STAY/STEEL 316L Flake Standard Grade

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SECTION 1. IDENTIFICATION

Product name : STAY/STEEL 316L Flake Standard Grade
Product code : 046692BFL

Manufacturer or supplier's details

Company name of supplier : ECKART America Corporation
Address : 830 East Erie Street
Painesville OH 44077
Telephone : 866-458-7837
(440) 954-7600
Telefax : (440) 354-6224
e-mail adresse : info.eckart.america.oh@altana.com
Emergency telephone : **CHEMTREC**: 800-424-9300
CHEMTREC: 1-703-527-3387 (International)

NCEC:
(contract no. ECKART29003-NCEC)
US: +1 866 928 0789 (Toll free)
Canada: +1 800 579 7421 (Toll Free)
Mexico: +52 55 5004 8763

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust

Skin sensitization : Category 1

Carcinogenicity : Category 2

Specific target organ toxicity - repeated exposure (Inhalation) : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : May form combustible dust concentrations in air.

H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure if inhaled.

Precautionary Statements :

Prevention:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P363	Wash contaminated clothing before reuse.

Storage:

P405	Store locked up.

Disposal:

P501	Dispose of contents/ container to an approved waste disposal plant.

Hazardous ingredients which must be listed on the label:
Nickel

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Iron	7439-89-6	>= 70 - < 90

Chromium	7440-47-3	>= 10 - < 20
Nickel	7440-02-0	>= 5 - < 10
Molybdenum	7439-98-7	>= 1 - < 5
Manganese	7439-96-5	>= 1 - < 5

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.
If inhaled	:	Call a physician or poison control center immediately. If unconscious, place in recovery position and seek medical advice.
In case of skin contact	:	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 eye irritation persists, consult a specialist.
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.
Most important symptoms and effects, both acute and delayed	:	May cause an allergic skin reaction. Suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure if inhaled.

SECTION 5. FIRE-FIGHTING MEASURES

Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
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.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions,	:	Use personal protective equipment.

protective equipment and emergency procedures		Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.
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.
Environmental precautions	:	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.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Avoid dust formation.
Advice on safe handling	:	Avoid formation of respirable particles. Do not breathe vapors/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. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	:	Keep in a dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Iron	7439-89-6	TWA (total dust)	50 Million particles per cubic foot	OSHA Z-3
		TWA (total dust)	15 mg/m3	OSHA Z-3
		TWA (respirable fraction)	5 mg/m3	OSHA Z-3
		TWA (respirable fraction)	15 Million particles per cubic foot	OSHA Z-3
Chromium	7440-47-3	TWA	0.5 mg/m3	NIOSH REL
		TWA	0.5 mg/m3	ACGIH
		TWA	1 mg/m3	OSHA P0
		TWA	0.5 mg/m3 (chromium)	OSHA Z-1
		TWA	1 mg/m3	OSHA P0
		TWA	0.5 mg/m3	NIOSH REL
		TWA	1 mg/m3 (chromium)	OSHA Z-1
		TWA	0.5 mg/m3 (chromium)	OSHA Z-1
		TWA	0.5 mg/m3 (chromium)	ACGIH
Nickel	7440-02-0	TWA	0.015 mg/m3 (Nickel)	NIOSH REL
		TWA (Inhalable particulate matter)	1.5 mg/m3	ACGIH
		TWA	1 mg/m3	OSHA P0
		TWA	1 mg/m3	OSHA P0
		TWA	1 mg/m3 (Nickel)	OSHA Z-1
		TWA	0.015 mg/m3 (Nickel)	NIOSH REL
		TWA (Inhalable particulate matter)	1.5 mg/m3	ACGIH

Molybdenum	7439-98-7	TWA (Inhalable particulate matter)	10 mg/m3	ACGIH
		TWA (Respirable particulate matter)	3 mg/m3	ACGIH
		TWA (Inhalable particulate matter)	10 mg/m3 (Molybdenum)	ACGIH
		TWA (Respirable particulate matter)	3 mg/m3 (Molybdenum)	ACGIH
		TWA (total dust)	15 mg/m3 (Molybdenum)	OSHA Z-1
		TWA (Total dust)	10 mg/m3 (Molybdenum)	OSHA P0
Manganese	7439-96-5	TWA	0.2 mg/m3	ACGIH
		C (Fumes)	5 mg/m3	OSHA Z-1
		TWA (Fumes)	1 mg/m3 (Manganese)	NIOSH REL
		ST (Fumes)	3 mg/m3 (Manganese)	NIOSH REL
		TWA	1 mg/m3 (Manganese)	OSHA P0
		STEL	3 mg/m3 (Manganese)	OSHA P0
		TWA (Fumes)	1 mg/m3 (Manganese)	NIOSH REL
		ST (Fumes)	3 mg/m3 (Manganese)	NIOSH REL
		TWA (Inhalable particulate matter)	0.1 mg/m3 (Manganese)	ACGIH
		TWA (Respirable particulate matter)	0.02 mg/m3 (Manganese)	ACGIH
		TWA (Fumes)	1 mg/m3 (Manganese)	NIOSH REL
		ST (Fumes)	3 mg/m3	NIOSH REL

			(Manganese)	
		TWA (Fumes)	1 mg/m3 (Manganese)	OSHA P0
		STEL (Fumes)	3 mg/m3 (Manganese)	OSHA P0

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Chromium	7440-47-3	Total chromium (chromium)	Urine	End of shift at end of workweek	0.7 µg/l	ACGIH BEI
Nickel	7440-02-0	Nickel (Nickel)	Urine	End of shift at end of workweek	5 µg/l	ACGIH BEI
		Nickel (Nickel)	Urine	End of shift at end of workweek	30 µg/l	ACGIH BEI

Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
Use suitable breathing protection if workplace concentration requires.
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.

Hand protection

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

Eye protection : Safety glasses

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

Hygiene measures : When using do not eat or drink.
When using do not smoke.

Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	powder
Color	:	silver
Odor	:	characteristic
Odor Threshold	:	No data available
pH	:	substance/mixture is non-soluble (in water)
Melting point/range	:	Not applicable
Boiling point/boiling range	:	Not applicable
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	combustible dust
Burning number	:	1
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative density	:	No data available
Density	:	8 g/cm3
Bulk density	:	0.24 - 0.39 kg/m3
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Dust may form explosive mixture in air.
Conditions to avoid	:	No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

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

Molybdenum:

Acute oral toxicity	:	LD50 Oral: > 2,000 mg/kg
Acute inhalation toxicity	:	LC50: ca. 2 mg/l Exposure time: 4 h Test atmosphere: dust/mist

Manganese:

Acute oral toxicity	:	LD50 Oral: > 2,000 mg/kg
Acute inhalation toxicity	:	LC50: 5.14 mg/l Exposure time: 4 h Test atmosphere: dust/mist

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Components:

Nickel:

Result: May cause sensitization by skin contact.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Suspected of causing cancer.

Components:

Nickel:

Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in animal studies

IARC	Group 1: Carcinogenic to humans	
	Nickel	7440-02-0
	Group 2B: Possibly carcinogenic to humans	
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.	
NTP	Reasonably anticipated to be a human carcinogen	
	Nickel	7440-02-0

Reproductive toxicity
Not classified based on available information.

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
Causes damage to organs through prolonged or repeated exposure if inhaled.

Components:

Nickel:
Routes of exposure: Inhalation
Assessment: Causes damage to organs through prolonged or repeated exposure.

Aspiration toxicity
Not classified based on available information.

Further information

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Chromium:

Ecotoxicology Assessment

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

Nickel:

Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Other adverse effects

No data available

Components:

Iron:

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : 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

Domestic regulation

49 CFR
Not regulated as a dangerous good

49 CFR : Not classified as dangerous in the meaning of transport regulations.

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Remarks : Not classified as dangerous in the meaning of transport regulations.

ADR : Not classified as dangerous in the meaning of transport regulations.

IATA-DGR : Not classified as dangerous in the meaning of transport regulations.

IMDG-Code : Not classified as dangerous in the meaning of transport regulations.

Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)
Nickel	7440-02-0	100

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards
Combustible dust
Respiratory or skin sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Chromium	7440-47-3	>= 10 - < 20 %
Nickel	7440-02-0	>= 5 - < 10 %
Manganese	7439-96-5	>= 1 - < 5 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Chromium	7440-47-3	%
Nickel	7440-02-0	%
Manganese	7439-96-5	%

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

Chromium	7440-47-3	16.7 %
Nickel	7440-02-0	9.5 %

This product contains the following priority pollutants related to the U.S. Clean Water Act:

Chromium	7440-47-3	16.7 %

Nickel	7440-02-0	9.5 %

US State Regulations

Massachusetts Right To Know

Chromium	7440-47-3
Nickel	7440-02-0
Molybdenum	7439-98-7
Manganese	7439-96-5

Massachusetts Right To Know

Chromium	7440-47-3
Nickel	7440-02-0
Molybdenum	7439-98-7
Manganese	7439-96-5

Pennsylvania Right To Know

Iron	7439-89-6
Chromium	7440-47-3
Nickel	7440-02-0
Molybdenum	7439-98-7
Manganese	7439-96-5
Cobalt	7440-48-4

Pennsylvania Right To Know

Iron	7439-89-6
Chromium	7440-47-3
Nickel	7440-02-0
Molybdenum	7439-98-7
Manganese	7439-96-5

New Jersey Right To Know

Iron	7439-89-6
Chromium	7440-47-3
Nickel	7440-02-0
Molybdenum	7439-98-7
Manganese	7439-96-5
Cobalt	7440-48-4

California Prop. 65

WARNING: This product can expose you to chemicals including lead and cadmium, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

WARNING: This product can expose you to chemicals including Nickel, Cobalt, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

Iron	7439-89-6
Chromium	7440-47-3
Nickel	7440-02-0
Molybdenum	7439-98-7
Manganese	7439-96-5

California Permissible Exposure Limits for Chemical Contaminants

Iron	7439-89-6
Chromium	7440-47-3
Nickel	7440-02-0

Molybdenum	7439-98-7
Manganese	7439-96-5

The ingredients of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL
TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
NIOSH REL : USA. NIOSH Recommended Exposure Limits
OSHA P0 : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA : 8-hour, time-weighted average
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA : 8-hour time weighted average
OSHA P0 / STEL : Short-term exposure limit
OSHA Z-1 / TWA : 8-hour time weighted average
OSHA Z-1 / C : Ceiling
OSHA Z-3 / TWA : 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP

- Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 11/06/2023

The information provided in this Material 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.

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