Nickel (II) Oxide Granular 0.2 to 0.5mm

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Issue date: 01/06/2017 Revision date: 20/03/2024 Supersedes version of: 11/03/2024 Version: 11.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	:	Substance
Substance name	:	Nickel (II) Oxide Granular 0.2 to 0.5mm
Chemical name	:	nickel monoxide
EC Index-No.	:	028-003-00-2
EC-No.	:	215-215-7
CAS-No.	:	1313-99-1
Product code	:	B1130
Product group	:	End product

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category	:	Professional use
Use of the substance/mixture	:	Laboratory chemicals
Function or use category	:	Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Elemental Microanalysis Ltd
1 Hameldown Road
Okehampton, Devon, EX20 1UB
GB United Kingdom
T +44 1837 54446
enquiries@microanalysis.co.uk, https://www.elementalmicroanalysis.com/

1.4. Emergency telephone number

Emergency number	:	+44 (0) 7990 767375

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carcinogenicity (inhalation) Category 1A	H350i
Specific target organ toxicity – Repeated exposure, Category 1	H372
Skin sensitisation, Category 1	H317
Hazardous to the aquatic environment – Chronic Hazard, Category 4	H413

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

May cause cancer. Causes damage to organs through prolonged or repeated exposure. May cause an allergic skin reaction. May cause long lasting harmful effects to aquatic life.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS08 GHS07

Signal word (CLP) : Danger

Hazard statements (CLP)	:	H350i - May cause cancer by inhalation. H372 - Causes damage to organs through prolonged or repeated exposure. H317 - May cause an allergic skin reaction. H413 - May cause long lasting harmful effects to aquatic life.
Precautionary statements (CLP)	:	P201 - Obtain special instructions before use. P261 - Avoid breathing dust. P280 - Wear eye protection, protective clothing, protective gloves. P308+P313 - IF exposed or concerned: Get medical advice/attention. P314 - Get medical advice/attention if you feel unwell. P321 - Specific treatment (see supplemental first aid instruction on this label).

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	:	Mono-constituent
Name	:	Nickel (II) Oxide Granular 0.2 to 0.5mm
CAS-No.	:	1313-99-1
EC-No.	:	215-215-7
EC Index-No.	:	028-003-00-2

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
NICKEL MONOXIDE	CAS-No.: 1313-99-1 EC-No.: 215-215-7 EC Index-No.: 028-003-00-2	100	Carc. 1A, H350i STOT RE 1, H372 Skin Sens. 1, H317 Aquatic Chronic 4, H413

Full text of H- and EUH-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	:	IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	:	Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	:	Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	:	Rinse eyes with water as a precaution.
First-aid measures after ingestion	:	Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact	:	May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Nickel (II) Oxide Granular 0.2 to 0.5mm (1313-99-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Nickel monoxide, nickel(II) oxide
IOEL TWA	0.005 mg/m³ (respirable fraction) 0.01 mg/m³ (inhalable fraction)
Remark	(Year of adoption 2011)
Regulatory reference	SCOEL Recommendations
EU - Biological Limit Value (BLV)	
Local name	Nickel monoxide, nickel(II) oxide
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs

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8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Nickel (II) Oxide Granular 0.2 to 0.5mm (1313-99-1)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	18.9 mg/m³
Long-term - local effects, dermal	0.012 mg/cm²
Long-term - systemic effects, inhalation	0.05 mg/m³
Long-term - local effects, inhalation	0.05 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, oral	0.37 mg/kg bodyweight/day
Acute - local effects, inhalation	1.8 mg/m³
Long-term - systemic effects,oral	0.013 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	60 ng/m³
Long-term - local effects, inhalation	60 ng/m³

Nickel (II) Oxide Granular 0.2 to 0.5mm (1313-99-1)	
PNEC (Water)	
PNEC aqua (freshwater)	7.1 µg/l
PNEC aqua (marine water)	8.6 µg/l
PNEC aqua (intermittent, freshwater)	0 µg/l
PNEC aqua (intermittent, marine water)	0 µg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	109 mg/kg dwt
PNEC sediment (marine water)	109 mg/kg dwt
PNEC (Soil)	
PNEC soil	29.9 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	0.12 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	0.33 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Safety glasses

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	Not available
Molecular mass	:	74.69 g/mol Source: ECHA
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	1955 °C Source: ECHA
Freezing point	:	Not applicable
Boiling point	:	Not available
Flammability	:	Non flammable.
Explosive limits	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	400 °C Source: ECHA
Decomposition temperature	:	Not available
pH	:	Not available
pH solution	:	Not available
Viscosity, kinematic	:	Not applicable
Solubility	:	Water: 0 g/l at 20°C pH: 6.4~7.4 Source: ECHA
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	0 mm Hg at 68°F Source: CAMEO
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	6.75 Type: 'relative density' Temp.: 21 °C
Relative vapour density at 20°C	:	Not applicable
Particle size	:	Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Nickel (II) Oxide Granular 0.2 to 0.5mm (1313-99-1)	
LD50 oral rat	> 11000 mg/kg Source: ECHA
LC50 Inhalation - Rat (Dust/Mist)	> 5.08 mg/l Source: ECHA

NICKEL MONOXIDE (1313-99-1)	
LD50 oral rat	> 11000 mg/kg Source: ECHA
LC50 Inhalation - Rat (Dust/Mist)	> 5.08 mg/l Source: ECHA

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : May cause cancer by inhalation.

Nickel (II) Oxide Granular 0.2 to 0.5mm (1313-99-1)	
IARC group	1 - Carcinogenic to humans

NICKEL MONOXIDE (1313-99-1)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

NICKEL MONOXIDE (1313-99-1)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Nickel (II) Oxide Granular 0.2 to 0.5mm (1313-99-1)	
Viscosity, kinematic	Not applicable

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long lasting harmful effects to aquatic life.
Hazardous to the aquatic environment, short–term (acute) : Not classified
Hazardous to the aquatic environment, long–term (chronic) : May cause long lasting harmful effects to aquatic life.
Not rapidly degradable

Nickel (II) Oxide Granular 0.2 to 0.5mm (1313-99-1)	
LC50 - Fish [1]	15.3 mg/l Source: ECHA

NICKEL MONOXIDE (1313-99-1)	
LC50 - Fish [1]	15.3 mg/l Source: ECHA

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

HP Code : HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.
HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.
HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor

Abbreviations and acronyms:	
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

Full text of H- and EUH-statements:	
Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
Carc. 1A	Carcinogenicity (inhalation) Category 1A
H317	May cause an allergic skin reaction.
H350i	May cause cancer by inhalation.
H372	Causes damage to organs through prolonged or repeated exposure.
H413	May cause long lasting harmful effects to aquatic life.

Full text of H- and EUH-statements:	
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1

The classification complies with : ATP 12

Safety Data Sheet (SDS)_EMAL, EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.