

Ultra High Purity Acetylene.

99.6% pure — dissolved in DMF, batch-certified, made in Guwahati.

For seventy-five years, The Kamrup Industrial Gases Limited has supplied the North East with gases it can count on. Our UHP Acetylene carries that standard into the laboratory: tightly controlled critical impurities, specialised cylinders that use DMF (N,N-dimethylformamide) in place of acetone, and a Certificate of Conformity behind every batch — filled and tested at our PESO-approved Noonmati facility.

99.6%

Minimum certified purity, verified by statistical batch analysis

DMF

Specialised solvent cylinders for negligible carry-over

<10 ppm

Phosphine and hydrogen sulphide, each

75 yrs

Manufacturing excellence, serving North East India

GRADES & ANALYTICAL VERIFICATION

PARAMETER	ACETYLENE INDUSTRIAL	ACETYLENE UHP
Purity	≥ 98.0%	≥ 99.6%
Analytical verification*	N/A	Batch
Phosphine, PH ₃ (ppm)	< 600	< 10
Hydrogen sulphide, H ₂ S (ppm)	< 1500	< 10
Solvent	Acetone	DMF (N,N-dimethylformamide)
Reference standard	IS 308	KIGL UHP specification

***Batch** — KIGL carries out statistical batch analysis on cylinders from the same filling batch to verify conformance to the advertised specification. A Certificate of Conformity is supplied with every UHP batch on request.

Why DMF cylinders?

KIGL UHP Acetylene is dissolved in DMF rather than acetone. DMF's vapour pressure is roughly fifty times lower than acetone's, so solvent carry-over into the gas stream is negligible — delivered purity stays consistent through the cylinder's service life, even at sustained withdrawal rates and low residual pressure. An ideal fuel gas for flame atomic absorption spectroscopy (FAAS): a cleaner, more stable flame, less spectral interference, optimum analytical results. Equally suited to laboratory calibration, process control and precision flame work.

PHYSICAL PROPERTIES

PROPERTY	VALUE
Molecular weight	26.04
State of product in cylinder	Dissolved gas, in porous mass
Sublimation point at 1 atm (°C)	−84
Liquid density at boiling point (g/ml)	0.617
Gas density at 20 °C, 1 atm (kg/m ³)	1.09

PROPERTY	VALUE
Relative density (air = 1)	0.91
Vapour pressure at 20 °C (bar g)	44
Flammability limits in air (vol %)	2.5 to 81.0
Autoignition temperature (°C)	~305
Solvent (UHP / Industrial)	DMF / Acetone

USES & APPLICATIONS

Acetylene burns with the hottest and most focused fuel-gas flame in industrial use — about 3,100 °C in oxygen — which makes it as much at home in the analytical laboratory as on the fabrication floor. Choose the grade for the job:

LABORATORY, PHARMA & SYNTHESIS — UHP

- Flame atomic absorption spectroscopy (FAAS), in both air–C₂H₂ and N₂O–C₂H₂ flames
- Flame emission spectroscopy and photometry
- Calibration and validation of analytical instruments
- Process-control and environmental analysis where certified low PH₃ / H₂S is essential
- Pharmaceutical synthesis — ethynylation steps in APIs and vitamin intermediates
- Chemical synthesis — Reppe vinylation and ethynylation for fine chemicals and speciality monomers

FABRICATION & METALWORK — INDUSTRIAL

- Oxy-acetylene welding and brazing of steels and alloys
- Profile cutting, gouging and scarfing
- Flame hardening, hardfacing and thermal spraying
- Flame straightening, localised heating and general hot work

Recommended control equipment available from KIGL: two-stage brass acetylene regulators (LH connection), flashback arrestors for regulator and torch ends, and high-purity changeover manifolds for laboratory supply.

SAFE HANDLING

- **Never use acetylene at a line pressure above 1.5 bar g (15 psig)** — free acetylene above this pressure can decompose explosively.
- **Withdrawal rate:** no more than 1/7th of cylinder contents per hour in continuous service; manifold multiple cylinders for high flows.
- **Keep cylinders upright** in storage, transport and use, to prevent liquid solvent withdrawal.
- Always fit **flashback arrestors** at both regulator and torch; open the valve no more than 1.5 turns.
- Store ventilated, away from oxygen and oxidiser cylinders, heat and ignition sources. Leak-test with soap solution, never a flame.

Let's talk gas.

ENQUIRIES · ORDERS · EQUIPMENT

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Also: Oxygen · Nitrogen · Argon · CO₂ · Hydrogen · Medical gases · Mixtures