

EU – Safety data sheet

according to Regulation (EU) 2020/878

Date of issue: 14.03.2024

Date of revision: - / Version/replaced Version 1.0/-

V-Alloy FG

SILADENT

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Printing date: 09.01.2025

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

- 1.1. Product identifier
- Product form: Mixture
- Tradename: V-Alloy FG
- Product description: Cobalt Chromium alloy
- UFI: -
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
- Relevant identified uses: Manufacturing of dental prosthesis in dental laboratories
- 1.3. Details of the supplier of the safety data sheet
- Manufacturer: The Argen Corporation
- Street / mailbox: 5855 Oberlin Drive
- Country code. / postal code / city: San Diego / 92121 / San Diego, California, USA
- Phone: 858-455-7900
- E-mail / Website: alopez@argen.com / <https://argen.com>
- Supplier: SILADENT Dr. Böhme & Schöps GmbH
- Street / mailbox: Im Klei 26
- Country code. / postal code / city: DE - 38644 Goslar
- Phone: +49 (0) 53 21 / 37 79 – 0
- Fax: +49 (0) 53 21 / 38 96 32
- E-mail / Website: info@siladent.de / www.siladent.de
- 1.4. Emergency telephone number
- SILADENT Dr. Böhme & Schöps GmbH: +49 (0) 53 21 / 37 79 - 0 (Mon-Fri. 8 a.m. - 4 p.m.)

SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008 [CLP]:
- | | | |
|-------------------|-------|--|
| Skin Sens. 1 | H317 | May cause an allergic skin reaction. |
| Resp. Sens. 1 | H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Muta. 2 | H341 | Suspected of causing genetic defects. |
| Carc. 1B | H350 | May cause cancer. |
| Repr. 1B | H360F | May damage fertility. |
| Aquatic Chronic 4 | H413 | May cause long lasting harmful effects to aquatic life. |
- Special hazards information for human and environment: No information available.
- 2.2. Label elements
- Labelling according to Regulation (EC) No 1272/2008 [CLP]:
- In the form in which it is marketed, the product causes no danger to health for humans through inhalation, swallowing or contact with the skin. There is therefore no obligation to label the product in accordance with: Regulation 1272/2008 (CLP: annex I; 1.3.4.: "Metals in massive form, alloys, mixtures containing polymers, mixtures containing elastomers").
- If the product form in the as-supplied state is changed through further processing (e.g. through grinding, polishing, electrical discharge machining, welding or melting) and dust or vapours are produced, there may be danger from hazardous components in product.
- Hazard pictograms (CLP):
- 
- GHS08
- Signal word (CLP): Danger
- Hazard-determining components of labelling: Cobalt
- Hazard statements (CLP):
- H317: May cause an allergic skin reaction.

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H334:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341:	Suspected of causing genetic defects.
H350:	May cause cancer.
H360F:	May damage fertility.
H413:	May cause long lasting harmful effects to aquatic life.
Precautionary statements (CLP):	
P273:	Avoid release to the environment.
P280:	Wear protective gloves, protective clothing, eye protection, face protection.
P308+P313:	IF exposed or concerned: Get medical advice/attention.
P304 + P340:	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342 + P311:	If experiencing respiratory symptoms: Call a doctor.
P362 + P364:	Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1. Substances: Not applicable

3.2. Mixtures

Description: Alloy

Dangerous components:

(CAS No) 7440-48-4 (EC No) 231-158-0 (EC Index No) 027-001-00-9	Cobalt (Co) Skin Sens. 1, H317; Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350; Repr. 1B, H360F; Aquatic Chronic 4, H413	63 %
(CAS No) 7440-47-3 (EC No) 231-157-5	Chromium (Cr) Not classified	30 %
(CAS No) 7439-96-5 (EG No) 231-105-1	Manganese (Mn) Not classified	< 1 %

For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

Instantly remove any clothing soiled by the product.
Take affected persons into the open air. IF exposed or concerned: Get medical advice/attention.

After inhalation:

In case of unconsciousness bring patient into stable side position for transport. Supply fresh air. If experiencing respiratory symptoms: Call a doctor.

After skin contact:

Instantly wash with water and soap and rinse thoroughly. If skin irritation or rash occurs: Get medical advice/attention.

After eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing:

Rinse mouth. Drink plenty of water as a precaution. Get medical advice/attention.

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|--|---|
| 4.2. Most important symptoms and effects, both acute and delayed: | May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing genetic defects. May cause cancer. May damage fertility. |
| 4.3. Indication of any immediate medical attention and special treatment needed: | Treat symptomatically. |

SECTION 5: Firefighting measures

- | | |
|---|---|
| 5.1. Extinguishing media
Suitable extinguishing agents:
Unsuitable extinguishing agents: | Metal fire powders, sand
Water, foam, CO ₂ |
| 5.2. Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire: | Toxic fumes may be released. Metallic oxides. |
| 5.3. Advice for firefighters:
Protection during firefighting:
Additional information: | Do not inhale explosion gases or combustion gases.
Wear self-contained breathing apparatus.
Dispose of fire debris and contaminated firefighting water in accordance with official regulations. Collect contaminated firefighting water separately. It must not enter drains. |

SECTION 6: Accidental release measures

- | | |
|---|---|
| 6.1. Personal precautions, protective equipment and emergency procedures: | Ensure adequate ventilation. Evacuate unnecessary personnel. Use personal protective equipment as required. Avoid dust formation. Use breathing protection against the effects of dust. |
| 6.2. Environmental precautions: | Do not allow to enter drainage system, surface or ground water. Inform respective authorities in case product reaches water or sewage system. |
| 6.3. Methods and material for containment and cleaning up: | Take up mechanically and collect in suitable container for disposal. Send for recovery or disposal in suitable containers. |
| 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 information on disposal. |

SECTION 7: Handling and storage

- | | |
|--|--|
| 7.1. Precautions for safe handling:

Information about protection against explosions and fires:
Hygiene measures: | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. In case of insufficient ventilation, use respiratory protection. Do not inhale dust. Wear personal protective equipment. Dust can form an explosive mixture with air. Avoid formation of dust.
When handling the product, ensure good industrial hygiene and adequate safety precautions. Do not eat, drink or smoke at work. Before eating, drinking, smoking and leaving the workplace, wash hands and other bare areas with mild soap and water. Do not wear contaminated clothing outside the workplace. |
| 7.2. Conditions for safe storage, including any incompatibilities
Storage conditions:

Storage incompatibility:

Storage class: | Store cool and dry in tightly closed containers. Store locked up.
Keep away from food, drinks and feedingstuff. Do not store together with explosive substances.
LGK 10-13 |

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7.3. Specific end use(s):

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with critical values that require monitoring at the workplace:		
7440-47-3 Chromium		
EU	Local name	Chromium Metal, Inorganic Chromium (II) Compounds and Inorganic Chromium (III) Compounds (insoluble)
EU	IOELV TWA (mg/m ³)	2 mg/m ³
Ireland	Local name	Chromium metal, Chromium (II) compounds (as Cr), Chromium (III) compounds (as Cr)
Ireland	OEL-TWA (mg/m ³)	2 mg/m ³
Ireland	Remark (IE)	IOELV
Malta	Local name	Chromium Metal, Inorganic Chromium (II) Compounds and Inorganic Chromium (III) Compounds (insoluble)
Malta	OEL-TWA (mg/m ³)	2 mg/m ³
7440-48-4 Cobalt		
Ireland	Local name	Cobalt & cobalt compounds (as Co)
Ireland	OEL-TWA (mg/m ³)	0.02 mg/m ³
Ireland	Remark (IE)	Sens.
Ireland	BMGV (µg/l)	15µg/l urine, B 1µg/l blood, Sq Sampling time: End of shift at end of workweek
7439-96-5 Manganese		
EU	Local name	Manganese and inorganic manganese compounds (as manganese)
EU	IOELV TWA (mg/m ³)	0.2 mg/m ³ (inhalable fraction) 0.05 mg/m ³ (respirable fraction)
Ireland	Local name	Manganese and inorganic manganese compounds (as Mn)
Ireland	OEL-TWA (mg/m ³)	0.2 mg/m ³ (inhalable fraction) 0.05 mg/m ³ (respirable fraction)
Ireland	Local name	Manganese, fume (as Mn)
Ireland	OEL-TWA (mg/m ³)	0.2 mg/m ³ (inhalable fraction) 0.02 mg/m ³ (respirable fraction)
Ireland	OEL-STEL (mg/m ³)	3 mg/m ³
Ireland	Remark (IE)	IOELV
Malta	Local name	Manganese and inorganic manganese compounds (as manganese)
Malta	OEL-TWA (mg/m ³)	0.2 mg/m ³ (inhalable fraction) 0.05 mg/m ³ (respirable fraction)

8.2. Exposure controls

Appropriate engineering controls:

Ensure adequate ventilation so that concentrations do not exceed the applicable standard values.

Personal protective equipment:

Protection of hands:

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

Material of gloves:

Latex, Nitrile rubber (> 0.1 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.

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Eye protection:

Breathing equipment:

Body protection:

Environmental exposure controls:

Tightly sealed safety glasses (EN 166).

In case of dust formation or inadequate ventilation wear respiratory protection. Breathing apparatus with filter P. Not necessary if room is well-ventilated.

Protective work clothing.

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Solid (Ingot)
Colour:	Silver
Odour:	No data available
Melting point/Freezing point:	No data available
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	Not flammable
Lower and upper explosion limit:	Not applicable
Flash point:	Not applicable
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH:	No data available
Kinematic viscosity:	Not applicable
Solubility:	No data available
Partition coefficient n-octanol/water (log value):	Not applicable
Vapour pressure:	No data available
Density and/or relative density:	8 g/cm ³
Relative vapour density:	Not applicable
Particle characteristics:	No data available

9.2. Other information

Explosive properties:	Product is not explosive. However, during processing formation of explosive dusts is possible.
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SECTION 10: Stability and reactivity

10.1. Reactivity:	Under normal conditions of use no dangerous reactions known.
10.2. Chemical stability:	
Thermal decomposition / conditions to be avoided:	Stable under recommended storage and application conditions according to section 7. No decomposition if used according to specifications.
10.3. Possibility of hazardous reactions:	Possible hydrogen formation upon contact with acids.
10.4. Conditions to avoid:	None, if handled according to intended use.
10.5. Incompatible materials:	Strong acids. Strong bases. Oxidising agents.
10.6. Hazardous decomposition products:	Metal oxides.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity:	Not classified Based on available data, the classification criteria are not met.
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.

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Respiratory or skin sensitisation:

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Suspected of causing genetic defects.

Germ cell mutagenicity:

May cause cancer.

Carcinogenicity:

May damage fertility.

Reproductive toxicity:

Not classified

Specific target organ toxicity (single exposure):

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

Specific target organ toxicity (repeated exposure):

Not classified

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

Aspiration hazard:

Not classified

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

11.2. Information on other hazards

Potential adverse human health effects and symptoms:

Inhalation of vapours in high concentration may cause metal fume fever and may cause damage of the central nervous system in case repeated and prolonged exposure. Repeated and prolonged exposure to high dust concentrations may lead to irritation of the respiratory tract. Inhalation of metal-containing dusts may cause acute poisoning, leading to nausea, vomiting and abdominal pain.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity:

Not classified

Chronic aquatic toxicity:

May cause long lasting harmful effects to aquatic life.

12.2. Persistence and degradability:

No further information available.

12.3. Bioaccumulative potential:

No further information available.

12.4. Mobility in soil:

No further information available.

12.5. Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

12.6. Endocrine disrupting properties:

No further information available.

12.7. Other adverse effects:

No further information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recommendation:

Disposal must be made according to official regulations. Do not dispose of with domestic waste. Do not allow product to reach sewage system.

Waste code number:

The waste code number according to the Regulation of the European Waste Catalogue (EWC) is dependent on the waste producer and can therefore be different for a product. The waste code number must therefore be determined separately by each waste producer.

SECTION 14: Transport information

14.1. UN number or ID number

ADR, IMDG, IATA:

This product is not subject to transport regulations.

14.2. UN proper shipping name

ADR, IMDG, IATA:

Not applicable

14.3. Transport hazard class(es)

ADR, IMDG, IATA:

Not applicable

14.4. Packing group

ADR, IMDG, IATA:

Not applicable

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14.5. Environmental hazards

Dangerous for the environment: No
Marine pollutant: No
Special marking: No supplementary information available

14.6. Special precautions for user:

Not applicable

14.7. Maritime transport in bulk according to IMO instruments:

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations:

Contains no substance on the REACH candidate list.

Contains no substance on the REACH Annex XIV List.

National regulations:

No additional information available.

15.2. Chemical safety assessment:

Chemical safety assessments for substances in this mixture were not carried out by the supplier.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

The data given here only applies when product used for proper application(s). The product is not sold as suitable for other applications - usage in such may cause risks not mentioned in this sheet. Do not use for other application(s) without seeking advice from manufacturer.

Adjustments compared to earlier versions:

-

Full text of H- and EUH-phrases:

H317: May cause an allergic skin reaction.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341: Suspected of causing genetic defects.
H350: May cause cancer.
H360F: May damage fertility.
H413: May cause long lasting harmful effects to aquatic life.

Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DMEL: Derived Minimal Effect Level
DNEL: Derived No-Effect Level
EC50: The effective concentration of substance that causes 50% of the maximum response (Median Effective Concentration)
IATA: International Air Transport Association
IMDG: "International Maritime Dangerous Goods Code" for the transport of dangerous goods by sea
LC50: Lethal Concentration to 50 % of a test population (Median Lethal Concentration)
LD50: Lethal Dose to 50% of a test population (Median Lethal Dose)
LOAEL: Lowest Observed Adverse Effect Level
NOAEC/L: No Observed Adverse Effect Concentration/Level
NOEC/L: No Observed Effect Concentration/Level
OECD: Organisation for Economic Cooperation and Development
PBT: Persistent, Bioaccumulative and Toxic substance
PNEC: Predicted No-Effect Concentration

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REACH:	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
SDS:	Safety Data Sheet
STP:	Sewage Treatment Plant
UFI:	Unique Formula Identifier
vPvB:	Very Persistent and Very Bioaccumulative
Aquatic Chronic 4:	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Carc. 1B:	Carcinogenicity, Category 1B
Muta. 2:	Germ cell mutagenicity, Category 2
Repr. 1B:	Reproductive toxicity, Category 1B
Resp. Sens. 1:	Sensitisation — Respiratory, Category 1
Skin Sens. 1:	Sensitisation — Skin, Category 1