SAFETY DATA SHEET

Intersteelar 3D Metal Printing Powder / Translation from German Original

according to EU regulation no.: 1907/2006

created: 07.08.2019

SECTION 1: Designation of the Material (Mix) as well as of the Company

1.1. Product Identification

Intersteelar 3D Metal Printing Powder

1.2. Application

Usage of the material/material mix

3D-Printing (Metal Powder)
Additive Manufacturing and/or Metal Injection Moulding

1.3. Company issuing the Safety Data Sheet

Company Name:	Intersteelar GmbH & Co. KG	
Address:	Neumühlerweg 57	
Location:	66130 Saarbrücken, Germany	
Phone:	0049-681-87610678	Fax: 0049-3212-1211455
E-Mail:	info@intersteelar.com	
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Contacts for Information:	landline: 0049-681-87610678 mobile phone: 0049-171-1240646	

1.4. Emergency Contact: 0049-171-124 0646 (only during office hours)

SECTION 2: Potential Dangers

2.1. Classification of Material (Mix)

EU Regulation no. 1272/2008

The material is classified as not dangerous according to EU regulation no. 1272/2008.

2.2. Marking

Obligation for Marking

According to EU regulation no. 1272/2008 [CLP]: none

2.3. Other Risks

If dispersed without authorization, the material can form a potentially explosive dust-air-mix.
The product is not explosive in its current form, however the enrichment with air can lead to an explosive mix and incur dust explosion. (Dust can form up an explosive mix with air.)
To extinguish fire, use a fire extinguisher of class D.

SECTION 3: Composition / Information concerning ingredients

3.2. Mixes

Chemical characterization

This material contains a metal alloy (see chemical data sheet), possibly made of iron, chrome, nickel, manganese, aluminium, molybdenum and silicon. These components are present in a solid metallic chemical compound; therefore none of them presents a danger in this form. Very small grain sizes can react like dusts.

SECTION 4: First Aid Measures

4.1. Description of First Aid Measures

General Information

In case of symptoms, consult a doctor.

After Inhaling

Get fresh air. In case of allergic reactions, especially in the respiratory organs, please immediately consult a doctor.

After Contact with Skin
Rinse thoroughly with water. Wash contaminated clothes before wearing them again.

After Contact with Eyes
Rinse carefully and thoroughly with eye bath or plain water. Contact lenses should be taken out and cleaned. Rinse thoroughly. In case of continuous problems/complaints, consult an ophthamologist.

After Swallowing
Rinse mouth immediately and drink abundant water. Never make an unconscious/cramping/spastic person ingest anything via the mouth. Consult doctor in case of complaints.

4.2. Most important acute and delayed symptoms and effects
Can cause allergic reactions (chrome, nickel).

4.3. Indications for Immediate Treatment or Special Treatment
Treatment according to symptoms.

SECTION 5: Measures for Firefighting

5.1. Extinguishing Agents

Suitable Extinguishing Agents
Use fire extinguishers of class D.
Coordinate measures with environment.

Unsuitable Extinguishing Agents
Water jet.

5.2. Special Dangers caused by Material (Mix)
Might form an explosive dust-air-mix when dispersed.
The product is not explosive in its current form, however the enrichment with air can lead to an explosive mix and incur dust explosion. (Dust can form up an explosive mix with air.)

5.3. Information for Firefighting
In case of fire: wear respiratory mask independent of environment.

Additional Information
Dust can be subdued by water jet.

SECTION 6: Measures in case of unintended Release

6.1. Personal Protection Measures, Equipment and Measures in case of Emergency

Remove all ignition sources. Wear personal protection equipement. Avoid formation of dust. Do not inhale dust.

6.2. Environmental Protection
No special environmental protection necessary. Contaminated objects and floor should be cleaned under consideration of the environment.

6.3. Methods for Retention and Cleaning
Collect mechanically. Do not use brushes or pressed air for cleaning of surfaces or clothes. The collected material should be treated according to paragraph disposal.

6.4. Reference to other Sections
Safe handling: see section 7.
Personal protection equipment: see sectiont 8.
Disposal: see section 13.

SECTION 7: Handling and Storage

7.1. Protection Measures for Safe Handling

Information for Safe Handling

Ensure sufficient air flow and suction at critical points. Avoid formation of dust. Do not inhale dust. Avoid contact with skin, eyes and clothes. Avoid the following conditions: dust accumulation. Collect spillages immediately. Do not use brushes or compressed air for cleaning of surfaces or clothes.

Information for Protection agains Fire and Explosion

Keep away from ignition sources. Do not smoke. Take measures agains electrostatic charge.
If dispersed without authorization, the material can form a potentially explosive dust-air-mix.
The product is not explosive in its current form, however the enrichment with air can lead to an explosive mix and incur dust explosion. (Dust can form up an explosive mix with air.)

Additional Information for Handling

Open container carefully and handle it with care. Please close container tightly after product extraction.

7.2. Conditions for Safe Storage considering Reactions

Requirements for Storage and Receptacles

Keep receptacles tight, cool and in a ventilated space.

Combined Storage

No negative information.

Additonal Information for Storage

Protect from damp.

Storage according to TRGS 510: 11 (Flammable solids in the form of dusts, not classified acc. to LGK)

7.3. Specific Application

3D-Printing (Metal Powder)
Additive Manufacturing and/or Metal Injection Moulding

SECTION 8: Restriction and Control of Exposition / Personal Equipment

8.1. Parametres to be controlled

Work Place Limit **(TRGS 900)**

CAS-Nr.	Bezeichnung	ppm	mg/m³	F/m³	max. limit.	type
-	general dust value, respirable fraction		1,25 A			
-	general dust value, respirable fraction		10 E		2(II)	

8.2. Limitation and Control of Exposition

Suitable Technical Devices

Ensure sufficient aeration and suction at critical points.

Protection and Hygiene Measures

Take off contaminated clothes. Wash hands before breaks and after end of work. Do not eat, drink, smoke at working place. Avoid formation of dust. Do not inhale dust. Avoid contact with skin, eyes and clothes.

Eye-/Face-Protection

Wear face-/eye-protection.

Protection of Hands

Wear suitable gloves.

When handling chemical materials, only special protective gloves featuring the CE-label are allowed, including a four-digit-certification-number. Protective gloves must be chosen according to the nature of the material handled and its concentration of substances. The clarification if a glove is suitable for a certain product should be in accordance with the producer of these gloves.

Body Protection

Usage of protective clothes.

Respiratory Protection

Ensure suitable airation. Wear mask. Use a device with particle filter (DIN EN 143)

Limitation and Control of Exposure into the Environment

Avoid release into the environment

SECTION 9: Physical and Chemical Properties

9.1. Information concerning the basic Physical and Chemical Properties

State of Aggregation:	solid
Colour:	metallic
Smell:	none
pH-Value:	not defined
Change of State	
Fusion Point:	not defined
Boiling Point and Range:	not defined
Flash Point:	not applicable
Flammability	
Solid:	not defined
Gas:	not applicable

Danger of Explosion

If dispersed without authorization, the material can form a potentially explosive dust-air-mix.
The product is not explosive in its current form, however the enrichment with air can lead to an explosive mix and incur dust explosion. (Dust can form up an explosive mix with air.)

Inferior Explosion Limit:	not defined
Superior Explosion Limit:	not defined
Auto Ignition Temperature	
Solid:	not defined
Gas:	not applicable
Decomposition Temperature:	not defined
Fire Enhancing Properties	not fire enhancing
Vapour Pressure:	not defined
Density:	2,6 - 8,9 g/cm³
Water Solubility:	not soluble
Solubility in other Agents	not defined
Partition Coefficient:	not defined
Dyn. Viscosity:	not defined
Kin. Viscosity:	not defined
Vapour Density:	not defined

Evaporation Rate: not defined

9.2. Other Information

Odour threshold: not applicable

SECTION 10: Stability and Reactivity

10.1. Reactivity

In case of proper handling and storage, there won´t be any reactivity.

10.2. Chemical Stability

In case of proper handling and storage, there won´t be any chemical reactions.

10.3. Possibility of Dangerous Reactions

If dispersed without authorization, the material can form a potentially explosive dust-air-mix.
The product is not explosive in its current form, however the enrichment with air can lead to an explosive mix and incur dust explosion. (Dust can form up an explosive mix with air.)

10.4. Avoidable Conditons

Protect against damp.

10.5. Incompatible Materials

No information available.

10.6. Decomposition Materials

No dangerous decomposition materials are known.

SECTION 11: Toxicology

11.1. Information about Toxicology

Acute Toxicology
Classification criteria not met.

Irritation and Corrosivity
Classification criteria not met.

Sensitizing Effects
Classification criteria not met.
Can cause allergic reactions (chrome, nickel)
Persons suffering from asthma, chronical or recurrent respiratory diseases should not be charged with handling of this product.

Carcinogenic Properties, Genetic Alteration and Toxicity to Reproduction
Classification criteria not met.

Specific Target Organ Toxicity with Single Exposure
Classification criteria not met.

Specific Target Organ Toxicity with Repeated Exposure
Classification criteria not met.

Toxicity of Aspiration
Classification criteria not met.

SECTION 12: Environment-related Information

12.1. Toxicity

The product is not ecotoxic.

12.2. Persistence and Degradability

Not tested.

12.3. Bioaccumulation Potential

Not tested.

12.4. Mobility in the Soil

Not tested.

12.5. Results of PBT- and vPvB-Testing

Not tested.

12.6. Other harmful effects

No information available.

Other Information

Avoid release into the environment

SECTION 13: Information about Disposal

13.1. Procedures of Disposal

Recommendation

Disposal according to official regulations.

Disposal of uncleaned Packaging and recommended Cleaning Agent.

Rinse of with water. Completely emptied packaging can be recycled.

SECTION 14: Information about Transport

Overland Transport (ADR/RID)

14.1. UN-Number:	No UN material in the sense of this regulation.
14.2. Regular UN-Transport Designation:	No UN material in the sense of this regulation.
14.3. Transport Hazard Class:	No UN material in the sense of this regulation.
14.4. Packaging Group:	No UN material in the sense of this regulation.

Inland Waterway (ADN)

14.1. UN-Number:	No UN material in the sense of this regulation.
14.2. Regular UN-Transport Designation:	No UN material in the sense of this regulation.
14.3. Transport Hazard Class:	No UN material in the sense of this regulation.
14.4. Packaging Group:	No UN material in the sense of this regulation.

Ocean Transport (IMDG)

14.1. UN-Number:	No UN material in the sense of this regulation.
14.2. Regular UN-Transport Designation:	No UN material in the sense of this regulation.
14.3. Transport Hazard Class:	No UN material in the sense of this regulation.
14.4. Packaging Group:	No UN material in the sense of this regulation.

Air Cargo (ICAO-TI/IATA-DGR)

14.1. UN-Number:	No UN material in the sense of this regulation.
14.2. Regular UN-Transport Designation:	No UN material in the sense of this regulation.
14.3. Transport Hazard Class:	No UN material in the sense of this regulation.
14.4. Packaging Group:	No UN material in the sense of this regulation.

14.5. Environmental Risk

Environmental risk: none

14.6. Special Handling Information

No information available.

14.7. Bulk Transport Information according to Annex II of the MARPOL-Agreement and IBC-Code

not applicable.

SECTION 15: Legal Provisions

15.1. Provisions concerning Safety, Health- and Environmental Protection / Specific Provisions for the Material (Mix)

EU-Regulations

Information about SEVESO III-Guideline 2012/18/EU: SEVESO III-Guideline is not applicable.

National Regulations

Technical Instruction Air I:	5.2.1: Total dust, including fine dust at m > 0.2 kg/h: concentration: 20 mg/m³ with <= 0.2 kg/h: concentration 0.15 g/m³
Percentage:	100,00 %
Water Hazard Class:	- - not harzardous for water
State:	according to §6 der AwSV

Identification according to catalogue for water hazardous substances: 1443

15.2. Evaluation of Material Security

Evaluation of Ingredients in the Powder mix was not performed.

SECTION 16: Other Indications

Abbreviations and Acronyms

CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern
Abbreviations and Acronyms: see http://abk.esdscom.eu

Other Information

The information given is based on our current knowledge; however they do not represent an assurance of product properties nor constitute a legal relationship. Applicable laws and regulations are to be met by the recipients of the product in their own responsibility.

(The data concerning the dangerous ingredients were taken from the information provided by the Producer.)