



Specialized in chemicals

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Technical Data Sheet

Nickel oxide / Nickelous oxide

Product Information

Chemical Name	Nickel oxide
CAS #	1313-99-1
Formula	NiO
Molecular Weight	74.69
Chemical Structure	Ni=O

Description

Nickel(II) oxide is the chemical compound with the formula NiO.

It is notable as being the only well-characterized oxide of nickel (although nickel(III)oxide, Ni₂O₃ and NiO₂ have been claimed. The mineralogical form of NiO, bunsenite, is very rare.

It is classified as a basic metal oxide. Several million kilograms are produced in varying quality annually, mainly as an intermediate in the production of nickel alloys.

Specification

Appearance	Black & Grey Powder
NiO,(As Ni) %	≥76.5
Co,%	≤0.15
Cu,%	≤0.05
Fe,%	≤0.10
Zn,%	≤0.05
S,%	≤0.03
Alkali metal (Ca, Mg, Na),%	≤1.0
Mesh(500)	99% pass

Safety

Always refer to the Material Safety Data Sheet (MSDS)

Applications

NiO has a variety of specialized applications and generally applications distinguish between "chemical", which is relatively pure material for specialty applications, and "metallurgical grade", which is mainly used for the production of alloys.

It is used in the ceramic industry to make frits, ferrites, and porcelain glazes.

The sintered oxide is used to produce nickel steel alloys.

NiO was also a component in the nickel-iron battery, also known as the Edison Battery, and is a component in fuel cells. It is the precursor to many nickel salts,

for use as specialty chemicals and catalysts. More recently,

NiO was used to make the NiCd rechargeable batteries found in many electronic devices until the development of the environmentally superior NiMH battery.[4] NiO an anodic electrochromic material, have been widely studied as counter electrodes with tungsten oxide, cathodic electrochromic material, in complementary electrochromic devices.

About 4000 tons of chemical grade NiO are produced annually.

Black NiO is the precursor to nickel salts, which arise by treatment with mineral acids.

NiO is a versatile hydrogenation catalyst. Heating nickel oxide with either hydrogen, carbon, or carbon monoxide reduces it to metallic nickel. It combines with the oxides of sodium and potassium at high temperatures (>700 °C) to form the corresponding nickelate.

Nickel oxide reacts with chromium(III) oxide in a basic moist environment to form nickel chromate

Packaging

25kg iron drum, 20mt/20"container

Storage & Handling

Store in cool and airy place; keep away from fire and heat; handle with care; avoid leakage.

In the specified storage conditions, product warranty for 2years

Always refer to the Material Safety Data Sheet (MSDS) for detailed information on handling and disposal.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchant ability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we have been advised of the possibility of such damages.

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