

# Safety Data Sheet

According to (EG) Nr. 1907/2006, 2020/878/EU

## Nickel catalysator deactivated

Article number: 80063/80619

Version: 7.0  
actualized: 23.06.2025

### Section 1 Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name **Nickel catalysator, deactivated**  
Article number: 80063/80619  
Registration number: none

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.

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

Application of the substance: Research and Development

#### 1.3 Details of the supplier of the safety data sheet

##### Gesellschaft für Gassysteme durch Katalyse und Elektrochemie mbH

Lilienthalstrasse 146

Building 11

34123 Kassel

Germany

Phone: +49 561 59190

Fax: +49 561 59191

E-mail: [info@gaskatel.de](mailto:info@gaskatel.de)

#### 1.4 Emergency telephone number

Giftnotruf Mainz: +49 6131-19240

### Section 2 Hazards identification

#### 2.1 Classification of the substance or mixture

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

Carc. 2	H351	Suspected of causing cancer.
Carc. 1Ai	H350i	May cause cancer by inhalation.
STOT RE 1	H372	Causes damage to organs through prolonged or repeated exposure.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

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## 2.2 Label elements

The substance is classified and labelled according to the CLP regulation.

### Hazard pictograms



GHS07

GHS08

**Signal word** Danger

### Hazardous ingredients for labeling

Nickel oxide, Nickel

### Hazard statements

- |       |   |
|-------|---|
| H351  | Suspected of causing cancer.                                    |
| H350i | May cause cancer by inhalation.                                 |
| H372  | Causes damage to organs through prolonged or repeated exposure. |
| H317  | May cause an allergic skin reaction.                            |
| H412  | Harmful to aquatic life with long lasting effects.              |

### Precautionary statements

- |           |  |
|-----------|--|
| P201      | Obtain special instructions before use.                                    |
| P260      | Do not breathe dust/fume/gas/mist/vapours/spray.                           |
| P273      | Avoid release to the environment.  |
| P280      | Wear protective gloves/protective clothing/eye protection/face protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water.                            |
| P308+P313 | IF exposed or concerned: Get medical advice/attention.                     |

**Additional information: None -**

## 2.3 Other hazards

All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

### Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

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## Section 3 Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous ingredients

##### Nickel oxide /Nickel 90-95%

Stoff	CAS	GHS	Classification	H-Sätze
Nickel oxide:	192399-1	 	Carc. 1Ai STOT RE 1 Skin Sens. 1 Aquatic Chronic 3	H350i H372 H317 H413
Nickel	7440-02-0	 	Carc. 2 STOT RE 1 Skin Sens. 1 Aquatic Chronic 3	H351 H372 H317 H412

#### Not dangerous ingredients

Aluminium oxide (CAS 1344-28-1) 5-10%

## SECTION 4: First aid measures



### 4.1 Description of first aid measures

#### After inhalation

Injury from self-protection from the danger area to the fresh air. Keep in a cool place, protect from cold. If breathing is difficult, inhale oxygen. In case of breathing, mouth-to-nose resuscitation, if not feasible mouth-to-mouth resuscitation. Maintain the airways. Ensure medical attention. After inhalation of nickel oxide smoke additional: Immediately inhale a glucocorticoid metered dose aerosol for inhalation.

#### After swallowing:

Rinse mouth, spit out fluid. Immediately - with conscious consciousness - drink plenty of liquid (water). Induce vomiting. Ensure medical attention.

#### After eye contact:

Eye Rinse under running water with wide-spread eyelids for 10 minutes under the protection of the uninjured eye. Ensure medical attention.

#### After skin contact:

Remove moistened clothing, taking care of self-protection. Wash affected parts of the skin thoroughly with soap under running water. In the case of subjectively perceived or objectively discernible skin lesions: Ensure medical attention.

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

irritant effects, allergic reactions, cough, shortness of breath

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

No further relevant information available.

## Section 5 Firefighting measures



### 5.1 Extinguishing media

#### Suitable extinguishing agents:

Use fire extinguishing methods suitable to surrounding conditions.

**For safety reasons unsuitable extinguishing agents:** Water with full jet

### 5.2 Special hazards arising from the substance or mixture

Non-flammable.

In case of fire, the following can be released

Nickel oxide, Nickel

### 5.3 Advice for firefighters

Staying in the area of danger only with respiratory protection device independent of circulating air. Avoid skin contact by observing the safety distance or wear suitable protective clothing.

#### Additional information

Prevent fire-fighting water from entering surface water or groundwater.

## Section 6 Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Keep the area at risk. Avoid dust formation and inhalation of dusts. Avoid substance contact. In order to remove the dangerous state, the hazard area may only be entered with suitable protective measures. Wear respiratory, eye, hand and body protection (see chapter "Personal protective measures"). Pick up mechanically, avoid dust formation. Subsequently ventilate the room and clean soiled objects and floor.

### 6.2 Environmental precautions

Do not allow product to reach sewage system or any water course. Slightly hazardous to water. Inform respective authorities in case of seepage into water course or sewage system. Keep contaminated washing water and dispose of appropriately.

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### 6.3 Methods and material for containment and cleaning up

Pick up mechanically. Dispose of the material collected according to regulations.

### 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information

## Section 7 Handling and storage

### 7.1 Precautions for safe handling

Pay attention to cleanliness at the workplace.

At workplaces, only the amounts of substance necessary for the progress of the work may be present. Do not leave the receptacles open.

Use as close-closing systems with exhaust as possible for unloading and transfer. Avoid spilling. Fill only in labeled containers.

Avoid any contact with open handling.

Avoid handling dust when handling.

Carcinogenic and mutagenic substances only in closed equipment.

If the leakage is not to be prevented, a suction at the outlet point is required.

All rooms, equipment and appliances must be cleaned regularly. Use personal protective equipment when cleaning. Avoid dust formation.

Unavoidable dust deposits must be taken regularly.

Use Class H industrial vacuum cleaners.

Do not spill dust unnecessarily during cleaning.

The blow-off for cleaning purposes is not permissible. Alternatively: Clean damp.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep locked up or only accessible to qualified persons.

Keep container tightly closed in a cool, dry, well-ventilated place

Containers shall be clearly and permanently marked.

If possible, keep in the original container.

### 7.3 Specific end use(s)

No further relevant information available.

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### Section 8 Exposure controls/personal protection

#### 8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace.

##### Nickel oxide (1313-99-1)

Directive 2022/431/EU

**Binding occupational exposure limit value** of the European Union

8 hours limit value: 0,01 mg/m<sup>3</sup> (Respirable fraction)

8 hours limit value: 0,05 mg/m<sup>3</sup> (Inhalable fraction)

measured as nickel

Workplace exposure limit (AGW): 0,05 mg/m<sup>3</sup> (Respirable fraction) from 18.01.2025

Workplace exposure limit (AGW): 0,01 mg/m<sup>3</sup> (Inhalable fraction) from 18.01.2025

##### Nickel (7440-02-0)

Workplace exposure limit (AGW): 0.006 mg / m<sup>3</sup> (alveolar fraction)

Workplace exposure limit (AGW): 0,03 mg/m<sup>3</sup> (Respirable fraction)

##### Relevant DNELs Nickel

Used in	Route of exposure	Threshold level	Exposure time
Worker (industry)	human, inhalatory	11,9 mg/m <sup>3</sup>	acute - local effects
Worker (industry)	human, inhalatory	0,05 mg/m <sup>3</sup>	chronic - local effects
Worker (industry)	human, inhalatory	0,05 mg/m <sup>3</sup>	chronic - systemic effects

##### Relevant DNELs Nickel oxide

Used in	Route of exposure	Threshold level	Exposure time
Worker (industry)	human, inhalatory	18,9mg/m <sup>3</sup>	acute - local effects
Worker (industry)	human, inhalatory	0,05mg/m <sup>3</sup>	chronic - local effects
Worker (industry)	human, inhalatory	0,05mg/m <sup>3</sup>	chronic - systemic effects

##### Relevant PNECs Nickel

Organism	Environmental compartment	Threshold level	Exposure time
aquatic organisms	freshwater	7,1 µg/l	short-term (single instance)
aquatic organisms	marine water	8,6 µg/l	short-term (single instance)
aquatic organisms	sewage treatment plant (STP)	0,33 mg/l	short-term (single instance)
aquatic organisms	freshwater sediment	109 mg/kg	short-term (single instance)
aquatic organisms	marine sediment	109 mg/kg	short-term (single instance)
terrestrial organisms	soil	29,9 mg/kg	short-term (single instance)

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## 8.2 Exposure controls

### Technical measures

Technical measures and the application of suitable working procedures have priority over the use of personal protective equipment. See Section 7.

### General protective and hygienic measures

Do not eat, drink or smoke while working.

Avoid inhalation of dusts.

Keep away from foodstuffs, beverages and feed.

Skin cleansing is required.

Avoid contact with clothing. Change contaminated clothing and clean thoroughly.

Replace clothing before breaks.

Separate storage facilities for road and workwear must be available if there is a risk of contamination of the workwear.

Before breaks and at the end of work, skin cleansing with soap and water is required.

After cleaning, use a greasy skin care product.

### Individual protection measures

#### Personal protective equipment

##### Respiratory protection



Required when dust are generated.  
Filter P3 (color code: white)

##### Protection of hands



##### Full contact

Glove material: Nitrile  
Glove thickness: 0.11 mm  
Penetration time: >480 min

##### Injection contact

Glove material: Nitrile  
Glove thickness: 0.11 mm  
Penetration time: >480 min

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

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### Eye protection



Tightly sealed goggles

### Body protection:

Protective work clothing

## Section 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

Form:	Powder
Color	grey, dark grey
Odor:	Odorless
Odor threshold:	No information available
pH-Value:	No information available
Melting point:	~ 2000°C
Boiling point/Boiling range:	Not applicable
Flash point:	Not applicable
Flammability (solid, gaseous):	No information available
Ignition temperature:	Not applicable
Decomposition temperature:	Not determined
Self-igniting:	Not determined
Lower explosion limit:	No information available
Upper explosion limit:	No information available
Vapor pressure:	Not applicable
Vapor density:	No information available
Relative density:	Not determined
Bulk density:	2.24 g/cm <sup>3</sup>
Water solubility:	Insoluble
Evaporation rate:	Not applicable
Distribution coefficient (n-Octanol/Water):	Not determined
Viscosity dynamic:	Not applicable
Explosive properties:	No information available
Oxidizing properties:	No information available

## Section 10 Stability and reactivity

### 10.1 Reactivity

Risk of dust explosion.

No dangerous reactions are expected when used as intended.

### 10.2 Chemical Stability

Under normal conditions the product is chemically stable.



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### 10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapors with:  
Ammonium nitrate, Organic solvents

Exothermic reactions with:

Chlorine, Fluorine, Iodine, Alcohols, Hydrazine, Oxidizing agents, Sulfur, Selenium, Titanium, Hydrogen, Strong acid, Barium oxide, Sulfurhydrogen, Hydrogen peroxide

### 10.4 Conditions to avoid

No Information available.

### 10.5 Incompatible materials

No Information available.

### 10.6 Hazardous decomposition products:

No Information available.

## Section 11 Toxicological information

### 11.1 Information on toxicological effects

Toxicological studies with the mixture are not available.  
Classification acc. to GHS

#### Acute toxicity

Shall not be classified as acutely toxic.  
GHS of the United Nations, annex 4. May be harmful if inhaled.

Exposure route	Endpoint	Value	Species	Source	Substance
oral	LD50	>9.000mg/kg	rat	ECHA	Nickel
oral	LD50	8.796mg/kg	rat	ECHA	Nickel oxide
Inhalation: dust/mist	LC50	>5,08mg/l/4h	rat	ECHA	Nickel oxide

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

#### Respiratory or skin sensitisation

May cause an allergic skin reaction.

#### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

May cause cancer by inhalation.

#### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

#### Specific target organ toxicity - single exposure

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Shall not be classified as a specific target organ toxicant (single exposure).

### **Specific target organ toxicity - repeated exposure**

Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure.

### **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

### **Endocrine disruptor for human health**

Shall not be classified as an endocrine disruptor for human health.

## **Symptoms related to the physical, chemical and toxicological characteristics**

### **If swallowed**

Data are not available.

### **If in eyes**

Data are not available

### **If inhaled**

Inhalation of dust may cause irritation of the respiratory system, cough, Dyspnoea, varying degrees of pulmonary injury

### **If on skin**

May produce an allergic reaction, pruritis, localised redness

### **Other information**

None

## **11.2 Information on other hazards**

There is no additional information.

## **Section 12 Ecological information**

### **12.1 Toxicity**

Ecotoxicological studies with the mixture are not available.

### **12.2 Persistence and degradability**

The product is a water-insoluble, chemically inert and biologically practically non-degradable solid

### **12.3 Bioaccumulative potential**

Bioaccumulation is not expected.

### **12.4 Mobility in soil**

The product is insoluble in water.

### **12.5 Results of PBT and vPvB assessment**

A PBT / vPvB assessment is not applicable since it is an inorganic substance or an inorganic mixture.

### **12.6 Other adverse effects**

Harmful to aquatic organisms, with long-term effect.

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### Section 13 Disposal considerations

#### 13.1 Waste treatment methods

Keep chemicals in original containers. Do not mix with other wastes.  
Uncleaned containers should be handled according to the product.  
Product residues should be disposed of in accordance with the national and regional fonts.

### Section 14 Transport informations

#### 14.1 UN-Number

ADR, ADN, IMDG, IATA void

#### 14.2 UN proper shipping name

ADR, ADN, IMDG, IATA void

#### 14.3 Transport hazard class(es)

ADR, IMDG, IATA

Class: void

Label: void

ADR/R-Class void

#### 14.3 Packing group

ADR, ADN, IMDG, IATA void

#### 14.5 Environmental hazards

Marine pollutant void

#### 14.6 Special precautions for use

Not applicable

#### 14.7 Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code Not applicable

Transport/Additional information:

ADR

Remarks: Not subject to transport regulations

UN „Model Regulation“ -

### Section 15 Regulatory information

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

##### Seveso Directive: 2012/18/EU (Seveso III):

No 11; Dangerous substance/hazard categories: nickel compounds in inhalable powder form! Qualifying quantity: 1 tons

##### Deco Paint Directive

VOC content: 0%

##### Industrial Emissions Directive (IED):

VOC content: 0%

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

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### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

### Water Framework Directive (WFD)

Name of substance	Name according to inventory	Listed in
Nickel	nickel	List of priority substances in the field of water policy
Nickel	nickel	Environmental Quality Standards for Priority Substances and certain other pollutants
Nickel	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine related functions in or via the aquatic environment	Indicative list of the main pollutants
Nickel	Metals and their compounds	Indicative list of the main pollutants
Nickel(II)-oxide	nickel compounds	List of priority substances in the field of water policy
Nickel(II)-oxide	nickel compounds	Environmental Quality Standards for Priority Substances and certain other pollutants
Nickel(II)-oxide	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine related functions in or via the aquatic environment	Indicative list of the main pollutants
Nickel(II)-oxide	Metals and their compounds	Indicative list of the main pollutants

### Regulation on the marketing and use of explosives precursors

not listed

### Regulation on drug precursors

not listed

### Regulation on substances that deplete the ozone layer (ODS)

not listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

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### Regulation on persistent organic pollutants (POP)

not listed

### National regulations (GB)

#### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

#### Restrictions according to GB REACH, Annex 17

Nickel (Nickel) No.27

Nickel(II)-oxide (Nickel compounds) No. 27

Nickel(II)-oxide(carcinogenic) No.28

### Information about limitation of use:

Employment restrictions concerning pregnant and lactating women must be observed.

Employment restrictions concerning juveniles must be observed

### National inventories

Country	Inventory	Status
AU	Australian Inventory of Industrial Chemicals	substance is listed
CA	Domestic Substances List (DSL)	substance is listed
CN	Inventory of Existing Chemical Substances Produced or Imported in China	substance is listed
EU	EC Substance Inventory (EINECS, ELINCS, NLP)	substance is listed
EU	REACH registered substances	substance is listed
KR	Korea Existing Chemicals Inventory	substance is listed
MX	National Inventory of Chemical Substances	substance is listed
NZ	New Zealand Inventory of Chemicals	substance is listed
PH	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	substance is listed
TR	Chemical Inventory and Control Regulation	substance is listed
TW	Taiwan Chemical Substance Inventory	substance is listed
US	Toxic Substance Control Act	substance is listed (Active)

## 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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### Section 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### Abbreviations and acronyms:

Abk. Beschreibung des entsprechenden Abkürzungen

ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures
ADR	Accord européen relatif au transport international des marchandises dangereuses par route
BCF	BioConcentration Factor
CAS	Chemical Abstracts Service
Ceiling-C	Ceiling value
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic or toxicic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals"
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	Marine Pollutant
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative
WEL	Workplace exposure limit