

## Neon-20, $^{20}\text{Ne}$ .



Chemical Purity:  $\geq 99.99\%$

Isotopic Enrichment:  $\geq 99$  atom%

Neon has three stable isotopes, Ne-20, Ne-21, Ne-22. Ne-20 and Ne-22 are the principle isotopes found in Helium-Neon laser applications. One of a number of critical applications is the use of ring lasers found in commercial, space and military guidance, navigation and control systems. The Ring Laser Gyros (RLG) can be used as the stable elements (for one degree of freedom each) in an inertial guidance system. The advantage of using a RLG is that there are no moving parts. Compared to the conventional spinning gyro, this means there is no friction, which in turn means there will be no inherent drift terms. Additionally, the entire unit is compact, lightweight and virtually indestructible, meaning it can be used in aircraft.

### PHYSICAL CONSTANTS

Chemical name	NE-20
Molecular weight	19.99244
Boiling point at 1 atm	-410.9°F, -246.0°C
Melting point at 1 atm	-415.6°F, -248.7°C
Critical temperature at 1 atm	-379.8°F, -228.8°C
Critical pressure	384.9 psia, 26.54 bar
Critical density	30.15 lb/ft <sup>3</sup> , 483 kg/m <sup>3</sup>
Triple point at 6.29 psia (0.434 bar)	-415.4°F, -248.6°C
Latent heat of vaporization at normal boiling point	37.08 Btu/lb, 86.3 kJ/kg
Latent heat of fusion at triple point	7.14 Btu/lb, 16.6 kJ/kg

### PURITY SPECIFICATIONS

#### (maximum impurity levels)\*

Chemical purity:	$\geq 99.99\%$
Isotopic Enrichment	$> 99.0\%$
Carbon Dioxide (CO <sub>2</sub> )	0.2 ppm
Carbon Monoxide (CO)	0.2 ppm
Helium (He)	10.0 ppm
Hydrogen (H <sub>2</sub> )	1.0 ppm
Nitrogen (N <sub>2</sub> )	1.0 ppm
Oxygen (O <sub>2</sub> )	1.0 ppm
Water (H <sub>2</sub> O)	1.0 ppm
Nitrogen	<10.0

**U.S. Shipping information**

The following information is for U.S. domestic shipments only.

Proper shipping name	Neon - 20
CAS #	7440-59-7
Hazard class number and description:	2.2 (Non-Flammable Gas)
UN identification number	UN 1046
DOT label(s) required	Non-Flammable Gas

\*A large variety of cylinder sizes and valve options are available.

Please inquire about specific packaging needs.\*

**Linde Electronics and Specialty Gases**

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