



**vedanta**  
transforming for good



Excellent  
**quality** for a  
better **tomorrow**



India's sole producer of **Nickel metal**

## Overview

Welcome to Vedanta Limited, a leading global natural resources company with interests in Oil & Gas, Zinc-Lead-Silver, Aluminium, Iron Ore, Steel, Copper, Ferro Alloys, Power, and Glass Display business.

Over the years, Vedanta has positioned itself as a leading natural resources conglomerate, focusing on the large-scale expansion of its portfolio in India with operational excellence benchmarked to global standards.

In a groundbreaking move, Vedanta has recently acquired Nicomet Industries Ltd., a distinguished Nickel and Cobalt producer located in Goa; currently part of the Malco Energy Limited Business Unit of Vedanta, positioning Vedanta as India's sole producer of Nickel.

Vedanta leads the market by producing an impressive 7.5 KTPA of Nickel Metal. With an ambitious growth plan, we are poised to meet an astounding 50% of the nation's total Nickel demand in coming years.

malco energy



# Evolution of Nickel in India

## Nickel Production

Nicomet Started India's First Domestic Nickel Production.



2012

2021



## Vedanta Acquired Nicomet

Vedanta becomes India's sole producer of Nickel

## Nickel Sulphate Production

Vedanta Started Production of Nickel Sulphate in Goa Plant



2022

2023



## Nickel Cathode Production

Vedanta started the production of Nickel Metal and Cobalt Sulphate which raised to 3X by EOY.

## Product Diversification

Vedanta planning to diversify its product portfolio to other Nickel Products such as Nickel Chloride, Nickel Nitrate, Nickel Carbonate, etc.



2024



# Product Portfolio

We offer a very diversified product portfolio of Nickel and Cobalt products. There are two categories of products Primary Products and Value-Added Products.

## Primary Products

- Nickel Metal (Cathode)
- Nickel Sulphate Hexahydrate
- Nickel Sulphate Solution
- Nickel Nitrate Solution
- Cobalt Sulphate Crystals
- Cobalt Sulphate Solution

## By Products

- Manganese Sulphate Solution
- Manganese Sulphate Crystals
- Sodium Sulphate Anhydrous



# Nickel Metal

High Quality Vedanta Nickel Metal applications ranges from stainless steel production, manufacturing nickel catalysts, electroplating, heat-resistant alloys, non-ferrous metal alloying, space, defense, and nickel-cadmium batteries.

We offer high-quality Nickel Metal (Nickel Cathode) in two different compositions of Nickel content:

- 99.80 % Nickel (Ni 9980)

Nickel Metal is available in various dimensions as per the requirement such as:

- Nickel Full Plate Cathodes
- Nickel 4" X 4" cut Cathodes
- Nickel 2" X 2" cut Cathodes
- Nickel off grade Cathode

**NICKEL METAL (Ni 9980)**

Element	Range(%)
Nickel	99.80 % Min
Co	0.1500 % Max
Zn	0.0050 % Max
Fe	0.0200 % Max
Cu	0.0200 % Max
Sb	0.0050 % Max
Mn	0.0050 % Max
Sn	0.0050 % Max
Pb	0.0050 % Max
Bi	0.0050 % Max
C	0.0300 % Max
S	0.0100 % Max
Si	0.0050 % Max
P	0.0050 % Max
As	0.0050 % Max



# Nickel Metal

## Nickel Full Plate Cathodes

Product Description:

**Ni 9980**

Dimensions:

**950 \* 1100 mm**

Packaging:

**Wooden Pallets**

Weight:

**35-50 Kg/ Sheet &  
1000-1200 Kg/ pallet**



## Nickel Cut Cathodes

Product Description:

**Ni 9980**

Packaging:

**HDPE or MS drums  
/Gunny bags,  
50 kgs in gunny  
bags &  
250kgs - 300kgs in  
HDPE Drums**

Dimensions:

**4" \* 4" & 2" \* 2"**



# Nickel Metal

## Nickel 2" X 2" cut Cathodes

Product Description:

**Ni 9980**

Packaging:

**HDPE or MS drums**

**/Gunny bags,  
50 kgs in gunny  
bags & 250kgs -  
300kgs in HDPE  
Drums**



## Nickel Full Plate Cathodes (Grade B)

Product Description:

**Ni 9980**

Packaging:

**Wooden Pallets**

Weight:

**15-40 Kg/ Sheet &  
600-1100 Kg/ pallet**

Thickness: **1-3 mm**



# Nickel Metal

## Nickel off grade Cathode

Product Description:

**Ni 9980**

Packaging:

**Wooden Pallets/-  
Gunny bags,  
500kgs-750 Kgs  
each pallet & 50 kgs  
each bag**



# Nickel Sulphate

Nickel Sulphate is an important compound used as a base material globally in nickel plating, in dip baths for enameling, in preparation of nickel compounds, as a catalytic nickel, and in battery manufacturing.

## We offer Nickel Sulphate of high quality with different grades:

- ✓ Nickel Sulphate Hexahydrate (Battery Grade)
- ✓ Nickel Sulphate Hexahydrate (Technical Grade)
- ✓ Nickel Sulphate Solution



# Nickel Sulphate

## Nickel Sulphate Hexahydrate (Battery Grade)

Appearance:

**Blue-Green Crystals**

Form:

**Crystal**

Packaging:

**1000Kgs Jumbo bags,  
and 50Kgs & 25Kgs in  
HDPE bags**



Element	Range
pH Of 10 % Solution	4.00 – 6.00
Nickel	22.20 – 22.30%
Co	< 0.0010 %
Mg	< 0.0010 %
Na	< 0.0050 %
Ca	< 0.0005 %
Fe	< 0.0010 %
Cu	< 0.0005 %
Zn	< 0.0005 %
Mn	< 0.0010 %
Cd	< 0.0005 %
Pb	< 0.0010 %
Cr	< 0.0010 %
Insoluble	< 0.0050 %

## Nickel Sulphate Hexahydrate (Technical Grade)

Appearance:

**Blue-Green Crystals**

Form:

**Crystal**

Packaging:

**50 Kg and 25 Kg  
HDPE Bags**

Nitrate Test: **Negative**

Solubility 10% in  
dist. H<sub>2</sub>O: **Clear Liquid**



Element	Range
pH Of 10 % Solution	4.00 – 6.00
Nickel	22.20 – 22.30%
Co	< 0.0010 %
Mg	< 0.0020 %
Na	< 0.0100 %
Ca	< 0.0010 %
Fe	< 0.0010 %
Cu	< 0.0005 %
Zn	< 0.0005 %
Mn	< 0.0010 %
Cd	< 0.0005 %
Pb	< 0.0010 %
Cr	< 0.0010 %
Insoluble	< 0.0050 %

## Nickel Sulphate Solution

Vedanta Nickel Sulphate Solution is utilized in metal plating, research and laboratory work, electrolytic nickel solutions, build-up coating for worn parts, and the production of molds, filters, meshes, and screens in various industries.

Appearance:  
**Green Transfer Liquid**

Form: **Solution**

Packaging:  
**Stainless Steel Drums**



Nickel Sulphate Solution

Element	Range
pH	3.00 – 5.00
Ni	70 – 90 gpl
Co	< 20 ppm
Mg	< 3000 ppm
Ca	< 100 ppm
Fe	< 10 ppm
Cu	< 5 ppm
Zn	< 5 ppm
Cd	< 5 ppm
Mn	< 10 ppm
Pb	< 10 ppm
Cr	< 5 ppm

## Nickel Nitrate Solution

Vedanta Nickel Nitrate Solution with high quality proves its versatility in various applications, nickel-impregnated catalysts, batteries, electrotyping, electroplating, mordent in textile dyeing, and surface treatment within the metal finishing.

Appearance:  
**Green Clear Liquid**

Form: **Solution**

Packaging:  
**Stainless Steel Drums**



Nickel Nitrate Solution

Element	Range
Free Acid	5 - 10 gpl
SG	> 1.40
Ni	> 150 gpl
Co	< 100 ppm
Mg	< 100 ppm
Ca	< 100 ppm
Fe	< 100 ppm
Cu	< 100 ppm
Zn	< 50 ppm
Cd	< 10 ppm
Na	< 100 ppm
Cr	< 20 ppm
Mn	< 20 ppm
Pb	< 100 ppm

## Cobalt Sulphate Crystals

Vedanta Cobalt Sulfate finds applications as a pigment in ceramics glazes and enamels, as a soil additive, and in agricultural products, veterinary medicines, feed supplements, water treatment, EV and battery industries, and electroplating.

Appearance:  
**Red Crystals**

Form: **Crystals**

Packaging:  
**25 Kg HDPE Bags**



Cobalt Sulphate,  $\text{CoSO}_4$

Element	Range
pH Of 10% Solution	4.50 – 5.50
Cobalt	21.0 – 22.2%
Ni	< 0.0300 %
Mg	< 0.1500 %
Na	< 0.0010 %
Ca	< 0.2000 %
Fe	< 0.0025 %
Cu	< 0.0100 %
Zn	< 0.0005 %
Mn	< 0.0300 %
Cd	< 0.0010 %
Pb	< 0.0010 %
Cr	< 0.0005 %

## Cobalt Sulphate Solution

Cobalt sulfate solution is used in electroplating, catalysts, pigments, agriculture, animal nutrition, and chemical synthesis for a range of applications.

Appearance:  
**Dark Solution**

Form: **Solution**

Packaging:  
**Stainless Steel Drums**



Cobalt Sulphate Solution

Parameters	Specifications
Co	100 – 120 gpl
Ni	< 100 ppm
Mg	< 2 gpl
Na	< 250 ppm
Ca	< 1000 ppm
Fe	< 5 ppm
Cu	< 50 ppm
Zn	< 5 ppm
Mn	< 500 ppm
Cd	< 20 ppm
Pb	< 5 ppm

## Sodium Sulphate Anhydrous

Sodium sulfate anhydrous finds applications in detergents, glass manufacturing, textiles, paper production, chemical manufacturing, and occasionally as a food additive in baked goods.

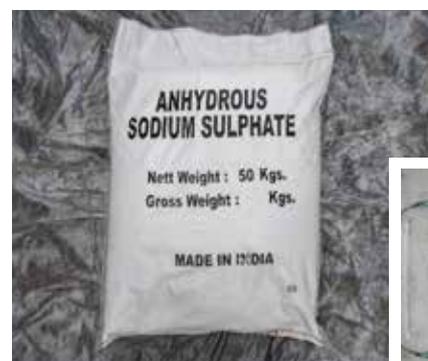
Description of Material:

**Anhydrous Sodium Sulphate Crystal**

Appearance: **White**

Form: **Free Flowing Crystals**

Packaging: **50Kgs packing in HDPE bags**



Sodium Sulphate Anhydrous, Na <sub>2</sub> SO <sub>4</sub>	
Parameters	Specifications
pH	7.00-9.00
Purity as Na <sub>2</sub> SO <sub>4</sub> %	98.00 %, Min.
Moisture %	0.500 %, Max.
Chloride as Cl %	0.200 %, Max.
Water Insoluble %	0.250 %, Max.
Loss on Ignition %	0.650 %, Max.

## Manganese Sulphate Solution

Manganese sulfate solution is used in agriculture, animal nutrition, electrolytes, water treatment, chemical manufacturing, and battery applications for its role as a nutrient, additive, and source of manganese.

Appearance: **Very Faint Pink**

Form: **Solution**

Packaging: **Stainless Steel Drums**



Manganese Sulphate Solution	
Elements	Specifications
Mn	> 100 gpl
Ni	< 10 ppm
Co	< 300 ppm
Mg	< 50 ppm
Ca	< 200 ppm
Fe	< 5 ppm
Cu	< 5 ppm
Zn	< 10 ppm
Cd	< 5 ppm
Na	< 200 ppm

# Manganese Sulphate Crystals

Manganese Sulphate is utilized as a micronutrient fertilizer, animal feed source, in ceramics and textiles production, manufacturing of other manganese compounds, and as an additive in various industrial processes.

Description of Material:  
**Manganese Sulphate Crystals**

Appearance: **Pale pink**

Form: **Crystals**



Manganese Sulphate Crystals	
Elements	Specifications
Mn	30 – 32 %
Ni	< 0.003 %
Co	< 0.05 %
Mg	< 0.01 %
Ca	< 0.01 %
Fe	< 0.005 %
Cu	< 0.01 %
Zn	< 0.002 %
Cd	< 0.0005 %
Na	< 0.02 %

Packaging: **HDPE bags**



## CONTACTS

### Malco Energy Limited

Plot Nos. L-15, L-19, L-20 & M-11,  
Landfill Site, Cuncolim Industrial Estate,  
Cuncolim, South Goa - 403703, India.

For any queries contact:

**Email: [Nico.Sales@vedanta.co.in](mailto:Nico.Sales@vedanta.co.in)**

Phone:

**+91 8451902682**

**+91 8326713750**

