

Material Safety Data Sheet

May be used to comply with
 OSHA's Hazard Communication Standard,
 29 CFR 1910.1200. Standard must be
 consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072



IDENTITY (As Used on Label and List)
N-135: BLACK NICKEL OXIDE

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name CERAMIC COLOR & CHEMICAL MFG. CO.	Emergency Telephone Number 412-846-4000
Address (Number, Street, City, State, and ZIP Code) 13TH STREET & 11TH AVENUE NEW BRIGHTON, PA 15066	Telephone Number for Information 412-846-4000
Chemical Name NICKEL CAS 1313-99-1	Date Prepared 5-5-87
	Signature of Preparer (optional)

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
NiO	1 as Ni	1 as Ni		98.5

Section III — Physical/Chemical Characteristics

Boiling Point	N.A.	Specific Gravity (H₂O = 1)	6.00
Vapor Pressure (mm Hg.)	N.A.	Melting Point	
Vapor Density (AIR = 1)	N.A.	Evaporation Rate (Butyl Acetate = 1)	
Solubility in Water	Insoluble		
Appearance and Odor	Black odorless powder		

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used) Non-flammable	Flammable Limits	LEL	UEL
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Extinguishing Media

Special Fire Fighting Procedures

Unusual Fire and Explosion Hazards

Section V — Reactivity Data

Unstable	Conditions to Avoid
Stable	None

Incompatibility (Materials to Avoid) None

Hazardous Decomposition or Byproducts None

May Occur	Conditions to Avoid
Will Not Occur	None

Section VI — Health Hazard Data

(s) of Entry: Inhalation? Skin? Ingestion?

Health Hazards (Acute and Chronic) SEE ATTACHMENT

Biogenicity: NTP? IARC Monographs? OSHA Regulated?

Signs and Symptoms of Exposure SEE ATTACHMENT

Special Conditions: Seriously Aggravated by Exposure

Emergency and First Aid Procedures

Section VII — Precautions for Safe Handling and Use

to Be Taken in Case Material is Released or Spilled

Can be swept up, shoveled up, etc. and replaced in original container. Care should be taken to maintain working atmosphere below TLV.

Disposal Method: If product is no longer useful, dispose according to appropriate local regulations.

Precautions to Be Taken in Handling and Storing: Keep container closed when not in use.

Precautions: Ventilation is normally required when handling or using this product to keep exposure to airborne nickel oxide below the PEL.

Section VIII — Control Measures

Respiratory Protection (Specify Type)

Mechanical (General)	Special
<u>SEE ATTACHMENT</u>	Other
Protective Clothing or Equipment	Eye Protection

Hygienic Practices

SECTION V - HEALTH HAZARD DATA

INHALATION: The National Toxicology Program has listed nickel oxide as a possible cancer hazard. The International Agency for Research on Cancer concluded there was sufficient evidence that nickel refining was carcinogenic to humans and limited evidence that nickel and certain nickel compounds were carcinogenic to humans. IARC could not state with certainty which forms of nickel are human carcinogens but said "...metallic nickel seems less likely to be so than nickel subsulphide or nickel oxides." The inhalation of nickel oxide, even at high concentrations, has not resulted in an increased incidence of malignant tumors in rodents. Studies of workers exposed to dust and fume generated in the production of nickel alloys and of stainless steel have not indicated a respiratory cancer hazard.

Inhalation of nickel oxide impaired long-term lung clearance in rats and, at concentrations fifty times the PEL, produced pneumoconiosis in hamsters.

WOUNDS Nickel oxide has caused tumors at the site of injection in rodents.

INGESTION: Nickel oxide has a low oral toxicity (oral rat LD₅₀ > 5000 mg/kg). The U.S. Food and Drug Administration concluded that nickel and its inorganic compounds are not carcinogenic when ingested.

SECTION V I - CONTROL MEASURES

Good industrial hygiene practice requires that employee exposure be maintained below the recommended TLV. This is preferably achieved through the provision of adequate ventilation where necessary. Where dust or fume cannot be controlled in this way, personal respiratory protection should be employed and, according to the severity of the situation, consideration should be given to the use of barrier creams and protective clothing.

RESPIRATORY PROTECTION: In an environment where the "Airborne Contaminant Concentration" of Nickel is greater than 1.0 mg per cu meter of air use WILSON type 1211 respirator OR Mine Safety Appliance Co. Model 459438 OR other NIOSH - approved equivalent respirator. For high concentration of fumes and/or dust it is suggested that a supplied-air respiratory device be used.

VENTILATION: As required

PROTECTIVE GLOVES: Gloves should be used when handling cans of R- 39 Nickel Oxide.

EYE PROTECTION: Eyes should be suitably protected from any possible irritation by Nickel Oxide when handling, dumping, etc.
