

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

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

This information is not available.

1.3 Details of the supplier of the safety data sheet

Company :

Telephone :
Telefax :
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
Specific target organ toxicity - repeated exposure, Category 2,

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

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:**
 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/ hearing protection.
Response:
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

Hazardous components which must be listed on the label

Identification
 nickel

CAS-No.
 7440-02-0

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

SECTION 3: Composition/information on ingredients

Substance name : 045687B - USA Rollout

Substance No. :

Hazardous components

Chemical name	CAS-No. EINECS-No.	Classification and labelling	Concentration[%]
chromium	7440-47-3 231-157-5	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 : No hazards which require special first aid measures.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of eye contact : Remove contact lenses.
If eye irritation persists, consult a specialist.

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

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.

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**

This information is not available.

5.2 Special hazards arising from the substance or mixture

This information is not available.

5.3 Advice for firefighters

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

Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Personal precautions : Avoid dust formation.

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

6.2 Environmental precautions

This information is not available.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Pick up and arrange disposal without creating dust.
Sweep up and shovel.
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 : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : General industrial hygiene practice.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage : No materials to be especially mentioned.

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.

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

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	2014-04-02	DE TRGS 900
Peak-limit: excursion factor (category)		2;(II)			
Further information		Commission for dangerous substancesSenate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
iron	7439-89-6	AGW (Alveolate fraction)	1,25 mg/m ³	2014-04-02	DE TRGS 900
Peak-limit: excursion factor (category)		2;(II)			
Further information		Commission for dangerous substancesSenate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

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		<p>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 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 substancesWhen there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn childSubstance sensitizing through the skin</p>			

United States of America (USA):

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Update	Basis
------------	---------	-------------------------------	--------------------	--------	-------

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

chromium	7440-47-3	TWA	0,5 mg/m3	2013-10-08	
chromium	7440-47-3	TWA	0,5 mg/m3	2007-01-01	
chromium	7440-47-3	TWA	1 mg/m3	1989-01-19	
chromium	7440-47-3	TWA	0,5 mg/m3	2007-01-01	
chromium	7440-47-3	TWA	1 mg/m3	1989-01-19	
chromium	7440-47-3	TWA	0,5 mg/m3	2013-10-08	
chromium	7440-47-3	TWA	1 mg/m3	2011-07-01	
chromium	7440-47-3	PEL	0,5 mg/m3	2014-11-26	
chromium	7440-47-3	TWA	0,5 mg/m3	2007-01-01	
chromium	7440-47-3	TWA	0,5 mg/m3	2018-03-20	
nickel	7440-02-0	TWA	0,015 mg/m3	2005-09-01	
nickel	7440-02-0	TWA (Inhalable fraction)	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 fraction)	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 fraction)	10 mg/m3	2007-01-01	
molybdenum	7439-98-7	TWA (Respirable)	3 mg/m3	2007-01-01	

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

		fraction)			
molybdenum	7439-98-7	TWA (Inhalable fraction)	10 mg/m ³	2013-03-01	
molybdenum	7439-98-7	TWA (Respirable fraction)	3 mg/m ³	2013-03-01	
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	

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	

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

chromium	7440-47-3	TWA	0,5 mg/m3	2013-10-08	
chromium	7440-47-3	TWA	1 mg/m3	2011-07-01	
chromium	7440-47-3	PEL	0,5 mg/m3	2014-11-26	
chromium	7440-47-3	TWA	0,5 mg/m3	2007-01-01	
chromium	7440-47-3	TWA	0,5 mg/m3	2018-03-20	
nickel	7440-02-0	TWA	0,015 mg/m3	2005-09-01	
nickel	7440-02-0	TWA (Inhalable fraction)	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 fraction)	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 fraction)	10 mg/m3	2007-01-01	
molybdenum	7439-98-7	TWA (Respirable fraction)	3 mg/m3	2007-01-01	
molybdenum	7439-98-7	TWA (Inhalable fraction)	10 mg/m3	2013-03-01	
molybdenum	7439-98-7	TWA (Respirable fraction)	3 mg/m3	2013-03-01	
molybdenum	7439-98-7	TWA (total dust)	15 mg/m3	2011-07-01	
molybdenum	7439-98-7	TWA (Total)	10 mg/m3	1989-01-19	

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

		dust)			
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

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

Appearance	: powder
Colour	: silver
Odour	: odourless
pH	: No data available
Freezing point	: No data available
Boiling point/boiling range	: No data available
Flash point	: No data available
Bulk density	: No data available
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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

Density	: No data available
Solubility(ies)	
Water solubility	: insoluble
Miscibility with water	: immiscible
Solubility in other solvents	: No data available
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 : Dust may form explosive mixture in air.

Stable under recommended storage conditions.

10.4 Conditions to avoid

Conditions to avoid : No data available

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

10.5 Incompatible materials

Materials to avoid : No data available

10.6 Hazardous decomposition products

Hazardous decomposition products : No data available

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

No data available

SECTION 12: Ecological information**12.1 Toxicity****Components:****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 information : No data available

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : In accordance with local and national regulations.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
In accordance with local and national regulations.

SECTION 14: Transport information

14.1 UN number

14.2 Proper shipping name

14.3 Transport hazard class

14.4 Packing group

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

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

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

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

15.2 Chemical safety assessment

No data available

SECTION 16: Other information

Full text of H-Statements

H317 : May cause an allergic skin reaction.
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

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

STAY/STEEL 316L K Flake Standard Grade

Version 2.1

Revision Date 25.03.2020

Print Date 06.08.2020

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.