

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/31/2019

Reviewed on 10/31/2019

*** 1 Identification****Product identifier**Trade name: **CL 20ES****Application of the substance / the mixture** Raw material for 3D-print**Uses advised against** None**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

Information department: GEAdd.SDS@ge.com**Emergency telephone number** U.S., Canada, Mexico 24-hours: 800-535-5053**2 Hazard(s) identification****Label elements****GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**Hazard pictograms**

GHS07 GHS08

Signal word Danger**Hazard-determining components of labeling:**

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

P201 Obtain special instructions before use.

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- P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash 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.
P302+P352 If on skin: Wash with plenty of water.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P321 Specific treatment (see on this label).
P314 Get medical advice/attention if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

Other hazards**Results of PBT and vPvB assessment** The components in this formulation do not meet the criteria for classification as PBT or vPvB.**PBT:** Not applicable.**vPvB:** Not applicable.*** 3 Composition/information on ingredients****Chemical characterization: Mixtures****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

None

Not determined

CAS: 7440-02-0 nickel

Carc. 2, H351; STOT RE 1, H372

Skin Sens. 1, H317

10-25%

4 First-aid measures**Description of first aid measures****General information:**

Personal protection for the First Aider.

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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; immediately call for medical help.

Most important symptoms and effects, both acute and delayed

Coughing
Breathing difficulty
Irritation

Danger Inhalation of dust may cause irritation of the respiratory system.

Indication of any immediate medical attention and special treatment needed First Aid, decontamination, treatment of symptoms.

5 Fire-fighting measures

Extinguishing media**Suitable extinguishing agents:**

Use fire fighting measures that suit the environment.
Special powder for metal fires. Do not use water.
Sand

For safety reasons unsuitable extinguishing agents: Water

Special hazards arising from the substance or mixture Refer to section 10.6.

Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

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Trade name: CL 20ES**Additional information** Collect contaminated fire fighting water separately. It must not enter the sewage system.**6 Accidental release measures****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.

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.

Methods and material for containment and cleaning up:

Remove mechanically, placing in appropriate containers for disposal.

Ensure adequate ventilation.

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.

Protective Action Criteria for Chemicals**PAC-1:**CAS: 7440-48-4 cobalt: 0.18 mg/m³CAS: 7440-47-3 chromium: 1.5 mg/m³CAS: 7439-98-7 molybdenum: 30 mg/m³CAS: 7439-96-5 manganese: 3 mg/m³CAS: 7440-21-3 silicon: 45 mg/m³CAS: 7440-44-0 carbon: 6 mg/m³CAS: 7440-02-0 nickel: 4.5 mg/m³CAS: 7439-89-6 iron: 3.2 mg/m³CAS: 7440-33-7 tungsten: 10 mg/m³CAS: 7440-32-6 titanium: 30 mg/m³CAS: 7723-14-0 red phosphorus: 0.27 mg/m³CAS: 7440-42-8 boron: 1.9 mg/m³**PAC-2:**CAS: 7440-48-4 cobalt: 2 mg/m³CAS: 7440-47-3 chromium: 17 mg/m³CAS: 7439-98-7 molybdenum: 330 mg/m³

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Trade name: CL 20ESCAS: 7439-96-5 manganese: 5 mg/m³CAS: 7440-21-3 silicon: 100 mg/m³CAS: 7440-44-0 carbon: 330 mg/m³CAS: 7440-02-0 nickel: 50 mg/m³CAS: 7439-89-6 iron: 35 mg/m³CAS: 7440-33-7 tungsten: 330 mg/m³CAS: 7440-32-6 titanium: 330 mg/m³CAS: 7723-14-0 red phosphorus: 3 mg/m³CAS: 7440-42-8 boron: 21 mg/m³**PAC-3:**CAS: 7440-48-4 cobalt: 20 mg/m³CAS: 7440-47-3 chromium: 99 mg/m³CAS: 7439-98-7 molybdenum: 2,000 mg/m³CAS: 7439-96-5 manganese: 1,800 mg/m³CAS: 7440-21-3 silicon: 630 mg/m³CAS: 7440-44-0 carbon: 2,000 mg/m³CAS: 7440-02-0 nickel: 99 mg/m³CAS: 7439-89-6 iron: 150 mg/m³CAS: 7440-33-7 tungsten: 2,000 mg/m³CAS: 7440-32-6 titanium: 2,000 mg/m³CAS: 7723-14-0 red phosphorus: 18 mg/m³CAS: 7440-42-8 boron: 130 mg/m³**7 Handling and storage****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 any contact with eyes or skin. Wear personal protective equipment.

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

Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.**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 receptacle.
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

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection**Additional information about design of technical systems:**

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

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

PEL Long-term value: 1 mg/m³

REL Long-term value: 0.5* mg/m³

*metal+inorg.compds.as Cr; See Pocket Guide App. C

TLV Long-term value: 0.003* 0.5** mg/m³

inh. fraction, *as Cr(III), **metal

CAS: 7440-02-0 nickel

PEL Long-term value: 1 mg/m³

REL Long-term value: 0.015 mg/m³

as Ni; See Pocket Guide App. A

TLV Long-term value: 1.5* mg/m³

elemental, *inhalable fraction

CAS: 7439-98-7 molybdenum

PEL Long-term value: 15* mg/m³

*Total dust, as Mo

TLV Long-term value: 10* 3** mg/m³

as Mo; *inhalable fraction ** respirable fraction

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Trade name: CL 20ES**CAS: 7439-96-5 manganese**PEL Ceiling limit value: 5 mg/m³
as MnREL Short-term value: 3 mg/m³
Long-term value: 1 mg/m³
fume, as MnTLV Long-term value: 0.02* 0.1** mg/m³
as Mn; *respirable **inhalable fraction**CAS: 7440-21-3 silicon**PEL Long-term value: 15* 5** mg/m³
*total dust **respirable fractionREL Long-term value: 10* 5** mg/m³
*total dust **respirable fraction

TLV TLV withdrawn

CAS: 7723-14-0 red phosphorusREL Long-term value: 0.1 mg/m³**Regulatory information**

PEL: Guide to Occupational Exposure Values (OSHA PELs)

REL: Guide to Occupational Exposure Values (NIOSH RELs)

TLV: Guide to Occupational Exposure Values (ACGIH)

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

Breathing equipment:

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, closed-circuit breathing apparatus must be used!

Recommendation:

Particulate filter

Filter P3

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

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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: ≥ 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: ≥ 480 min

Eye protection: Tightly sealed goggles

Body protection: Protective work clothing

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

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Powder
Color:	Grey
Odor:	Odorless
Odor threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

Flash point: Not applicable.

Flammability (solid, gaseous): Not determined.

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

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Trade name: CL 20ES**Danger of explosion:** Product does not present an explosion hazard.**Explosion limits:****Lower:** Not determined.**Upper:** Not determined.**Vapor pressure:** Not applicable.**Density:** Not determined.**Bulk density:** 4,600 kg/m³**Relative density:** Not determined.**Vapour density:** Not applicable.**Evaporation rate:** Not applicable.**Solubility in / Miscibility with****Water:** Insoluble.**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****Dynamic:** Not applicable.**Kinematic:** Not applicable.**Solvent content:****VOC content:** 0.00 %**Solids content:** 100.0 %**Other information** No further relevant information available.**10 Stability and reactivity****Reactivity** The product is stable under standard conditions (temperature, pressure) of storage and handling.**Chemical stability** The product is stable under standard conditions (temperature, pressure) of storage and handling.**Possibility of hazardous reactions** No dangerous reactions known.

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Trade name: CL 20ES**Conditions to avoid** No further relevant information available.**Incompatible materials:**Strong acids
Ammonium nitrate
Oxidizing agents**Hazardous decomposition products:**In case of fire, the following products can be released:
Metal oxid fume**11 Toxicological information****Information on toxicological effects****Acute toxicity:****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)

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.**Additional toxicological information:**The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant**Carcinogenic categories****IARC (International Agency for Research on Cancer)**

CAS: 7440-48-4 cobalt: 2B

CAS: 7440-47-3 chromium: 3

CAS: 7440-02-0 nickel: 2B

NTP (National Toxicology Program)

CAS: 7440-48-4 cobalt: R

CAS: 7440-02-0 nickel: R

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

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12 Ecological information

Toxicity**Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**General notes:**

Avoid transfer into the environment.

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

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.

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

13 Disposal considerations

Waste treatment methods**Recommendation:**

Must not be disposed of 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 packagings:**Recommendation:**

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

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

* 14 Transport information

UN-Number**DOT, ADN, IMDG, IATA**

Not applicable

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Trade name: CL 20ES

UN proper shipping name**DOT, ADN, IMDG, IATA**

Not applicable

Transport hazard class(es)**DOT, ADN, IMDG, IATA****Class**

Not applicable

Packing group**DOT, IMDG, IATA**

Not applicable

Environmental hazards:

Not applicable.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

UN "Model Regulation":

Not applicable

15 Regulatory information**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)

Directives 67/548/EEC and 1999/45/EC

Directive 98/24/EC (employee health protection)

Sara**Section 355 (extremely hazardous substances):**

CAS: 7723-14-0 red phosphorus

Section 313 (Specific toxic chemical listings):

CAS: 7440-48-4 cobalt

CAS: 7440-47-3 chromium

CAS: 7439-96-5 manganese

CAS: 7429-90-5 aluminium

CAS: 7440-02-0 nickel

CAS: 7723-14-0 red phosphorus

TSCA (Toxic Substances Control Act):

CAS: 7440-48-4 cobalt

CAS: 7440-47-3 chromium

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CAS: 7439-98-7 molybdenum

CAS: 7439-96-5 manganese

CAS: 7440-21-3 silicon

CAS: 7440-44-0 carbon

CAS: 7429-90-5 aluminium

CAS: 7440-02-0 nickel

CAS: 7439-89-6 iron

CAS: 7440-33-7 tungsten

CAS: 7440-32-6 titanium

CAS: 7723-14-0 red phosphorus

CAS: 7704-34-9 sulfur

CAS: 7440-42-8 boron

Hazardous Air Pollutants

CAS: 7439-96-5 manganese

CAS: 7723-14-0 red phosphorus

Proposition 65**Chemicals known to cause cancer:**

CAS: 7440-48-4 cobalt

CAS: 7440-02-0 nickel

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenic categories**EPA (Environmental Protection Agency)**

CAS: 7440-47-3 chromium: D

CAS: 7439-96-5 manganese: D

CAS: 7723-14-0 red phosphorus: D

CAS: 7440-42-8 boron: I (oral)

TLV (Threshold Limit Value established by ACGIH)

CAS: 7440-48-4 cobalt: A3

CAS: 7440-47-3 chromium: A4

CAS: 7439-98-7 molybdenum: A3

CAS: 7429-90-5 aluminium: A4

CAS: 7440-02-0 nickel: A5

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Trade name: CL 20ES**NIOSH-Ca (National Institute for Occupational Safety and Health)**

CAS: 7440-02-0 nickel

National regulations:**Information about limitation of use:**

Employment restrictions concerning young persons 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!**Chemical safety assessment** A Chemical Safety Assessment has not been carried out.**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.

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.

Date of preparation / last revision 10/31/2019 / 3**Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
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
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 2: Carcinogenicity – Category 2
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

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Sources Data arise from reference works and literature.*** Data compared to the previous version altered.**

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