

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

1.1. Product identifier

MSUPPLY - 3.2382

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

Relevant identified uses: Metal powder for additive manufacturing; Powdermetallurgy
Uses advised against: No information available.

1.3. Details of the supplier of the safety data sheet

Supplier

Dr. Andreas Pelz

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D 39130 Magdeburg

Telephone +49 (0)177 8036000

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Information contact

Herr Dr. Andreas Pelz

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E-mail (competent person) a.pelz@metals4printing.com

Website www.metals4printing.com

1.4. Emergency telephone number

Euro Emergency number

Telephone 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008:

Identification is not obligatory. Please observe the information on the safety data sheet at all times.

2.2. Label elements

Classification according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms: -

Signal word: -

Hazard statements: -

Precautionary statements: -

2.3. Other hazards

Does not contain PBT/vPvB substances $\geq 0,1\%$, evaluated according to REACH Annex XIII.

The mixture does not contain any substances listed for endocrine disrupting properties according to REACH Art.

59(1) in the list,

or it has been determined in accordance with the criteria set out in Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU)

2018/605 of the Commission established,
that it does not contain substances with endocrine disrupting properties in a concentration of at least 0.1 %.

SECTION 3: Composition / information on ingredients

3.1. Substances

not applicable

3.2. Mixtures

Mixture related information

Composition/information on ingredients

| Substance: | CAS-No.: | REACH-no.: | Concentration: | Classification: EC 1272/2008 (CLP): | M, ATE, Note |
|------------|-----------|-----------------------|----------------|--|--------------|
| Aluminium | 7429-90-5 | 01-2119529243-45-xxxx | Balance | Flam. Sol. 1/2, H228; Water-react. 2/3, H261 | M = 0 |
| Silicon | 7440-21-3 | 01-2119480401-47-xxxx | 9,0-11,0% | - | |
| Magnesium | 7439-95-4 | 01-2119537203-49-xxxx | 0,2-0,45% | Flam. Sol. 1/2, H228; Self-heat. 1, H251; Water-react. 2/3, H261 | |

(Full text of H- and EUH-statements: see section 16.)

SECTION 4: First aid measures

4.1. Description of first aid measures

- General information:** In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
- In case of inhalation:** Move victim to fresh air. Put victim at rest and keep warm. Seek medical attention if problems persist.
- Following skin contact:** After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.
- After eye contact:** In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Seek medical attention if problems persist.
- After ingestion:** Rinse mouth immediately and drink plenty of water. Seek medical attention if problems persist.

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media** Dry sand
D powder
Aluminium oxide
- Unsuitable extinguishing media** Water
Foam
Carbon dioxide (CO₂)

5.2. Special hazards arising from the substance or mixture

Contact with water liberates extremely flammable gases. In case of fire may be liberated: Pyrolysis products, toxic. Carbon dioxide. Carbon monoxide.

5.3. Advice for firefighters

General information

Co-ordinate fire-fighting measures to the fire surroundings.

Special protective equipment for fire-fighters:

In case of fire: Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 Personnel not trained for emergencies.

Emergency procedures: Ventilate contaminated area.

6.1.2 Emergency personnel

Protective Equipment: Do not attempt to operate without appropriate protective equipment. Further information:

See section 8 "Exposure controls/personal protective equipment".

Protective Equipment"

6.2. Environmental precautions

Avoid release into the environment.

6.3. Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advices on safe handling

Provide adequate ventilation as well as local exhaustion at critical locations.

Wear personal protective equipment.

Precautions against fire and explosion:

Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

none

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

occupational exposure limit value

| Substance: | CAS-No.: | | Source: | Occupational exposure limit value:[ppm] | Occupational exposure limit value:[mg/m ³] | Limitation of exposure peaks: | Remark: |
|------------|-----------|----|-------------|---|--|-------------------------------|----------------------------|
| Aluminium | 7429-90-5 | De | TRGS90 0 | | 1,25 | 2 | allgemeiner Staubgrenzwert |

DNEL-/PNEC-values

DNEL value

| Substance: | CAS-No.: | DNEL/DMEL |
|------------|-----------|---|
| Aluminium | 7429-90-5 | worker inhalative long-term, systemic 3,72 mg/m ³ worker inhalative long-term, local 3,72 mg/m ³ population oral long-term, systemic 7,9 mg/kg bw/day |

Additional information

Does not contain substances above concentration limits fixing an occupational exposure limit.

8.2. Exposure controls

Occupational exposure controls:

Provide adequate ventilation as well as local exhaustion at critical locations. Technical measures and the application of suitable work processes have priority over personal protection equipment.

General protection and hygiene measures:

When using do not eat, drink, smoke, sniff.

Wash hands before breaks and after work.

Apply skin care products after work.

Wash contaminated clothing prior to re-use.

Personal protection equipment

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Respiratory protection

Respiratory protection necessary at: In the case of the formation of dust. Suitable respiratory protection apparatus: particulates filter device (DIN EN 143).

Hand protection

Tested protective gloves are to be worn: DIN-/EN-Norms: EN ISO 374

Eye/face protection

Tightly sealed safety glasses.

Body protection:

Wear suitable protective clothing.

Environmental exposure controls

refer to chapter 7. No further action is necessary.

Consumer exposure controls

refer to chapter 7. No further action is necessary.

Exposure Scenario:

none

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

| | |
|------------------|----------------|
| Physical state: | solid: Powder |
| Colour: | grey |
| Odour: | odourless |
| Odour threshold: | not applicable |

Safety relevant basis data

| | |
|--|-----------------------|
| Melting point/freezing point: | 550-650 °C |
| Initial boiling point and boiling range: | No data available |
| Flammability: | No data available |
| lower flammability or explosive limits: | No data available |
| Upper flammability or explosive limits: | No data available |
| Flash point: | No data available |
| Ignition temperature: | No data available |
| Decomposition temperature: | No data available |
| pH: | not applicable |
| Kinematic viscosity: | not applicable |
| Water solubility (g/L): | insoluble |
| Partition coefficient: n-octanol/water: | No data available |
| Vapour pressure: | not applicable |
| Relative density: | 2,7 g/cm ³ |
| Particle properties: | No data available |

9.2. Other information

Ignition temperature of the dust layer: >400°C
temperature of the dust cloud: >800°C
ignition energy (MIE): 300mJ <MIE <1000mJ

Ignition
Minimum

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non-reactive under normal use conditions.

10.2. Chemical stability

With proper storage and handling the product is stable.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

moisture.

10.5. Incompatible materials

Contact with water releases flammable gases. Reacts with acids, alkalis and oxidizing agents.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

There are no data available on the preparation/mixture itself.

Acute toxicity

| Substance: | CAS-No.: | Toxicological information |
|------------|-----------|--|
| Aluminium | 7429-90-5 | LC50 inhalation (Rat) > 888 mg/l/4 h LC50 fish (96 h) 1,55 mg/l LD50 oral (rat) > 2000 mg/kg |

Skin corrosion/irritation:

Not classified (Based on available data, the classification criteria are not met).

Serious eye damage/irritation:

Not classified (Based on available data, the classification criteria are not met).

Respiratory or skin sensitisation:

Not classified (Based on available data, the classification criteria are not met).

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity:

Not classified (Based on available data, the classification criteria are not met).

Germ cell mutagenicity:

Not classified (Based on available data, the classification criteria are not met).

Reproductive toxicity:

Not classified (Based on available data, the classification criteria are not met).

STOT-single exposure:

Not classified (Based on available data, the classification criteria are not met).

STOT-repeated exposure:

Not classified (Based on available data, the classification criteria are not met).

11.2. Information about other hazards

Not classified (Based on available data, the classification criteria are not met).

SECTION 12: Ecological information

12.1. Toxicity

Not classified (Based on available data, the classification criteria are not met).

Ecotoxicity

| Substance: | CAS-No.: | Ecotoxicity |
|------------|-----------|----------------------------|
| Aluminium | 7429-90-5 | LC50 fish (96 h) 1,55 mg/l |

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

There are no data available.

12.4. Mobility in soil

There are no data available.

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

12.6 Endocrine disruptive effect

No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate disposal/Product:

Disposal must be carried out in accordance with official regulations. Do not allow to enter drains or the environment. Do not dispose together with household waste.

Appropriate disposal / Package

Recycle or dispose of in accordance with applicable legal requirements.

SECTION 14: Transport information

14.1. UN number

UN No.: n.a.

no dangerous goods in the sense of the transport regulations

14.2. UN proper shipping name

Land transport (ADR/RID)

-

Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

-

14.3. Transport hazard class(es)

Hazard label(s) / Label: -

Classification code: / Classification Code: -

14.4. Packing group

Packing group/ Packing Group: -

14.5. Environmental hazards

ADR/RID / IMDG / ICAO-TI / IATA-DGR:
Marine pollutant:

| Yes | No |
|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |

14.6. Special precautions for user

Land transport (ADR/RID)

transport category: -

Special provisions: -

tunnel restriction code: -

Limited quantity (LQ): -

Sea transport (IMDG)

EmS-No: -

Special provisions: -

Limited quantity (LQ): -

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remark none

SECTION 15: Regulatory information

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

EU legislation

REACH Annex XVII (Restriction List)

Does not contain substances listed in REACH Annex XVII (Restriction conditions)

REACH Annex XIV (Authorization List)

Does not contain substances listed in REACH Annex XIV (Authorization List)

REACH Candidate List (SVHC)

Does not contain substances listed on the REACH candidate list

PIC Regulation (Prior Informed Consent)

Does not contain substances listed on the PIC list (Regulation EU 649/2012 on the export and import of dangerous chemicals).

POP Regulation (Persistent Organic Pollutants)

Does not contain any substances listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants).

Ozone Regulation (1005/2009)

Does not contain substances listed on the Ozone Depletion List (Regulation EU 1005/2009 on Substances that Deplete the Ozone Layer).

National regulations

Observe in addition any national regulations!

15.2. Chemical Safety Assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Relevant H- and EUH-phrases (Number and full text):

Hazard statements

H228 Flammable solid.
H251 Self-heating; may catch fire.
H261 In contact with water releases flammable gases.

Training advice

none

Recommended restrictions of use:

Reserved for industrial and professional use.

Further remarks:

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.

Documentation of changes:

none

Key literature references and sources for data

ECHA – European Chemical Agency
Information of suppliers

Abbreviations and acronyms

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>