

HYDROCARBONS

Important for Transportation Fuels and Energy Production

Hawaii Shippers Council, September 5, 2012

COMMERCIAL NAME	TRANSPORTATION FORM	CHEMICAL NAME	HYDROCARBON CLASS	CHEMICAL FORMULA / CARBON NUMBERS	TYPE
Natural Gas (Gas)	Liquid Natural Gas (LNG) @ -260°F	Predominately Methane Some Ethane	Alkane	CH ₄	Naturally occurring gas
Ethane (chemical feedstock)	Gaseous at ambient	Ethane	Alkane	C ₂ H ₆	Isolated from nat gas
Petroleum Gas (Autogas)	Liquid Petroleum Gas (LPG) @ approx. 320 psi*	Mixture of: Propane..... Butane.....	Alkane	C ₃ H ₈ C ₄ H ₁₀	By products of gas processing & oil refining
Pentane (chemical solvent)	Liquid at ambient	Pentane	Alkane	C ₅ H ₁₂	Byproduct of oil refining
Automotive Gasoline (Mogas) Grades: Regular..... Premium.....	Liquid at ambient	Various – complex mixture	Paraffin, Olefins, Naphthenes, Aromatics	Carbon Nos. C ₃ – C ₁₂ Most Prevalent: C ₇ C ₈	Distillate of crude petroleum Oil
Aviation Gasoline (Avgas)	Liquid at ambient	Various – complex mixture			Distillate
Jet Fuels Kerosene type Jet A Jet A-1 Wide-cut type Jet B	Liquid at ambient	Various – complex mixture	Aromatic, Naphthene, Paraffin, Isoparaffin	C ₈ – C ₁₆	Distillate
Diesel Fuels (Gas Oils) Grades: No. 1 Diesel Fuel..... No. 2 Diesel Fuel..... No. 3 Diesel Fuel.....	Liquid at ambient	Various – complex mixture	Aromatic, Naphthene & Paraffin	C ₈ – C ₂₂ C ₉ – C ₁₆ C ₁₀ – C ₂₀ C ₁₂ – C ₂₂	Distillate
Diesel Oil	Liquid at ambient	Various – complex mixture		C ₁₂ – C ₇₀	Distillate / Residual Mixture
Intermediate Fuel Oils (IFO)s	Viscous at ambient heated	Various		C ₁₂ – C ₇₀	Residual / Distillate Mixture
Heavy Fuel Oil (HFO)	Viscous at ambient heated	Various		C ₂₀ – C ₇₀	Residual

*1 standard atmosphere = 14.696 psi