	Extra Light (37 - 45 API)	**ASTM Refs:**	ASTM D287, D4294, D445, D97

Produced from Abqaiq and Berri fields. Very low sulfur, high API gravity crude with excellent refining economics and high light product yield.

PHYSICAL & CHEMICAL SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / IP)
API Gravity	deg API	**37.0**	—	ASTM D287 / ISO 3675
Specific Gravity @15 C	—	—	**0.840**	ASTM D1298 / ISO 3675
Sulfur Content	wt%	—	**1.30**	ASTM D4294 / ISO 8754
Reid Vapor Pressure	kPa	—	**75.0**	ASTM D323 / ISO 3007
Pour Point	deg C	—	**-9**	ASTM D97 / ISO 3016
Kin. Viscosity @37.8 C	cSt	—	**7.0**	ASTM D445 / ISO 3104
Water & Sediment	vol%	—	**0.50**	ASTM D4007 / ISO 9029
Salt Content	ptb	—	**10.0**	ASTM D3230
Nickel Content	ppm	—	**4.0**	ASTM D5708
Vanadium Content	ppm	—	**15.0**	ASTM D5708
Total Acid Number	mgKOH/g	—	**0.15**	ASTM D664 / ISO 6618
Asphaltene Content	wt%	—	**2.0**	ASTM D6560 / IP 143

KEY TYPICAL VALUES

Fraction	Unit	Typical Yield
LPG (C5 and lighter)	vol%	**3.0**
Naphtha (C5 - 175 C)	vol%	**24.0**
Kerosene (175 - 240 C)	vol%	**15.0**
Gas Oil (240 - 370 C)	vol%	**26.0**
Residue (> 370 C)	vol%	**32.0**

API Gravity	**38.0 deg API**
Sulfur	**1.15 wt%**
Pour Point	**-15 deg C**
Viscosity @37.8C	**5.4 cSt**

Note: Specifications subject to change. Values represent typical/maximum limits per latest inspection certificates.

Source Field:	Ghawar (World's Largest Field)	**SAES Ref:**	SAES-A-001 / SAES-A-002
Gravity Band:	Light (29 - 37 API)	**ASTM Refs:**	ASTM D287, D4294, D445, D97

Flagship crude from Ghawar — the world's largest conventional oilfield. Global benchmark for light sour crude grades across Asian and European markets

PHYSICAL & CHEMICAL SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / IP)
API Gravity	deg API	**32.0**	—	ASTM D287 / ISO 3675
Specific Gravity @15 C	—	—	**0.865**	ASTM D1298 / ISO 3675
Sulfur Content	wt%	—	**2.00**	ASTM D4294 / ISO 8754
Reid Vapor Pressure	kPa	—	**62.1**	ASTM D323 / ISO 3007
Pour Point	deg C	—	**0**	ASTM D97 / ISO 3016
Kin. Viscosity @37.8 C	cSt	—	**12.0**	ASTM D445 / ISO 3104
Water & Sediment	vol%	—	**0.50**	ASTM D4007 / ISO 9029
Salt Content	ptb	—	**10.0**	ASTM D3230
Nickel Content	ppm	—	**8.0**	ASTM D5708
Vanadium Content	ppm	—	**25.0**	ASTM D5708
Total Acid Number	mgKOH/g	—	**0.20**	ASTM D664 / ISO 6618
Asphaltene Content	wt%	—	**3.5**	ASTM D6560 / IP 143

KEY TYPICAL VALUES

Fraction	Unit	Typical Yield
LPG (C5 and lighter)	vol%	**2.0**
Naphtha (C5 - 175 C)	vol%	**20.0**
Kerosene (175 - 240 C)	vol%	**13.0**
Gas Oil (240 - 370 C)	vol%	**24.0**
Residue (> 370 C)	vol%	**41.0**

API Gravity	**33.0 deg API**
Sulfur	**1.77 wt%**
Pour Point	**-6 deg C**
Viscosity @37.8C	**8.5 cSt**

Note: Specifications subject to change. Values represent typical/maximum limits per latest inspection certificates.

Source Field:	Zuluf / Marjan / Abu Sa'fah	**SAES Ref:**	SAES-A-001 / SAES-A-002
Gravity Band:	Medium (22 - 29 API)	**ASTM Refs:**	ASTM D287, D4294, D445, D97

Medium gravity sour crude from major offshore fields. Cost-effective feedstock for complex refineries in Asia and Europe.

PHYSICAL & CHEMICAL SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / IP)
API Gravity	deg API	**28.0**	—	ASTM D287 / ISO 3675
Specific Gravity @15 C	—	—	**0.887**	ASTM D1298 / ISO 3675
Sulfur Content	wt%	—	**2.70**	ASTM D4294 / ISO 8754
Reid Vapor Pressure	kPa	—	**55.2**	ASTM D323 / ISO 3007
Pour Point	deg C	—	**+6**	ASTM D97 / ISO 3016
Kin. Viscosity @37.8 C	cSt	—	**22.0**	ASTM D445 / ISO 3104
Water & Sediment	vol%	—	**0.50**	ASTM D4007 / ISO 9029
Salt Content	ptb	—	**10.0**	ASTM D3230
Nickel Content	ppm	—	**14.0**	ASTM D5708
Vanadium Content	ppm	—	**45.0**	ASTM D5708
Total Acid Number	mgKOH/g	—	**0.25**	ASTM D664 / ISO 6618
Asphaltene Content	wt%	—	**6.0**	ASTM D6560 / IP 143

KEY TYPICAL VALUES

Fraction	Unit	Typical Yield
LPG (C5 and lighter)	vol%	**1.5**
Naphtha (C5 - 175 C)	vol%	**17.0**
Kerosene (175 - 240 C)	vol%	**11.0**
Gas Oil (240 - 370 C)	vol%	**22.0**
Residue (> 370 C)	vol%	**48.5**

API Gravity	**29.0 deg API**
Sulfur	**2.46 wt%**
Pour Point	**0 deg C**
Viscosity @37.8C	**15.0 cSt**

Note: Specifications subject to change. Values represent typical/maximum limits per latest inspection certificates.

Source Field:	Safaniya (World's Largest Offshore)	**SAES Ref:**	SAES-A-001 / SAES-A-002
Gravity Band:	Heavy (<22 API)	**ASTM Refs:**	ASTM D287, D4294, D445, D97

Heavy sour crude from Safaniya — the world's largest offshore oilfield. Primary feedstock for fuel oil production and residue upgrading.

PHYSICAL & CHEMICAL SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / IP)
API Gravity	deg API	**26.0**	—	ASTM D287 / ISO 3675
Specific Gravity @15 C	—	—	**0.899**	ASTM D1298 / ISO 3675
Sulfur Content	wt%	—	**3.10**	ASTM D4294 / ISO 8754
Reid Vapor Pressure	kPa	—	**48.3**	ASTM D323 / ISO 3007
Pour Point	deg C	—	**+9**	ASTM D97 / ISO 3016
Kin. Viscosity @37.8 C	cSt	—	**45.0**	ASTM D445 / ISO 3104
Water & Sediment	vol%	—	**0.50**	ASTM D4007 / ISO 9029
Salt Content	ptb	—	**10.0**	ASTM D3230
Nickel Content	ppm	—	**20.0**	ASTM D5708
Vanadium Content	ppm	—	**70.0**	ASTM D5708
Total Acid Number	mgKOH/g	—	**0.30**	ASTM D664 / ISO 6618
Asphaltene Content	wt%	—	**10.0**	ASTM D6560 / IP 143

KEY TYPICAL VALUES

Fraction	Unit	Typical Yield
LPG (C5 and lighter)	vol%	**1.0**
Naphtha (C5 - 175 C)	vol%	**14.0**
Kerosene (175 - 240 C)	vol%	**9.0**
Gas Oil (240 - 370 C)	vol%	**20.0**
Residue (> 370 C)	vol%	**56.0**

API Gravity	**27.0 deg API**
Sulfur	**2.89 wt%**
Pour Point	**+3 deg C**
Viscosity @37.8C	**30.0 cSt**

Note: Specifications subject to change. Values represent typical/maximum limits per latest inspection certificates.

Application: Automotive fuel — regular grade

Standard Ref: EN 228 / SAES-J-001

Regular unleaded motor gasoline meeting Euro-2/3 quality standards for conventional spark-ignition engines.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Research Octane No. (RON)	—	**91.0**	—	ASTM D2699 / ISO 5164
Motor Octane No. (MON)	—	**82.0**	—	ASTM D2700 / ISO 5163
Density @15 C	kg/m3	**720**	**775**	ASTM D4052 / ISO 3675
Reid Vapor Pressure	kPa	**45**	**90**	ASTM D323 / ISO 3007
Sulfur Content	ppm	—	**500**	ASTM D5453 / ISO 20846
Benzene Content	vol%	—	**5.0**	ASTM D3606 / EN 12177
Aromatics Content	vol%	—	**50.0**	ASTM D1319 / EN 12177
Olefins Content	vol%	—	**21.0**	ASTM D1319
Lead Content	g/L	—	**0.005**	ASTM D3237
Distillation T10	deg C	—	**70**	ASTM D86 / ISO 3405
Distillation T50	deg C	**65**	**120**	ASTM D86 / ISO 3405
Distillation T90	deg C	—	**185**	ASTM D86 / ISO 3405
Final Boiling Point	deg C	—	**215**	ASTM D86 / ISO 3405
Copper Corrosion @50 C	class	—	**1**	ASTM D130 / ISO 2160
Oxidation Stability	min	**360**	—	ASTM D525 / ISO 7536
Gum Content (washed)	mg/100mL	—	**5.0**	ASTM D381 / ISO 6246

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Automotive fuel — premium grade

Standard Ref: EN 228 / SAES-J-001

Premium unleaded motor gasoline for modern high-compression engines with Euro-4/5 emission aftertreatment requirements.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Research Octane No. (RON)	—	**95.0**	—	ASTM D2699 / ISO 5164
Motor Octane No. (MON)	—	**85.0**	—	ASTM D2700 / ISO 5163
Density @15 C	kg/m3	**720**	**775**	ASTM D4052 / ISO 3675
Reid Vapor Pressure	kPa	**45**	**90**	ASTM D323 / ISO 3007
Sulfur Content	ppm	—	**50**	ASTM D5453 / ISO 20846
Benzene Content	vol%	—	**1.0**	ASTM D3606 / EN 12177
Aromatics Content	vol%	—	**35.0**	ASTM D1319 / EN 12177
Olefins Content	vol%	—	**18.0**	ASTM D1319
Lead Content	g/L	—	**0.005**	ASTM D3237
Distillation T10	deg C	—	**70**	ASTM D86 / ISO 3405
Distillation T50	deg C	**65**	**110**	ASTM D86 / ISO 3405
Distillation T90	deg C	—	**185**	ASTM D86 / ISO 3405
Final Boiling Point	deg C	—	**210**	ASTM D86 / ISO 3405
Copper Corrosion @50 C	class	—	**1**	ASTM D130 / ISO 2160
Oxidation Stability	min	**360**	—	ASTM D525 / ISO 7536
Gum Content (washed)	mg/100mL	—	**5.0**	ASTM D381 / ISO 6246

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Commercial and military aviation

Standard Ref: DEF STAN 91-091 / ASTM D1655 / IATA

Aviation turbine fuel meeting international Jet A-1 specification for all turbine-powered civil and military aircraft operations.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Flash Point	deg C	**38**	—	ASTM D56 / ISO 2719
Density @15 C	kg/m3	**775**	**840**	ASTM D4052 / ISO 3675
Freeze Point	deg C	—	**-47**	ASTM D2386 / ISO 3013
Distillation T10	deg C	—	**205**	ASTM D86 / ISO 3405
Final Boiling Point	deg C	—	**300**	ASTM D86 / ISO 3405
Smoke Point	mm	**25**	—	ASTM D1322 / ISO 3014
Net Heat of Combustion	MJ/kg	**42.8**	—	ASTM D4529 / ISO 8178
Sulfur Content	wt%	—	**0.30**	ASTM D4294 / ISO 8754
Mercaptan Sulfur	wt%	—	**0.003**	ASTM D3227 / IP 342
Aromatics Content	vol%	—	**25.0**	ASTM D1319
Naphthalenes Content	vol%	—	**3.0**	ASTM D1840
Kin. Viscosity @-20 C	cSt	—	**8.0**	ASTM D445 / ISO 3104
Copper Corrosion @100 C	class	—	**1**	ASTM D130 / ISO 2160
JFTOT Breakpoint Temp	deg C	**260**	—	ASTM D3241 / ISO 6249
Water Separation Index	MSEP	**70**	—	ASTM D3948
Thermal Stability JFTOT	mm Hg	—	**25**	ASTM D3241

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Road transport and off-road diesel engines

Standard Ref: EN 590 / SAES-J-002

Premium ULSD for Euro 5/6 diesel engines with modern emission aftertreatment — DPF, SCR, and EGR compatible.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Cetane Number	—	**51**	—	ASTM D613 / ISO 5165
Cetane Index	—	**46**	—	ASTM D4737 / ISO 4264
Density @15 C	kg/m3	**820**	**845**	ASTM D4052 / ISO 3675
Sulfur Content	ppm	—	**10**	ASTM D5453 / ISO 20846
Flash Point	deg C	**55**	—	ASTM D93 / ISO 2719
Cold Filter Plugging Pt	deg C	—	**+5**	EN 116 / IP 309
Cloud Point	deg C	—	**+5**	ASTM D2500 / ISO 3015
Pour Point	deg C	—	**-6**	ASTM D97 / ISO 3016
Kin. Viscosity @40 C	cSt	**2.0**	**4.5**	ASTM D445 / ISO 3104
Distillation T95	deg C	—	**360**	ASTM D86 / ISO 3405
Lubricity HFRR @60 C	micron	—	**460**	ASTM D6079 / EN ISO 12156
Polycyclic Aromatics	wt%	—	**11.0**	EN 12916 / IP 391
Water Content	mg/kg	—	**200**	ASTM D6304 / ISO 12937
Copper Corrosion @50 C	class	—	**1**	ASTM D130 / ISO 2160
Oxidation Stability	g/m3	—	**25**	EN 12205 / ISO 12205
Carbon Residue (10%)	wt%	—	**0.30**	ASTM D524 / ISO 10370

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Marine bunker fuel and industrial power generation

Standard Ref: ISO 8217:2017 RMG 380

High-viscosity residual fuel for large marine diesel engines and industrial boilers meeting ISO 8217 RMG 380 grade.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Kin. Viscosity @50 C	cSt	—	**380**	ASTM D445 / ISO 3104
Density @15 C	kg/m3	—	**991**	ASTM D4052 / ISO 3675
Sulfur Content	wt%	—	**3.50**	ASTM D4294 / ISO 8754
Flash Point	deg C	**60**	—	ASTM D93 / ISO 2719
Pour Point	deg C	—	**+30**	ASTM D97 / ISO 3016
Carbon Residue (Micro)	wt%	—	**18.0**	ASTM D4530 / ISO 10370
Ash Content	wt%	—	**0.10**	ASTM D482 / ISO 6245
Water Content	vol%	—	**0.50**	ASTM D4006 / ISO 9029
Sediment by Extraction	wt%	—	**0.10**	ISO 3735
Vanadium	mg/kg	—	**300**	ASTM D5708 / ISO 14597
Sodium	mg/kg	—	**100**	ASTM D5708
Aluminum + Silicon	mg/kg	—	**60**	IP 501 / ISO 10478
Hydrogen Sulfide	mg/kg	—	**2.0**	IP 570
Acid Number	mgKOH/g	—	**2.5**	ASTM D664 / ISO 6618
CCAI (Calculated)	—	—	**870**	ISO 8217 Annex F
Total Sediment (Aged)	wt%	—	**0.10**	ISO 10307-2

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Domestic heating, cooking, lighting and industrial solvents

Standard Ref: ASTM D3699 / SAES-J-004

Clear to pale yellow middle distillate for domestic cooking, heating, and illuminating applications. Low sulfur, clean-burning grade.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Flash Point	deg C	**38**	—	ASTM D56 / ISO 2719
Density @15 C	kg/m3	**760**	**820**	ASTM D4052 / ISO 3675
Distillation IBP	deg C	**150**	—	ASTM D86 / ISO 3405
Distillation FBP	deg C	—	**300**	ASTM D86 / ISO 3405
Sulfur Content	ppm	—	**3000**	ASTM D5453 / ISO 20846
Kin. Viscosity @40 C	cSt	**1.0**	**2.5**	ASTM D445 / ISO 3104
Smoke Point	mm	**19**	—	ASTM D1322 / ISO 3014
Color (Saybolt)	—	**+16**	—	ASTM D156
Copper Corrosion @100 C	class	—	**1**	ASTM D130 / ISO 2160
Char Value	mg/kg	—	**40**	IP 10
Total Aromatics	vol%	—	**25.0**	ASTM D1319
Water & Sediment	vol%	—	**0.05**	ASTM D4007 / ISO 9029

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Petrochemical feedstock and catalytic reformer feed

Standard Ref: ASTM D3699 / SAES-J-005

Full-range naphtha (light and heavy fractions) as catalytic reformer feed and steam cracker feedstock for ethylene/propylene production.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Density @15 C	kg/m3	**640**	**740**	ASTM D4052 / ISO 3675
Distillation IBP	deg C	**25**	—	ASTM D86 / ISO 3405
Distillation T10	deg C	—	**75**	ASTM D86 / ISO 3405
Distillation T90	deg C	**130**	**185**	ASTM D86 / ISO 3405
Distillation FBP	deg C	—	**200**	ASTM D86 / ISO 3405
Sulfur Content	ppm	—	**1000**	ASTM D5453 / ISO 20846
Paraffins (PONA)	vol%	**50**	—	ASTM D5134 / ISO 22854
Naphthenes (PONA)	vol%	**15**	—	ASTM D5134 / ISO 22854
Aromatics (PONA)	vol%	—	**30.0**	ASTM D5134 / ISO 22854
Olefins	vol%	—	**1.0**	ASTM D1319
Reid Vapor Pressure	kPa	—	**80**	ASTM D323 / ISO 3007
Copper Corrosion @50 C	class	—	**1**	ASTM D130 / ISO 2160
Water Content	ppm	—	**200**	ASTM D6304 / ISO 12937

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Domestic cooking, heating, industrial fuel

Standard Ref: ASTM D1835 / GPA 2140 / SAES-G-001

Commercial grade propane (HD-5) for domestic and industrial applications meeting ASTM D1835 and GPA 2140 specifications.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Propane Content	mol%	**90.0**	—	GPA 2177 / ASTM D2163
Propylene Content	mol%	—	**5.0**	GPA 2177 / ASTM D2163
C4+ Content	mol%	—	**2.5**	GPA 2177 / ASTM D2163
Vapor Pressure @37.8 C	kPa	—	**1380**	ASTM D1267 / ISO 4256
Specific Gravity (liq.)	—	—	**0.510**	ASTM D1657
Sulfur Content	ppm	—	**185**	ASTM D2784 / UOP 212
Moisture Content	—	—	**Pass**	ASTM D1228 / UOP 481
Copper Corrosion	class	—	**1**	ASTM D1838
Residue on Evaporation	mL/100mL	—	**0.05**	ASTM D2158
Odorant	—	**Yes**	—	Per local regulation
Net Calorific Value	MJ/kg	**46.1**	—	GPA 2172 / ISO 6976
Gross Calorific Value	MJ/kg	**50.4**	—	GPA 2172 / ISO 6976

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Domestic aerosols, cylinder fuel, industrial solvent

Standard Ref: ASTM D1835 / GPA 2140 / SAES-G-001

Commercial grade butane (HD-10) for domestic cylinder filling and aerosol propellant applications meeting ASTM D1835 HD-10 standard.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Butane Content (C4)	mol%	**95.0**	—	GPA 2177 / ASTM D2163
Propane & Lighter	mol%	—	**2.0**	GPA 2177 / ASTM D2163
C5+ Content	mol%	—	**2.0**	GPA 2177 / ASTM D2163
Butylene Content	mol%	—	**1.5**	GPA 2177 / ASTM D2163
Vapor Pressure @37.8 C	kPa	—	**483**	ASTM D1267 / ISO 4256
Specific Gravity (liq.)	—	—	**0.585**	ASTM D1657
Sulfur Content	ppm	—	**185**	ASTM D2784 / UOP 212
Moisture Content	—	—	**Pass**	ASTM D1228 / UOP 481
Copper Corrosion	class	—	**1**	ASTM D1838
Residue on Evaporation	mL/100mL	—	**0.05**	ASTM D2158
Odorant	—	**Yes**	—	Per local regulation
Net Calorific Value	MJ/kg	**45.4**	—	GPA 2172 / ISO 6976

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Domestic and industrial heating, autogas

Standard Ref: ASTM D1835 / EN 589 / SAES-G-001

Standard 60% propane / 40% butane LPG blend for domestic cylinder filling, industrial heating, and autogas vehicle applications.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Propane Content	mol%	**55**	**65**	GPA 2177 / ASTM D2163
Butane Content	mol%	**35**	**45**	GPA 2177 / ASTM D2163
C5+ Content	mol%	—	**2.0**	GPA 2177 / ASTM D2163
Vapor Pressure @37.8 C	kPa	—	**1050**	ASTM D1267 / ISO 4256
Vapor Pressure @50 C	kPa	—	**1600**	EN 589
Specific Gravity (liq.)	—	—	**0.545**	ASTM D1657
Sulfur Content	ppm	—	**150**	ASTM D2784 / UOP 212
Moisture Content	—	—	**Pass**	ASTM D1228
Copper Corrosion	class	—	**1**	ASTM D1838
Residue on Evaporation	mL/100mL	—	**0.05**	ASTM D2158
Octane Number MON	—	**88**	—	ASTM D2700 (autogas)
Net Calorific Value	MJ/kg	**45.6**	—	GPA 2172 / ISO 6976

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Gas transmission, power generation, industrial fuel

Standard Ref: SAES-G-002 / GPA 2166 / ISO 13686

Dry pipeline-quality natural gas meeting transmission specifications for custody transfer at metering and gas delivery points.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Methane Content	mol%	**88**	—	GPA 2177 / ISO 6974
Higher Heating Value	BTU/scf	—	**1150**	GPA 2172 / ISO 6976
Wobbe Index	MJ/m3	**48**	**56**	ISO 6976
H2S Content	ppm	—	**4.0**	GPA 2377 / ASTM D5504
Total Sulfur	mg/m3	—	**23**	GPA 2377 / UOP 212
CO2 Content	mol%	—	**2.0**	GPA 2177 / ISO 6974
O2 Content	mol%	—	**0.2**	GPA 2177 / ISO 6974
N2 Content	mol%	—	**4.0**	GPA 2177 / ISO 6974
C5+ Content	mol%	—	**0.1**	GPA 2177 / ISO 6974
Water Content	lb/MMscf	—	**7.0**	GPA 2140 / ISO 18453
Hydrocarbon Dew Point	deg C	—	**-2**	ASTM D1142 / ISO 23874
Specific Gravity	—	—	**0.70**	GPA 2166 / ISO 6976

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.

Application: Petrochemical feedstock and NGL fractionation units

Standard Ref: GPA 2140 / SAES-G-003 / ISO 6578

Mixed NGL stream from gas processing plants fed to fractionation units for ethane, propane, butane, and natural gasoline recovery.

PHYSICAL, CHEMICAL & QUALITY SPECIFICATIONS

Property	Unit	Min	Max	Test Method (ASTM / ISO / EN / GPA)
Ethane Content	mol%	**20**	**45**	GPA 2177 / ISO 6974
Propane Content	mol%	**20**	**35**	GPA 2177 / ISO 6974
i-Butane Content	mol%	**4**	**12**	GPA 2177 / ISO 6974
n-Butane Content	mol%	**8**	**18**	GPA 2177 / ISO 6974
C5+ Natural Gasoline	mol%	**5**	**20**	GPA 2177 / ISO 6974
Methane Content	mol%	—	**4.0**	GPA 2177 / ISO 6974
Total Sulfur	ppm	—	**100**	GPA 2377 / UOP 212
H2S Content	ppm	—	**20**	GPA 2377 / ASTM D5504
Water Content	ppm	—	**100**	GPA 2140 / ISO 18453
CO2 Content	mol%	—	**0.5**	GPA 2177 / ISO 6974
Specific Gravity (liq.)	—	**0.48**	**0.57**	ASTM D1657
Gross Calorific Value	MJ/kg	**47**	—	GPA 2172 / ISO 6976

Note: All limits apply at point of delivery unless stated. Latest editions of test methods apply. ASTM and ISO equivalents are interchangeable.