



High resolution SEM image of Chemical Grade Nickel Powder

# Chemical Grade Nickel Powder (CDN)

CGNP™ is a high purity nickel powder developed specifically for dissolving applications. CGNP™ is produced by a unique carbonyl gas refining process at the Copper Cliff Nickel Refinery in Sudbury, Canada.

CGNP™ is recognized as an industry standard nickel feed for the production of high purity nickel solutions or salts for use in electroplating, Li-ion batteries, catalysts and other demanding applications:

- Carbonyl refining produces the purest form of nickel available.
- Low iron and sulphur content reduces the need to purify nickel product solutions.
- Fine, uniform size distribution results in faster dissolution than other nickel feed sources.
- Non-explosive and non-flammable.
- Preferred nickel feed for the production of nickel sulphamate.
- Assured to the Copper Mark Joint Due Diligence Standard, in accordance with OECD Due Diligence Guidance for Responsible Supply Chains.
- Carbon intensity is 7.1 t CO<sub>2</sub>e/t Ni, including scopes 1, 2, and 3 (upstream) emissions as of the most recent assessment year (2022).<sup>1</sup> Carbon intensity is reassessed on a regular basis.

CGNP™ is also used in metallurgical applications (i.e. welding applications) that do not require tight particle size distribution.

CGNP™ is produced in compliance with the ISO 9001:2015 quality standard.

For further information about our products, please visit our website ([www.vale.com](http://www.vale.com)) or contact a regional sales representative.



1 tonne bag

Disclaimer: The product descriptions and specifications contained in this document are made in accordance with our analyses and the methods used to produce Vale's nickel products. While these descriptions and specifications are reflective of normal production lots, rather than each individual piece, such descriptions and specifications shall in no event be deemed or interpreted as any representation, warranty or commitment by Vale in connection with Vale's nickel products quality. Vale's nickel products quality shall be determined only in accordance with the corresponding contract terms for each transaction agreed between Vale and Vale's customer and the quality related certificate issued under such contract.

<sup>1</sup>Independent third-party limited assurance to the general principles of ISO 14064-3 has been provided by Intertek Certification GmbH.

Updated July 2023 © Vale Canada Limited

## Product Description

### Form

- Fisher sub-sieve size: no spec
- Bulk density: no spec
- Sieve test: ≤0.05 wt% +16#

### Packaging

- 1 tonne bulk bags

### Typical analysis (wt %)

	Typical	Max
Ni*	>99.8	–
Co	<0.00002	–
C	<0.0750	0.1
Fe	<0.0010	0.0014
S	<0.0001	0.0002
O	<0.0800	0.14
N	<0.0050	–

\* Nickel determined by difference.