

Safety Data Sheet

Ultrafuse 316LX

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Version: 1.0

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1. Identification

Product identifier used on the label

Ultrafuse 316LX

Recommended use of the chemical and restriction on use

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY

Telephone: +49 621 60-0
E-mail address: global.info@basf.com

Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

Other means of identification

Chemical family: polymer blend based on: metal powder, in a polymer matrix

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

No need for classification according to GHS criteria for this product.

Label elements

The product does not require a hazard warning label in accordance with GHS criteria. The dangerous ingredients are fixed in a polymer matrix.

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Hazards not otherwise classified

Upon mechanical treatment like e.g. cutting, grinding and/or polishing the product can release hazardous substances. Upon thermal and/or chemical treatment the product can release hazardous substances. The product is under certain conditions capable of dust explosion. If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
7440-47-3	>= 0.0 - < 25.0%	chromium
7440-48-4	>= 0.0 - < 1.0%	cobalt
7440-02-0	>= 0.0 - < 20.0%	Nickel

4. First-Aid Measures

Description of first aid measures

If inhaled:

Remove the affected individual into fresh air and keep the person calm. If breathing difficulties develop, aid in breathing and seek immediate medical attention.

If on skin:

Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open. If irritation develops, seek immediate medical attention.

If swallowed:

Rinse mouth and then drink plenty of water. Induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: No significant symptoms are expected due to the non-classification of the product.
Hazards: No hazard is expected under intended use and appropriate handling.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat symptomatically.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
dry powder, water spray, foam, carbon dioxide

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Additional information:

Water spray for suppression (heat dissipation) of incipient fires as long as the product has not yet ignited.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

Formaldehyde, harmful vapours can be emitted at > 200 °C

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Ensure adequate ventilation. Avoid dust formation. Wear appropriate respiratory protection.

Environmental precautions

Suppress gases/vapours/mists with water spray jet. Wet down dust with water spray jet.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.

For residues: Pick up with suitable appliance and dispose of.

7. Handling and Storage

Precautions for safe handling

Avoid dust formation. Upon mechanical load the product can release sensitizing substances.

Protection against fire and explosion:

Accumulation of fine dust may entail the risk of a dust explosion in the presence of air.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container dry.

The packed product is not damaged by low temperatures or by frost.

Protect from temperatures above: 200 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

chromium	OSHA PEL	PEL 1 mg/m ³ (Chromium (Cr)); TWA value 1 mg/m ³ ;
	ACGIH TLV	TWA value 0.5 mg/m ³ (Chromium (Cr));
cobalt	OSHA PEL	PEL 0.1 mg/m ³ Dust and fume (cobalt (Co)); TWA value 0.05 mg/m ³ Dust and fume (cobalt (Co));

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	ACGIH TLV	TWA value 0.02 mg/m ³ (cobalt (Co));
Nickel	OSHA PEL	PEL 1 mg/m ³ (Nickel (Ni)); TWA value 1 mg/m ³ (Nickel (Ni));
	ACGIH TLV	TWA value 1.5 mg/m ³ Inhalable fraction ;

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) particulate respirator. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:

Wear chemical resistant protective gloves., Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Tightly fitting safety goggles (chemical goggles).

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

No eating, drinking, smoking or tobacco use at the place of work. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Form:	fibers, extrudates, pressed	
Odour:	odourless	
Colour:	grey	
pH value:	not applicable, not soluble	
Melting point:	165 °C	
:	The product is a non-volatile solid.	
Flash point:	not applicable, the product is a solid	
Flammability:	not highly flammable	
Lower explosion limit:	No data available. For solids not relevant for classification and labelling.	
Upper explosion limit:	No data available. For solids not relevant for classification and labelling.	
Autoignition:	440 °C	(VDI 2263, sheet 1, 2.6)
Vapour pressure:	negligible, not applicable	
Density:	5.4 - 5.8 g/cm ³ (20 °C)	
Bulk density:	5 - 6 kg/m ³	
Partitioning coefficient n-octanol/water (log Pow):	not applicable for mixtures	
Self-ignition temperature:	not self-igniting	

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Thermal decomposition:	> 200 °C Thermal decomposition above the indicated temperature is possible.
Viscosity, dynamic:	not applicable, the product is a solid
Viscosity, kinematic:	not applicable, the product is a solid
Solubility in water:	insoluble
Evaporation rate:	negligible, not applicable

10. Stability and Reactivity

Reactivity

Corrosion to metals:
not applicable Corrosive effects to metal are not anticipated.

Oxidizing properties:
not fire-propagating

Reactions with water/air:	Reaction with:	air
	Flammable gases:	no
	Toxic gases:	no
	Corrosive gases:	no
	Smoke or fog:	no
	Peroxides:	no

Reaction with:	water
Flammable gases:	no
Toxic gases:	no
Corrosive gases:	no
Smoke or fog:	no
Peroxides:	no

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.
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Chemical stability

The product is stable if stored and handled as prescribed/indicated.
depolymerizes at elevated temperatures

Possibility of hazardous reactions

Strong exothermic reaction with acids. May decompose violently.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged exposure to extreme heat.

Incompatible materials

inorganic acids, plastics containing halogenated flame retardants

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: Formaldehyde, At prolonged and/or strong thermal stressing above the decomposition temperature dangerous decomposition products can be formed.

Thermal decomposition:
> 200 °C

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Thermal decomposition above the indicated temperature is possible.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: No other known acute effects.

Information on: Carbonyl iron powder

Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Assessment other acute effects

Based on available Data, the classification criteria are not met.

Irritation / corrosion

Assessment of irritating effects: May cause mechanical irritation.

Information on: Carbonyl iron powder

Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Sensitization

Assessment of sensitization: Study not necessary due to exposure considerations.

Information on: Nickel

*Assessment of sensitization:
Sensitization after skin contact possible.*

Information on: cobalt

*Assessment of sensitization:
Can cause sensitization of the respiratory tract in allergic persons.*

Aspiration Hazard

Not relevant.

Chronic Toxicity/Effects

Repeated dose toxicity

Information on: Nickel

Assessment of repeated dose toxicity: The substance may cause damage to the lung after repeated inhalation.

Information on: manganese

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Assessment of repeated dose toxicity: The substance may cause damage to the central nervous system after repeated inhalation of high doses.

Information on: cobalt

Assessment of repeated dose toxicity: Chronic overexposure via inhalation may produce interstitial fibrosis, allergic hypersensitivity, bronchitis and pneumoconiosis.

Genetic toxicity

Information on: Carbonyl iron powder

Assessment of mutagenicity: Most of the results from the available studies show no evidence of a mutagenic effect.

Carcinogenicity

Information on: Nickel

*Assessment of carcinogenicity: IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans). NTP listed carcinogen
The American Conference of Governmental Industrial Hygienists (ACGIH) has classified this substance as Group A5 - not suspected as a human carcinogen.*

Information on: cobalt

Assessment of carcinogenicity: IARC (International Agency for Research on Cancer) has classified this substance as group 2A (The agent is probably carcinogenic to humans). The American Conference of Governmental Industrial Hygienists (ACGIH) has classified this substance as Group A2 - Suspected Human Carcinogen.

Reproductive toxicity

Information on: cobalt

Assessment of reproduction toxicity: The results of animal studies suggest a fertility impairing effect.

Teratogenicity

Information on: cobalt

Assessment of teratogenicity: Tests underway; results are still not available.

Other Information

The product has not been tested. The statement has been derived from the properties of the individual components. The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected. Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Symptoms of Exposure

No significant symptoms are expected due to the non-classification of the product.

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12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic toxicity

Information on: chromium

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

No toxic effects occur within the range of solubility.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

The product is not very soluble in water and can thus be removed from water mechanically in suitable effluent treatment plants.

Assessment biodegradation and elimination (H₂O)

Information on: chromium

Not applicable for inorganic substances.

Bioaccumulative potential

Assessment bioaccumulation potential

Information on: chromium

May be accumulated in organisms.

Additional information

The product contains:

The product contains the heavy metals listed in Section 3 and/or Section 8, which are fixed in a polymer matrix.

Add. remarks environm. fate & pathway:

The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

Other ecotoxicological advice:

The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components. The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to

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our present knowledge and experience dangers which are not covered by the current labeling are not to be expected.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and local regulations.

Container disposal:

Dispose of container and any rinsate in an environmentally safe manner. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

EPCRA 311/312 (Hazard categories): Not hazardous;

EPCRA 313:

<u>CAS Number</u>	<u>Chemical name</u>
7440-47-3	chromium
7440-48-4	cobalt
7440-02-0	Nickel

State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
NJ	7440-47-3	chromium
	7440-02-0	Nickel
	7440-48-4	cobalt
PA	7440-47-3	chromium
	7440-02-0	Nickel

CA Prop. 65:

WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

NFPA Hazard codes:

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Health : 1 Fire: 0 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2016/09/19

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET