

Globally Harmonized System of Classification and Labelling of
Chemicals (GHS)

STAY/STEEL 316L K Flake Standard Grade

Version 4.1

Revision Date 05.02.2025

Print Date 06.02.2025

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

1.1 Product identifier

Trade name : STAY/STEEL 316L K Flake Standard Grade
Material number : 022230BF0

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

Use of the Substance/Mixture : Colouring agents, pigments

1.3 Details of the supplier of the safety data sheet

Company : ECKART GmbH
Guntersthal 4
91235 Hartenstein
Telephone : +499152770
Telefax : +499152777008
E-mail address : msds.eckart@altana.com
Responsible/issuing person

1.4 Emergency telephone number

NCEC:

(contract no.: ECKART29003-NCEC)

+44 1235 239671 (Middle East/Africa, call and response in your language)

+1 215 207 0061 (Americas, call and response in your language)

+65 3158 1074 (Asia-Pacific, call and response in your language)

SECTION 2: Hazards identification

GHS Classification

: Skin sensitisation, Category 1, H317
Carcinogenicity, Category 2, H351

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Specific target organ toxicity - repeated exposure, Category 2,
 H373

Long-term (chronic) aquatic hazard, Category 4, H413

GHS-Labeling

Symbol(s)



Signal word

: Warning

Hazard statements

: H317: May cause an allergic skin reaction.
 H351: Suspected of causing cancer.
 H373: May cause damage to organs through prolonged or
 repeated exposure.
 H413: May cause long lasting harmful effects to aquatic life.

Precautionary statements

: **Prevention:**
 P203 Obtain, read and follow all safety instructions before
 use.
 P260 Do not breathe dust.
 P272 Contaminated work clothing should not be allowed out
 of the workplace.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye
 protection/ face protection/ hearing protection.
Response:
 P302 + P352 IF ON SKIN: Wash with plenty of water.
 P318 IF exposed or concerned, get medical advice.
 P333 + P317 If skin irritation or rash occurs: Get medical
 help.
Storage:
 P405 Store locked up.
Disposal:
 P501 Dispose of contents/ container to an approved waste
 disposal plant.

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Hazardous components which must be listed on the label

Identification nickel	CAS-No. 7440-02-0
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SECTION 3: Composition/information on ingredients

Substance No. :

Hazardous components

Chemical name	CAS-No. EINECS-No.	Classification and labelling	Concentration[%]
chromium	7440-47-3 231-157-5	Acute Tox.;5;H333 Aquatic Chronic;4;H413	10 - 20
nickel	7440-02-0 231-111-4	Skin Sens.;1;H317 Carc.;2;H351 STOT RE;1;H372 Aquatic Chronic;3;H412	2,5 - 10

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	: Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
If inhaled	: If unconscious, place in recovery position and seek medical advice.

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In case of skin contact	: If symptoms persist, call a physician. : If on skin, rinse well with water.
In case of eye contact	: Flush eyes with water as a precaution. Remove contact lenses. Keep eye wide open while rinsing.
If swallowed	: Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

This information is not available.

4.3 Indication of any immediate medical attention and special treatment needed

This information is not available.

SECTION 5: Firefighting measures
5.1 Extinguishing media

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.

6.2 Environmental precautions

General advice : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform
respective authorities.

This information is not available.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

This information is not available.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Advice on safe handling : Avoid formation of respirable particles. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

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Advice on protection against fire and explosion : Avoid dust formation.

Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Other data : Keep in a dry place. No decomposition if stored and applied as directed.

7.3 Specific end use(s)

This information is not available.

SECTION 8: Exposure controls/personal protection
8.1 Control parameters
Germany:

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Update	Basis
iron	7439-89-6	AGW (Inhalable fraction)	10 mg/m ³	2021-07-02	DE TRGS 900
Peak-limit: excursion factor (category)		2;(II)			
Further information		When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
iron	7439-89-6	AGW (Alveolate fraction)	1,25 mg/m ³	2021-07-02	DE TRGS 900
Peak-limit: excursion		2;(II)			

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factor (category)					
Further information		When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
chromium	7440-47-3	TWA	2 mg/m ³	2006-02-09	2006/15/EC
Further information		Indicative			
chromium	7440-47-3	AGW (Inhalable fraction)	2 mg/m ³	2007-12-27	DE TRGS 900
Peak-limit: excursion factor (category)		1;(I)			
Further information		European Union (The EU has established a limit value: deviations in value and peak limit are possible)The threshold value is based on the element content of the corresponding metal.			
chromium	7440-47-3	TWA	2 mg/m ³	2006-02-09	2006/15/EC
Further information		Indicative			
chromium	7440-47-3	AGW (Inhalable fraction)	2 mg/m ³	2018-06-07	DE TRGS 900
Peak-limit: excursion factor (category)		1;(I)			
Further information		European Union (The EU has established a limit value: deviations in value and peak limit are possible)The threshold value is based on the element content of the corresponding metal.			
nickel	7440-02-0	TWA	0,5 mg/m ³		DE TRGS 900
nickel	7440-02-0	AGW (Alveolate fraction)	0,006 mg/m ³	2017-10-17	DE TRGS 900
Peak-limit: excursion factor (category)		8;(II)			
Further information		For nickel compounds classified as Carc 1A or 1B, see TRGS 910 and TRGS 561. An assessment based on the AGW for nickel metal can be carried out if nickel metal only is present. If nickel-containing dusts are formed during activities in which only surface oxidation is to be controlled, they must be treated as nickel-metal-containing mixtures. When using thermal processes in the presence of oxygen, a formation of oxidic nickel compounds must always be assumed. This is the case, for example, in welding (electrodes or wire) and thermal cutting with or from alloys, in the metal injection of alloys, in the melting and casting of alloys, and			

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	in the grinding and separation of alloys with 'spark formation'. Further recommendations as well as examples of working methods, for which the AGW or the ERB can be used for assessment, are contained in the IFA workbook (code 0537). Commission for dangerous substances When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child Substance sensitizing through the skin
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United States of America (USA):

nickel	7440-02-0	TWA	0,015 mg/m3	2005-09-01	
nickel	7440-02-0	TWA (Inhalable particulate matter)	1,5 mg/m3	2013-03-01	
nickel	7440-02-0	TWA	1 mg/m3	1989-01-19	
nickel	7440-02-0	TWA	1 mg/m3	1989-01-19	
nickel	7440-02-0	TWA	1 mg/m3	2011-07-01	
nickel	7440-02-0	TWA	0,015 mg/m3	2013-10-08	
nickel	7440-02-0	TWA (Inhalable particulate matter)	1,5 mg/m3	2013-03-01	
nickel	7440-02-0	PEL	0,5 mg/m3	2014-11-26	
molybdenum	7439-98-7	TWA (Inhalable particulate matter)	10 mg/m3	2007-01-01	
molybdenum	7439-98-7	TWA (Respirable particulate matter)	3 mg/m3	2007-01-01	
molybdenum	7439-98-7	TWA (Inhalable particulate matter)	10 mg/m3	2019-03-05	
molybdenum	7439-98-7	TWA (Respirable particulate matter)	3 mg/m3	2019-03-05	
molybdenum	7439-98-7	TWA (total dust)	15 mg/m3	2011-07-01	
molybdenum	7439-98-7	TWA (Total dust)	10 mg/m3	1989-01-19	
molybdenum	7439-98-7	PEL (Total dust)	10 mg/m3	2014-11-26	

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molybdenum	7439-98-7	PEL (respirable dust fraction)	3 mg/m ³	2014-11-26	
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United States of America (USA):

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Update	Basis
iron	7439-89-6	TWA (total dust)	50 Million particles per cubic foot	2012-07-01	
iron	7439-89-6	TWA (total dust)	15 mg/m ³	2012-07-01	
iron	7439-89-6	TWA (respirable fraction)	5 mg/m ³	2012-07-01	
iron	7439-89-6	TWA (respirable fraction)	15 Million particles per cubic foot	2012-07-01	
iron	7439-89-6	PEL (Total dust)	10 mg/m ³	2014-11-26	
iron	7439-89-6	PEL (respirable dust fraction)	5 mg/m ³	2014-11-26	
chromium	7440-47-3	TWA	0,5 mg/m ³	2013-10-08	
chromium	7440-47-3	TWA	0,5 mg/m ³	2007-01-01	
chromium	7440-47-3	TWA	1 mg/m ³	1989-01-19	
chromium	7440-47-3	TWA	0,5 mg/m ³	2007-01-01	
chromium	7440-47-3	TWA	1 mg/m ³	1989-01-19	
chromium	7440-47-3	TWA	0,5 mg/m ³	2013-10-08	
chromium	7440-47-3	TWA	1 mg/m ³	2011-07-01	
chromium	7440-47-3	PEL	0,5 mg/m ³	2014-11-26	
chromium	7440-47-3	TWA	0,5 mg/m ³	2007-01-01	
chromium	7440-47-3	TWA	0,5 mg/m ³	2019-03-05	
nickel	7440-02-0	TWA	0,015 mg/m ³	2005-09-01	
nickel	7440-02-0	TWA (Inhalable particulate matter)	1,5 mg/m ³	2013-03-01	
nickel	7440-02-0	TWA	1 mg/m ³	1989-01-19	
nickel	7440-02-0	TWA	1 mg/m ³	1989-01-19	
nickel	7440-02-0	TWA	1 mg/m ³	2011-07-01	
nickel	7440-02-0	TWA	0,015 mg/m ³	2013-10-08	
nickel	7440-02-0	TWA (Inhalable particulate matter)	1,5 mg/m ³	2013-03-01	
nickel	7440-02-0	PEL	0,5 mg/m ³	2014-11-26	

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molybdenum	7439-98-7	TWA (Inhalable particulate matter)	10 mg/m ³	2007-01-01	
molybdenum	7439-98-7	TWA (Respirable particulate matter)	3 mg/m ³	2007-01-01	
molybdenum	7439-98-7	TWA (Inhalable particulate matter)	10 mg/m ³	2019-03-05	
molybdenum	7439-98-7	TWA (Respirable particulate matter)	3 mg/m ³	2019-03-05	
molybdenum	7439-98-7	TWA (total dust)	15 mg/m ³	2011-07-01	
molybdenum	7439-98-7	TWA (Total dust)	10 mg/m ³	1989-01-19	
molybdenum	7439-98-7	PEL (Total dust)	10 mg/m ³	2014-11-26	
molybdenum	7439-98-7	PEL (respirable dust fraction)	3 mg/m ³	2014-11-26	

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Dust impervious protective suit
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
 Dust safety masks are recommended when the dust concentration is more than 10 mg/m³.

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Environmental exposure controls

General advice : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform
respective authorities.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance	: powder
Colour	: silver
Odour	: characteristic
pH	: substance/mixture is non-soluble (in water)
Melting point/ range	: Not applicable
Boiling point/boiling range	: Not applicable
Flash point	: No data available
Bulk density	: 0,25 - 0,45 kg/m ³
Flammability (solid, gas)	: No data available
Auto-flammability	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Density	: 8 g/cm ³
Solubility(ies)	
Water solubility	: insoluble
Miscibility with water	: immiscible
Solubility in other solvents	: No data available

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Partition coefficient: n-octanol/water	: No data available
Ignition temperature	: No data available
Thermal decomposition	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Flow time	: No data available

9.2 Other information

No data available

SECTION 10: Stability and reactivity**10.1 Reactivity**

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : No data available

10.5 Incompatible materials

Materials to avoid : No data available

10.6 Hazardous decomposition products

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Other information : No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

chromium :

Acute oral toxicity : LD50 Oral : > 5 000 mg/kg

Acute inhalation toxicity : LC50 : > 5,41 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

nickel :

Acute oral toxicity : LD50 Oral : 9 000 mg/kg

Skin corrosion/irritation

Product

May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation

Product

Product dust may be irritating to eyes, skin and respiratory system.

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Respiratory or skin sensitisation**Product**

Causes sensitisation.

May cause sensitisation of susceptible persons by skin contact.

Carcinogenicity

No data available

Toxicity to reproduction/fertility

No data available

Reprod.Tox./Development/Teratogenicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Further information**Product**

No data available

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SECTION 12: Ecological information**12.1 Toxicity****Components:****chromium (7440-47-3) :****Ecotoxicology Assessment**

Long-term (chronic) aquatic hazard : May cause long lasting harmful effects to aquatic life.

nickel (7440-02-0) :**Ecotoxicology Assessment**

Long-term (chronic) aquatic hazard : Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects**Product:**

Additional ecological : An environmental hazard cannot be excluded in the event of

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information

 unprofessional handling or disposal., May cause long lasting
 harmful effects to aquatic life.

SECTION 13: Disposal considerations
13.1 Waste treatment methods

Product	: The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. In accordance with local and national regulations.
Contaminated packaging	: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. In accordance with local and national regulations.

SECTION 14: Transport information
14.1 UN number
ADR

Not dangerous goods

TDG

Not dangerous goods

CFR

Not dangerous goods

IMDG

Not dangerous goods

IATA

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Not dangerous goods

14.2 Proper shipping name**ADR**

Not dangerous goods

TDG

Not dangerous goods

CFR

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

14.3 Transport hazard class**ADR**

Not dangerous goods

TDG

Not dangerous goods

CFR

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

14.4 Packing group**ADR**

Not dangerous goods

TDG

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Not dangerous goods

CFR

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

14.5 Environmental hazards

14.6 Special precautions for user

Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	: Not applicable
Regulation (EC) on substances that deplete the ozone layer	: Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	: Not applicable
REACH - Restrictions on the manufacture, placing on	: Banned and/or restricted

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the market and use of certain dangerous substances, (chromium)
mixtures and articles (Annex XVII) (nickel)

15.2 Chemical safety assessment

No data available

SECTION 16: Other information

Full text of H-Statements

- H317 : May cause an allergic skin reaction.
- H333 : May be harmful if inhaled.
- H351 : Suspected of causing cancer.
- H372 : Causes damage to organs through prolonged or repeated exposure if inhaled.
- H373 : May cause damage to organs through prolonged or repeated exposure.
- H412 : Harmful to aquatic life with long lasting effects.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.