

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

Printing date: 10.04.2019

Version number 2

Revision: 10.04.2019

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

1.1. Product identifier

Trade name: **remanium star**

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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



GHS08

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carc. 1B H350 May cause cancer.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.



GHS09

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

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Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

2.2. Label elements

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

Hazard pictograms:



Signal word: Danger

Hazard-determining components of labelling:

cobalt
nickel

Hazard statements:

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H400 Very toxic to aquatic life.
H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P405 Store locked up.

Additional information:

Restricted to professional users.

2.3. Other hazards Dumping into the environment must be prevented.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

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Dangerous components:

CAS: 7440-48-4	cobalt	50-100%
EINECS: 231-158-0	Resp. Sens. 1B, H334; Carc. 1B, H350; Repr. 2, H361	
Reg.no.: 01-2119517392-44-XXXX	Aquatic Acute 1, H400	
	Acute Tox. 4, H302; Eye Irrit. 2, H319; Skin Sens. 1, H317	
	Aquatic Chronic 4, H413	
CAS: 7440-47-3	chromium	25-50%
EINECS: 231-157-5	substance with a community workplace exposure limit	
CAS: 7440-33-7	tungsten	10%
EINECS: 231-143-9	substance with a community workplace exposure limit	
Reg.no.: 01-2119488910-30		
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		
CAS: 7439-96-5	manganese	≥0.1-≤2.5%
EINECS: 231-105-1	substance with a community workplace exposure limit	

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

Take affected persons out of danger area and lay down.
Personal protection for the First Aider.

After inhalation:

Take affected persons into fresh air and keep quiet.
In case of unconsciousness place patient stably in side position for transportation.
In case of irregular breathing or respiratory arrest provide artificial respiration.
Seek medical treatment.

After skin contact:

Take off all contaminated clothing.
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

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.
Seek medical treatment.

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

Coughing

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Breathing difficulty

4.3. Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.

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**5.2. Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

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.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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

Ensure adequate ventilation.

Avoid contact with the eyes.

Avoid contact with the skin.

Avoid formation of dust.

Do not inhale gases / fumes / aerosols.

Be sure to clean skin thoroughly after work and before breaks.

Keep away from foodstuffs, beverages and feed.

Ensure that washing facilities are available at the work place.

Wear protective equipment. Keep unprotected persons away.

6.2. Environmental precautions

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

Dumping into the environment must be prevented.

6.3. Methods and material for containment and cleaning up

Pick up mechanically.

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.

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See Section 13 for disposal information.

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

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

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

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 only in the original container.**Information about storage in one common storage facility:** Keep away from food, drink and animal feeding stuffs.**Further information about storage conditions:** Store receptacle in a well ventilated area.**Storage class:** 6.1D Incombustible toxic or chronic active substances (TRGS 510 DE)**7.3. Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 7440-48-4 cobalt**WEL (Great Britain) Long-term value: 0.1 mg/m³
as Co; Carc, Sen**CAS: 7440-47-3 chromium**WEL (Great Britain) Long-term value: 0.5 mg/m³
IOELV (EU) Long-term value: 2 mg/m³
as Cr**CAS: 7440-33-7 tungsten**WEL (Great Britain) Short-term value: 10 mg/m³
Long-term value: 5 mg/m³
as W**CAS: 7440-21-3 silicon**WEL (Great Britain) Long-term value: 10* 4** mg/m³
*inhalable dust **respirable dust**CAS: 7439-96-5 manganese**WEL (Great Britain) Long-term value: 0.5 mg/m³
as Mn

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IOELV (EU) Long-term value: 0.2* 0.05** mg/m³
as Mn; *inhalable, **respirable fraction

Regulatory information:

WEL (Great Britain): EH40/2011

IOELV (EU): (EU) 2017/164

PNECs**CAS: 7440-48-4 cobalt**

PNEC 9.5 mg/l (sediment freshwater)

9.5 mg/l (sediment marine water)

PNEC 0.6 µg/l (fresh water)

2.36 µg/l (marine water)

370 µg/l (sewage treatment plant)

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

Respiratory protection:

Particulate filter device

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 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

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Trade name: remanium star**Body protection:** Protective work clothing**Limitation and supervision of exposure into the environment:** Dumping into the environment must be prevented.**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties****General Information****Appearance:**

Form: Powder
Colour: Grey
Odour: Odourless
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/freezing point: Undetermined.
Initial boiling point and boiling range: Undetermined.

Flash point: Not applicable.

Flammability (solid, gas): Not determined.

Ignition temperature: Not determined.

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined.
Upper: Not determined.

Vapour pressure: Not applicable.

Density: Not determined.

Bulk density: 4,900 kg/m³

Relative density: Not determined.

Vapour density: Not applicable.

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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 (EC)	0.00 %
Solids content:	100.0 %
9.2. Other information	No further relevant information available.

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**Ammonium nitrate
Strong acids
Oxidizing agents**10.6. Hazardous decomposition products**In case of fire, the following products can be released:
Metal oxid fume**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity:**

Harmful if swallowed.

LD/LC50 values:**CAS: 7440-48-4 cobalt**

Oral LD50 550 mg/kg (rat) (OECD 425)

Inhalative LC50 ≤0.05 mg/l (rat) (4h analytical OECD 436)

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Primary irritant effect:

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory or skin sensitisation:

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

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.

Carcinogenicity:

May cause cancer.

Reproductive toxicity:

Suspected of damaging fertility or the unborn child.

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

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

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

SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity:

CAS: 7440-48-4 cobalt

NOEC 3.2 mg/l (Daphnia magna)

100 mg/l (Danio rerio)

EC50 270 µg/l (Pseudokirchneriella subcapitata)

EC50 120 mg/l (microorganisms)

LC50 1.5 mg/l (fish)

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.

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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Trade name: remanium star**12.5. Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6. Other adverse effects** No further relevant information available.**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Recommendation:**

Hand over to officially registered waste disposal company.

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.

SECTION 14: Transport information**14.1. UN-Number****ADR, IMDG, IATA**

UN3077

14.2. UN proper shipping name**ADR**3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (cobalt)**IMDG**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(cobalt), MARINE POLLUTANT**IATA**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(cobalt)**14.3. Transport hazard class(es)****ADR, IMDG, IATA****Class**

9 Miscellaneous dangerous substances and articles.

Label

9

14.4. Packing group**ADR, IMDG, IATA**

III

14.5. Environmental hazards**Marine pollutant:**

Product contains environmentally hazardous substances: cobalt

Special marking (ADR):

Symbol (fish and tree)

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Special marking (IATA):	Symbol (fish and tree)
14.6. Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
Danger code (Kemler):	90
EMS Number:	F-A,S-F
Stowage Category	A
Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	5 kg
Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
Transport category	3
IMDG	
Limited quantities (LQ)	5 kg
Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COBALT), 9, III

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Directive 94/27/EC (Nickel Directive)

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.**Seveso category**

H1 ACUTE TOXIC

E1 Hazardous to the Aquatic Environment

Qualifying quantity (tonnes) for the application of lower-tier requirements 5 t**Qualifying quantity (tonnes) for the application of upper-tier requirements** 20 t

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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!

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

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:

H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H400 Very toxic to aquatic life.
H413 May cause long lasting harmful effects to aquatic life.

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)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

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Resp. Sens. 1: Respiratory sensitisation – Category 1

Resp. Sens. 1B: Respiratory sensitisation – Category 1B

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 1B: Carcinogenicity – Category 1B

Repr. 2: Reproductive toxicity – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

Sources: Data arise from reference works and literature.

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