

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Methane
- English Name: Methane
- CAS Number: 74-82-8
- Formula: CH₄
- Molecular Weight: 16.04 g/mol
- Product Characteristics: Colorless, odorless, tasteless compressed gas. Highly flammable hydrocarbon with excellent combustion efficiency. Chemically stable under normal conditions, non-toxic, and insoluble in water. Suitable for fuel, chemical synthesis, and laboratory applications.

2. Technical Specifications

Item	Specification
Physical State	Compressed gas
Purity (GC)	≥ 99.5%
Impurity (Ethane)	≤ 0.3%
Impurity (Propane)	≤ 0.1%
Water Content	≤ 10 ppm
Oxygen Content	≤ 0.05%
Sulfur Content	≤ 1 ppm
Boiling Point (1 atm)	-161.5°C
Melting Point	-182.5°C
Density (Gas, 20°C, 1 atm)	0.717 kg/m ³
Flammability	Highly flammable
Explosive Limits (v/v)	5.0-15.0%
Flash Point	-188°C

3. Product Advantages

1. High Purity: Low impurity content ensures stable combustion and reaction performance.
2. Clean Fuel: Combustion produces only CO₂ and water, no secondary pollution.
3. Chemical Stability: Inert under normal conditions, safe for storage and transportation.
4. Versatile Application: Ideal for fuel, hydrogen production, and organic synthesis.

4. Application Fields

- Industrial Fuel: Heating, power generation, and industrial process energy supply.
- Chemical Synthesis: Precursor for methanol, formaldehyde, and ammonia.
- Laboratory Research: Analytical reagent, calibration gas, and reaction gas.
- Energy Sector: Natural gas fuel, fuel cell feedstock.

5. Usage Methods

- Dosage: Adjust according to application (controlled by flow meter for gas supply).

- Application: Use in closed gas systems; ensure leak-proof connections.
- Optimal Conditions: Operate in well-ventilated areas; avoid ignition sources.

6. Packaging & Storage

- Packaging Specifications: 40L steel cylinders, 100L steel cylinders, bulk gas tanks.
- Storage Conditions: Store in cool, dry, well-ventilated warehouses (temperature $\leq 30^{\circ}\text{C}$). Keep away from heat, sparks, and oxidizing agents. Secure cylinders upright.
- Shelf Life: 24 months (unopened, under specified storage conditions).
- Transportation: Classified as flammable gas; transport per hazardous goods regulations.

7. Safety & Protection

- Highly flammable: No smoking near storage/use areas; prohibit open flames.
- Wear appropriate PPE: Safety glasses, anti-static clothing, and gas leak detectors.
- Avoid gas leakage; ensure system pressure is within safe limits.
- In case of leakage, evacuate area, ventilate, and eliminate ignition sources.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Each batch is accompanied by a COA for compliance verification.
- Provide technical support for gas system design and safety operation.