

## Safety Data Sheet Solanum™ Steel

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### SECTION 1: Identification

#### 1.1 Product identifier

Product name Solanum™ Steel

#### 1.2 Other means of identification

Not applicable

#### 1.3 Recommended use of the chemical and restrictions on use

Decorative Sheet Metal.

#### 1.4 Supplier's details

Name A. Zahner Co  
Address 1400 East Ninth Street  
Kansas City, MO 64106  
USA

Telephone +1 (816) 474-8882

#### 1.5 Emergency phone number(s)

+1 (816) 423-8265

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### SECTION 2: Hazard identification

#### General hazard statement

The product as delivered does not present a health hazard. The hazards below are only applicable if user activities generate dust and fumes during further processing, such as melting, welding, sawing, brazing, grinding, machining, etc.

#### 2.1 Classification of the substance or mixture

##### GHS classification in accordance with: (US) OSHA (29 CFR 1910.1200)

- Sensitization, skin, Cat. 1
- Carcinogenicity, Cat. 2
- Sensitization, respiratory, Cat. 1

#### 2.2 GHS label elements, including precautionary statements

##### Pictogram



##### Signal word

**Danger**

##### Hazard statement(s)

H317  
H334

May cause an allergic skin reaction  
May cause allergy or asthma symptoms or breathing difficulties if inhaled

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H351

Suspected of causing cancer

### Precautionary statement(s)

P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P261

Avoid breathing dust, fume.

P272

Contaminated work clothing must not be allowed out of the workplace.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P284

In case of inadequate ventilation wear respiratory protection.

P302+P352

IF ON SKIN: Wash with plenty of water.

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P313

IF exposed or concerned: Get medical advice/attention.

P333+P313

If skin irritation or rash occurs: Get medical advice/attention.

P342+P311

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P363

Wash contaminated clothing before reuse.

P405

Store locked up.

P501

Dispose of contents/container in accordance with applicable Federal, State and local laws and regulations.

### 2.3 Other hazards which do not result in classification

Inhalation of metallic oxides fumes may cause metal fume fever, characterized by flu-like symptoms such as chills, fever, nausea, and vomiting.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable.

### 3.2 Mixtures

#### Components

Component	Concentration
Iron (CAS no.: 7439-89-6)	>95 % (weight)
Manganese (CAS no.: 7439-96-5)	<2 % (weight)
Iron hydroxide oxide (CAS no.: 20344-49-4)	<1 % (weight)
Silicon (CAS no.: 7440-21-3)	<1 % (weight)
Nickel (CAS no.: 7440-02-0)	<1 % (weight)
Chromium (CAS no.: 7440-47-3)	<1 % (weight)
Copper (CAS no.: 7440-50-8)	<1 % (weight)
Carbon (CAS no.: 7440-44-0)	<0.2 % (weight)
Vanadium (CAS no.: :7440-62-2)	<0.2 % (weight)
Molybdenum (CAS no.: 7439-98-7)	<0.2 % (weight)

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

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General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower for at least 15 minutes. Call a poison center or doctor if irritation develops or persists. Wash contaminated clothing before reuse.
In case of eye contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention/advice.
If swallowed	Rinse mouth. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call a poison center or doctor.

#### 4.2 Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11.

If inhaled	Inhalation of dust may cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Inhalation of metallic oxides fumes may cause metal fume fever, characterized by flu-like symptoms such as chills, fever, nausea, and vomiting.
In case of skin contact	Exposure to dust may cause skin irritation. May cause skin sensitization. Signs/symptoms may include dryness, localized redness, rash and itching.
In case of eye contact	Direct exposure to dust may cause eye irritation.
If swallowed	Dust may cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
Chronic effects	Suspected of causing cancer.

#### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically and supportively.

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### SECTION 5: Fire-fighting measures

#### 5.1 Suitable extinguishing media

Use extinguishing media appropriate for surrounding fire. Do NOT use water on molten metals.

#### 5.2 Specific hazards arising from the chemical

Metal powder may form combustible dust concentrations in air. Combustion products may contain metal oxides and other toxic gases and fumes. Molten metal may react violently with water.

#### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

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### SECTION 6: Accidental release measures

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### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid actions that cause dust generation. Do not breathe dust and fumes. Ensure adequate ventilation. Wear appropriate personal protective equipment as described in Section 8.

### 6.2 Environmental precautions

Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal or recycling.

#### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Handle in accordance with good industrial hygiene and safety practices. Avoid dust or fume formation. Ensure adequate ventilation. Wash hands before breaks and immediately after handling the product. Avoid dust contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid accumulation of dusts. For precautions see section 2.2. Wear appropriate personal protective equipment as described in Section 8.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep in a dry and well-ventilated place. Keep away from incompatible materials.

#### Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Manganese (CAS no.: 7439-96-5)

PEL-C: 5 mg/m<sup>3</sup> (OSHA)

REL-TWA: 1 mg/m<sup>3</sup> (NIOSH)

REL-STEL: 3 mg/m<sup>3</sup> (NIOSH)

TLV-TWA: 0.02 mg/m<sup>3</sup> (respirable particulate matter), 0.1 mg/m<sup>3</sup>; (inhalable particulate matter) (ACGIH)

Silicon (CAS no.: 7440-21-3)

PEL-TWA: 15 mg/m<sup>3</sup> (total dust), 5 mg/m<sup>3</sup> (respirable fraction) (OSHA)

REL-TWA: 10 mg/m<sup>3</sup> (total dust), 5 mg/m<sup>3</sup> (resp) (NIOSH)

Nickel (CAS no.: 7440-02-0)

PEL-TWA: 1 mg/m<sup>3</sup> (OSHA)

REL-TWA: 0.015 mg/m<sup>3</sup> (NIOSH)

TLV-TWA: elemental: 1.5 mg/m<sup>3</sup> (inhalable particulate matter), insoluble inorganic compounds (NOS): 0.2 mg/m<sup>3</sup> (inhalable particulate matter) (ACGIH)

Chromium (CAS no.: 7440-47-3)

PEL-TWA: 1 mg/m<sup>3</sup> (OSHA)

REL-TWA: 0.5 mg/m<sup>3</sup> (NIOSH)

TLV-TWA: 0.5 mg/m<sup>3</sup> (ACGIH)

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Copper (CAS no.: 7440-50-8)

PEL-TWA: 1 mg/m<sup>3</sup> (dusts & mists), 0.1 mg/m<sup>3</sup> (fume) (OSHA)

REL-TWA: 1 mg/m<sup>3</sup> (dusts & mists), 0.1 mg/m<sup>3</sup> (fume) (NIOSH)

TLV-TWA: 1 mg/m<sup>3</sup> (dusts & mists), 0.2 mg/m<sup>3</sup> (fume) (ACGIH)

Carbon (CAS no.: 7440-44-0)

PEL-TWA: 15 mg/m<sup>3</sup> (total dust), 5 mg/m<sup>3</sup> (respirable fraction) (OSHA)

TLV-TWA: 2 mg/m<sup>3</sup> (respirable particulate matter) (ACGIH)

Molybdenum (CAS no.: 7439-98-7)

PEL-TWA: 15 mg/m<sup>3</sup> (total dust) (OSHA)

TLV-TWA: 10 mg/m<sup>3</sup> (inhalable particulate matter), 3 mg/m<sup>3</sup> (respirable particulate matter) (ACGIH)

### 8.2 Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits. Use explosion-proof electrical/ventilating/lighting/equipment.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Pictograms



#### Eye/face protection

Wear safety glasses/goggles. In extremely dusty environments and unpredictable environments, wear unvented or indirectly vented goggles to avoid eye irritation or injury. Wear face shield during welding. Eye protection equipment must be tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

#### Skin protection

Wear protective gloves suitable for the material handled. Consult manufacturer specifications for further information.

#### Body protection

Wear protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Avoid actions that cause dust or fume exposure to occur. Use local or general ventilation to control exposures below applicable exposure limits. NIOSH or MSHA approved particulate filter respirators should be used in the context of respiratory protection program meeting the requirements of the OSHA respiratory protection standard [29 CFR 1910.134] to control exposures when ventilation or other controls are inadequate or discomfort or irritation is experienced. Respirator and/or filter cartridge selection should be based on American National Standards Institute (ANSI) Standards Z88.2 Practices for Respiratory Protection.

#### Thermal hazards

No data available.

#### Environmental exposure controls

Discharge into the environment must be avoided.

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## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)

Brown solid.

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Odor	No odor.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	No data available.
Initial boiling point and boiling range	No data available.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not flammable.
Upper/lower flammability limits	Not applicable.
Upper/lower explosive limits	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	No data available.
Solubility(ies)	Not soluble in water.
Partition coefficient: n-octanol/water	Not applicable.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	Not applicable.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

### Other safety information

No data available.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2 Chemical stability

Stable under normal storage conditions.

### 10.3 Possibility of hazardous reactions

Molten material may react violently with water. Material may react violently with oxidizers.

### 10.4 Conditions to avoid

Avoid generating dust.

### 10.5 Incompatible materials

Strong acids and oxidizing agents. Water for molten material.

### 10.6 Hazardous decomposition products

Metal oxides and other toxic gases and fumes.

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## SECTION 11: Toxicological information

### Information on toxicological effects

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation.

If inhaled

Inhalation of dust may cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Inhalation of metallic oxides fumes may cause metal fume fever, characterized by flu-like symptoms such as chills, fever, nausea, and vomiting.

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In case of skin contact	Exposure to dust may cause skin irritation. May cause skin sensitization. Signs/symptoms may include dryness, localized redness, rash and itching.
In case of eye contact	Direct exposure to dust may cause eye irritation.
If swallowed	Dust may cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
Chronic effects	Suspected of causing cancer.

### Acute toxicity

Based on available data, classification criteria are not met

### Skin corrosion/irritation

Based on available data, classification criteria are not met

### Serious eye damage/irritation

Based on available data, classification criteria are not met

### Respiratory or skin sensitization

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

### Germ cell mutagenicity

Based on available data, classification criteria are not met

### Carcinogenicity

Suspected of causing cancer.

### Components:

Nickel (CAS no.: 7440-02-0):

IARC: 2B - Possibly carcinogenic to humans

NTP: Reasonably anticipated to be Human Carcinogen

### Reproductive toxicity

No data available

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration hazard

Based on available data, classification data are not met

### Additional information

No data available

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## SECTION 12: Ecological information

### Toxicity

No data available on product.

### Persistence and degradability

No data available on product.

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### Bioaccumulative potential

No data available on product.

### Mobility in soil

No data available.

### Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### Other adverse effects

No data available.

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## SECTION 13: Disposal considerations

### Disposal of the product

Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

### Disposal of contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

#### HMIS Rating (for product dust)

HEALTH	2*
FLAMMABILITY	0
PHYSICAL HAZARD	0



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NFPA Rating (for product dust)



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## SECTION 16: Other information

### 16.1 Further information/disclaimer

Date of issue: December 04, 2024.

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