

ARSINE - (AsH₃)

6.0

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| DESCRIPTION : A colorless, poisonous, flammable, liquefied, compressed gas shipped at its vapor pressure of 14 Barg at 21°C. | APPLICATIONS : Epitaxy for GaAs and other III-V, II-VI compound semiconductors, using either the Vapor Phase Epitaxy (VPE) or (more frequently) the Metal Organic Chemical Vapor Deposition (MOCVD) method. | Note: This product is manufactured to Phoenix Research standards, specifically for the production of III-V compounds. Consistently higher yields, measurably brighter devices, and an unmatched record of perfectly consistent product are some of the benefits reported by device manufacturers. GaAs films produced with Arsine 6.0 have yielded carrier concentrations of less than 5x10 ¹⁰ (10E12) with mobilities (Liq.N ₂)exceeding 180.000. | ADR Classification : 2, 2 TF |
| | | | ADR Label 2.3 Toxic gas Label 2.1 Flammable gas |
| | | | MSDS REFERENCE : 005 |
| | | | CHEMICAL ABSTRACTS : 7784-42-1 |
| | | | UN No. : 2188 |

| PRODUCT | | PRESSURE BARG | VALVE TYPE | VALVE OUTLET DIN 477 No | VALVE MATERIALS OF CONSTRUCTION |
|----------|----------|---------------|------------|-------------------------|---------------------------------|
| CYLINDER | CONTENTS | | | | |
| 5HA | request | 14 | Diaphragm | 1 | 316L SS |
| 10HA | request | 14 | Diaphragm | 1 | 316L SS |
| 20HA | request | 14 | Diaphragm | 1 | 316L SS |
| 50HA | 20.4 kg | 14 | Diaphragm | 1 | 316L SS |

| PRODUCT CHARACTERISTICS | PRAXAIR SPECIFICATIONS | METHOD OF ANALYSIS (SEE KEY) |
|--|------------------------|------------------------------|
| MINIMUM PURITY | 99.9999 % | |
| Carbon Monoxide (CO) | ≤ 0.05 ppm | S |
| C ₂ -C ₅ Hydrocarbons 2. | ≤ 0.05 ppm | B |
| Carbon Dioxide (CO ₂) | ≤ 0.05 ppm | S |
| Nitrogen (N ₂) | ≤ 0,1 ppm | S |
| Oxygen + Argon (O ₂ + Ar) 1. | ≤ 0,2 ppm | S |
| Water (H ₂ O) | ≤ 0,1 ppm | E |
| Silane (SiH ₄) | ≤ 0,1 ppm | T |
| Germane (GeH ₄) | ≤ 0.05 ppm | T |
| Phosphine (PH ₃) | ≤ 1 ppm | O |

Notes:

1. Ar+O₂ calculated as 28.1% of the N₂ concentration
2. Defined as ethane (C₂H₆), propane (C₃H₈), butane (C₄H₁₀), pentane (C₅H₁₂)

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| <ul style="list-style-type: none"> ◆ Cylinder sizes, contents, valve types and valve connections other than those indicated above are available on request. ◆ All expressions for concentration are for gas phase, by volume unless otherwise noted. ◆ MSDS Ref.: More detailed Safety Information can be obtained from the Material Safety Data Sheet No. 005 |
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| Key to Analytical Techniques | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T |
|--|--------------------------|-------------------------|----------------------------|----------|-------------|---|----------------------------------|--------------------------------------|---------------------------------------|-------------------|--------------|--|--|--|---|---|---|
| A Gas Chromatograph with Thermal Conductivity Detector | Specific Oxygen Analyzer | Specific Water Analyzer | Total Hydrocarbon Analyzer | Infrared | Proprietary | Gas Chromatograph with Helium Ionization Detector | Flame Ionization with Methanizer | Gas Chromatograph - Photo Ionization | Gas Chromatograph - Flame Photometric | Mass Spectrometry | Wet Chemical | Gas Chromatograph with Discharge Ionization Detector | Gas Chromatograph with Methanizer Carbonizer | Gas Chromatograph with Electrolytic Conductivity | Gas Chromatograph with Reduction Gas Analyzer | Gaschromatograph with High Frequency Discharge Detector | Gas Chromatograph with Atomic Emission Detector |

IMPORTANT

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**EG 3-6.0
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