

# NOVAMET

## Green Nickel Oxide

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Novamet Green Nickel Oxide is a stoichiometric nickel oxide containing 78.5% nickel. It is prepared by a proprietary process for the controlled oxidation of nickel powder derived from the thermal decomposition of nickel carbonyl gas. Novamet Green Nickel Oxide is an ultra high purity product available in three grades: Standard and two unique fine materials, Type A and Type F.

### Applications

The ultra high purity of Novamet Green Nickel Oxide makes it an ideal product for use in applications such as Solid Oxide Fuel Cells. Green Nickel Oxide can be blended with other high purity oxides and then pressed and sintered into shapes for use in a variety of semiconductor applications such as thermistors and varistors.

### The Advantages of Nickel

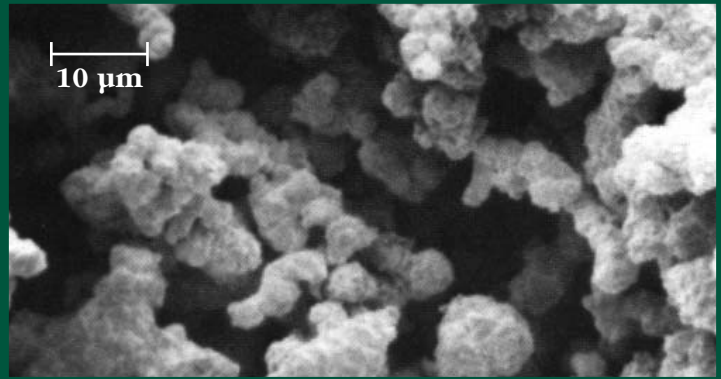
- Purity. Novamet Green Nickel Oxide is the highest purity nickel oxide commercially available.
- Size Range. Three sizes are available. Standard grade is comprised of 2-3 micron particles in three-dimensional chains of about 15 microns. Type A and F are discrete particles of about 8 and 1-2 microns respectively.
- Dispersions. Novamet Green Nickel Oxides can be blended with other oxides such as Magnese, Zinc, Zirconia or Iron to form more complex structures.

### Packaging

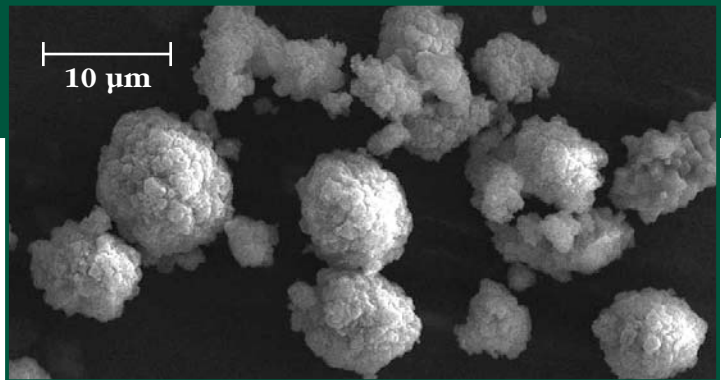
U.S.		Metric	
1 gal. can	11 lb	4 liter can	5 kg
5 gal. can	59.4 lb	20 liter pail	27 kg

Note: All containers are lined with a polyurethane bag.

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Standard Green Nickel Oxide



Green Nickel Oxide Type A

### Typical Properties of Novamet Green Nickel Oxide

	Standard	Type A	Type F
Mean Particle Size (Microtrac d50)	14 to 18	6 to 10	0.5-1.5
Screen Analysis (mesh)	99% (-325)	99% (-400)	99% (-400)
Apparent Density (g/cm <sup>3</sup> )	1.2	1.4	1.1
Surface Area (m <sup>2</sup> /g)	<1	3 to 4	3 to 4
Chemical Analysis			
Nickel (Ni)	78.5%	78.5%	78.5%
Cobalt (Co)	<1 ppm	<1 ppm	<1 ppm
Iron (Fe)	25 ppm	25 ppm	50 ppm
Copper (Cu)	<1 ppm	<1 ppm	<1 ppm
Sulfur (S)	<5 ppm	10 ppm	10 ppm
Trace Elements			
Calcium (Ca)	<1 ppm	<1 ppm	<1 ppm
Sodium (Na)	<1 ppm	<1 ppm	<1 ppm
Lead (Pb)	<1 ppm	<1 ppm	<1 ppm
Magnesium (Mg)	<1 ppm	<1 ppm	<1 ppm
Potassium (K)	<1 ppm	<1 ppm	<1 ppm

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**NOVAMET Specialty Metal Flakes, Powders, Pigments, Oxides and Coated Products**