



**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date: 10.04.2019

Version number 2

Revision: 10.04.2019

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

### 1.1. Product identifier

Trade name: **GE Additive 316L**

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

**Application of the substance / the mixture:** Raw material for 3D-print

**Uses advised against:** Other uses than the identified uses indicated above.

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

**Manufacturer/Supplier:**

CONCEPT Laser GmbH  
An der Zeil 8  
96215 Lichtenfels

Tel +49 (0)9571 1679 0

**Further information obtainable from:** info@concept-laser.de

### 1.4. Emergency telephone number CHEMTREC, Tel.: +1-800-424-9300

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008:**



GHS08

Carc. 2 H351 Suspected of causing cancer. Route of exposure: Inhalation.

STOT RE 1 H372 Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

### 2.2. Label elements

**Labelling according to Regulation (EC) No 1272/2008:** The product is classified and labelled according to the CLP regulation.

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**Trade name: GE Additive 316L****Hazard pictograms:****Signal word:** Danger**Hazard-determining components of labelling:**

nickel

**Hazard statements:**

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer. Route of exposure: Inhalation.

H372 Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

**Precautionary statements:**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3. Other hazards****Results of PBT and vPvB assessment:**

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

None

Not determined

CAS: 7440-47-3	chromium	10-25%
EINECS: 231-157-5	substance with a community workplace exposure limit	
Reg.no.: 01-2119485652-31-XXXX		
CAS: 7440-02-0	nickel	≥10-<25%
EINECS: 231-111-4	Carc. 2, H351; STOT RE 1, H372	
Reg.no.: 01-2119438727-29-XXXX	Skin Sens. 1, H317	
	Aquatic Chronic 3, H412	
CAS: 7439-96-5	manganese	≥0.1-≤2.5%
EINECS: 231-105-1	substance with a community workplace exposure limit	
CAS: 7440-21-3	silicon	≥0.1-≤2.5%
EINECS: 231-130-8	substance with a community workplace exposure limit	
Reg.no.: 01-2119480401-47-XXXX		

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**Additional information:** For the wording of the listed hazard phrases refer to section 16.

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**SECTION 4: First aid measures****4.1. Description of first aid measures****General information:**

Personal protection for the First Aider.

Take affected persons out of danger area and lay down.

**After inhalation:**

Take affected persons into fresh air and keep quiet.

Seek medical treatment.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Take off contaminated clothing and wash before reuse.

Seek medical treatment.

**After eye contact:**

Rinse opened eye for several minutes under running water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Seek medical treatment.

**After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

**4.2. Most important symptoms and effects, both acute and delayed**

Coughing

Breathing difficulty

Irritation

**Hazards:** Inhalation of dust may cause irritation of the respiratory system.**4.3. Indication of any immediate medical attention and special treatment needed**

First Aid, decontamination, treatment of symptoms.

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**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing agents:**

Use fire extinguishing methods suitable to surrounding conditions.

Special powder for metal fires. Do not use water.

Sand

**For safety reasons unsuitable extinguishing agents:** Water

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**5.2. Special hazards arising from the substance or mixture** Refer to section 10.6.**5.3. Advice for firefighters****Protective equipment:** Wear self-contained respiratory protective device.**Additional information:** Collect contaminated fire fighting water separately. It must not enter the sewage system.

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

Use respiratory protective device against the effects of fumes/dust/aerosol.

Ensure that washing facilities are available at the work place.

Avoid formation of dust.

Ensure adequate ventilation.

Wear protective equipment. Keep unprotected persons away.

**6.2. Environmental precautions**

Dumping into the environment must be prevented.

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

**6.3. Methods and material for containment and cleaning up**

Remove mechanically, placing in appropriate containers for disposal.

Ensure adequate ventilation.

**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.

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

Carry out filling operations only at sites with extractors available.

Open and handle receptacle with care.

Wash hands before breaks and at the end of work.

Do not eat, drink, smoke or sneeze at the workplace.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

Avoid contact with eyes or skin. Wear personal protective equipment.

Avoid breathing dust/fume/gas/mist/vapours/spray.

**Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.**7.2. Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:**

Store in a cool location.

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Store only in the original container.  
Access is only to be granted to authorised personal.  
Keep container tightly closed in a well-ventilated place.

**Information about storage in one common storage facility:**

Keep away from food, drink and animal feeding stuffs.  
See section 10.5.

**Further information about storage conditions:**

Ensure that local, federal and national legislation on storage conditions are observed.

**Storage class:** 13 Incombustible solids**7.3. Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****Additional information about design of technical facilities:**

Technical measures and the application of adequate working methods take priority over the use of personal protection equipment.

**8.1. Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 7440-47-3 chromium**

WEL (Great Britain) Long-term value: 0.5 mg/m<sup>3</sup>  
IOELV (EU) Long-term value: 2 mg/m<sup>3</sup>  
as Cr

**CAS: 7440-02-0 nickel**

WEL (Great Britain) Long-term value: 0.5 mg/m<sup>3</sup>  
as Ni; Sk; Carc

**CAS: 7439-96-5 manganese**

WEL (Great Britain) Long-term value: 0.5 mg/m<sup>3</sup>  
as Mn  
IOELV (EU) Long-term value: 0.2\* 0.05\*\* mg/m<sup>3</sup>  
as Mn; \*inhalable, \*\*respirable fraction

**CAS: 7440-21-3 silicon**

WEL (Great Britain) Long-term value: 10\* 4\*\* mg/m<sup>3</sup>  
\*inhalable dust \*\*respirable dust

**Regulatory information:**

WEL (Great Britain): EH40/2011  
IOELV (EU): (EU) 2017/164

**Additional information:** The lists valid during the making were used as basis.

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**8.2. Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Do not eat, drink, smoke or sniff while working.  
Ensure that washing facilities are available at the work place.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.

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**Respiratory protection:**

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, a self-contained breathing apparatus must be used!

Recommendation:

Particulate filter

Filter P3

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**Protection of hands:**

Tested protective gloves are to be worn. When handling chemical substances, chemical protective gloves must be worn with CE label including a four digit code. Type of chemical protective gloves to choose depends on the concentration and quantity of dangerous substances as well as on work place specifications. In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

**Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Recommendation:

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm**Penetration time of glove material:**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Penetration time:  $\geq 480$  min

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**Eye protection:** Tightly sealed goggles

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**Body protection:** Protective work clothing

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**Limitation and supervision of exposure into the environment:** Dumping into the environment must be prevented.

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

<b>Form:</b>	Powder
<b>Colour:</b>	Grey
<b>Odour:</b>	Odourless

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<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	Not applicable.
<b>Change in condition</b>	
<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	Undetermined.
<b>Flash point:</b>	Not applicable.
<b>Flammability (solid, gas):</b>	Not determined.
<b>Ignition temperature:</b>	Not determined.
<b>Decomposition temperature:</b>	Not determined.
<b>Auto-ignition temperature:</b>	Product is not selfigniting.
<b>Explosive properties:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapour pressure:</b>	Not applicable.
<b>Density:</b>	Not determined.
<b>Bulk density:</b>	4,600 kg/m <sup>3</sup>
<b>Relative density:</b>	Not determined.
<b>Vapour density:</b>	Not applicable.
<b>Evaporation rate:</b>	Not applicable.
<b>Solubility in / Miscibility with water:</b>	Insoluble.
<b>Partition coefficient: n-octanol/water:</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
<b>Solvent content:</b>	
<b>VOC (EC)</b>	0.00 %

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**Solids content:** 100.0 %**9.2. Other information** No further relevant information available.

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**SECTION 10: Stability and reactivity****10.1. Reactivity** The product is stable under standard conditions (temperature, pressure) of storage and handling.**10.2. Chemical stability** The product is stable under standard conditions (temperature, pressure) of storage and handling.**10.3. Possibility of hazardous reactions** No dangerous reactions known.**10.4. Conditions to avoid** No further relevant information available.**10.5. Incompatible materials**

Strong acids  
Ammonium nitrate  
Oxidizing agents

**10.6. Hazardous decomposition products**

In case of fire, the following products can be released:  
Metal oxid fume

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**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity:** Based on available data, the classification criteria are not met.**LD/LC50 values:****CAS: 7440-02-0 nickel**

Oral LD50 >9,000 mg/kg (rat) (OECD 401)  
Inhalative NOAEC ≥10.2 mg/l (rat) (66 min)

**Primary irritant effect:****Skin corrosion/irritation:** Based on available data, the classification criteria are not met.**Serious eye damage/irritation:** Based on available data, the classification criteria are not met.**Respiratory or skin sensitisation:**

May cause an allergic skin reaction.

**Other information (about experimental toxicology):**

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

**Subacute to chronic toxicity:** No data available.**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):****Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

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**Carcinogenicity:**

Suspected of causing cancer. Route of exposure: Inhalation.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.**STOT-single exposure:** Based on available data, the classification criteria are not met.**STOT-repeated exposure:**

Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

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**SECTION 12: Ecological information****12.1. Toxicity****Aquatic toxicity:** No relevant information available.**12.2. Persistence and degradability** No further relevant information available.**12.3. Bioaccumulative potential** No further relevant information available.**12.4. Mobility in soil** No further relevant information available.**General notes:**

Avoid transfer into the environment.

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

**12.5. Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6. Other adverse effects** No further relevant information available.

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**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Recommendation:**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Dumping into the environment must be prevented.

Do not allow product to reach sewage system or any water course.

Waste disposal according to official state regulations.

**Uncleaned packaging:****Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

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## SECTION 14: Transport information

<b>14.1. UN-Number</b> ADR, ADN, IMDG, IATA	Void.
<b>14.2. UN proper shipping name</b> ADR, ADN, IMDG, IATA	Void.
<b>14.3. Transport hazard class(es)</b>  ADR, ADN, IMDG, IATA Class	Void.
<b>14.4. Packing group</b> ADR, IMDG, IATA	Void.
<b>14.5. Environmental hazards</b>	Not applicable.
<b>14.6. Special precautions for user</b>	Not applicable.
<b>14.7. Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	Void.

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## SECTION 15: Regulatory information

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

EU-Regulations  
Regulation (EC) No 1907/2006 (REACH)  
Regulation (EC) No 1272/2008 (CLP)  
Regulation 98/24/EC (employee health protection)

#### Directive 2012/18/EU

**Named dangerous substances - ANNEX I:** None of the ingredients is listed.

**REGULATION (EC) No 1907/2006 ANNEX XVII:** Conditions of restriction: 27

#### National regulations:

#### Information about limitation of use:

Employment restrictions concerning juveniles must be observed.  
Employment restrictions concerning pregnant and lactating women must be observed.  
Employment restrictions concerning women of child-bearing age must be observed.

**Other regulations, limitations and prohibitive regulations:** National legislation has to be observed!

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**15.2. Chemical safety assessment** A Chemical Safety Assessment has not been carried out.

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### SECTION 16: Other information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

#### Relevant phrases:

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer. Route of exposure: Inhalation.

H372 Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

H412 Harmful to aquatic life with long lasting effects.

#### Training hints:

The product should only be handled by persons, who were informed sufficiently about the nature of the product and about the necessary safety precautions.

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

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

#### Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

**Sources:** Data arise from reference works and literature.

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