

Solanum™ Steel Safety Data Sheet (SDS)

SECTION 1 : IDENTIFICATION

1.1	GHS 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

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 statements(s)

H317

May cause an allergic skin reaction

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled

H351

Suspected of causing cancer

Precautionary statements(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

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

COMPONENTS	CAS NUMBER	Concentration
Iron	7439-89-6	>95 % (weight)
Manganese	7439-96-5	<2 % (weight)
Iron hydroxide oxide	20344-49-4	<1 % (weight)
Silicon	7440-21-3	<1 % (weight)
Nickel	7440-02-0	<1 % (weight)
Chromium	7440-47-3	<1 % (weight)
Copper	7440-50-8	<1 % (weight)
Carbon	7440-44-0	<0.2 % (weight)
Vanadium	7440-62-2	<0.2 % (weight)
Molybdenum	7439-98-7	<0.2 % (weight)

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

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.

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

Treat symptomatically and supportively.

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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

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.

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.

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/m³ (OSHA)

REL-TWA: 1 mg/m³ (NIOSH)

REL-STEL: 3 mg/m³ (NIOSH)

TLV-TWA: 0.02 mg/m³ (respirable particulate matter), 0.1 mg/m³; (inhalable particulate matter) (ACGIH)

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

PEL-TWA: 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction) (OSHA)

REL-TWA: 10 mg/m³ (total dust), 5 mg/m³ (resp) (NIOSH)

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

PEL-TWA: 1 mg/m³ (OSHA)

TLV-TWA: elemental: 1.5 mg/m³ (inhalable particulate matter), insoluble inorganic compounds (NOS): 0.2 mg/m³ (inhalable particulate matter) (ACGIH)

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

PEL-TWA: 1 mg/m³ (OSHA)

REL-TWA: 0.5 mg/m³ (NIOSH)

TLV-TWA: 0.5 mg/m³ (ACGIH)

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

PEL-TWA: 1 mg/m³ (dusts & mists), 0.1 mg/m³ (fume) (OSHA)

REL-TWA: 1 mg/m³ (dusts & mists), 0.1 mg/m³ (fume) (NIOSH)

TLV-TWA: 1 mg/m³ (dusts & mists), 0.2 mg/m³ (fume) (ACGIH)

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

PEL-TWA: 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction) (OSHA)

TLV-TWA: 2 mg/m³ (respirable particulate matter) (ACGIH)

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

PEL-TWA: 15 mg/m³ (total dust) (OSHA)

TLV-TWA: 10 mg/m³ (inhalable particulate matter), 3 mg/m³ (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 irritations 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

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

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.

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.
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 or 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

SECTION 12: ECOLOGICAL INFORMATION**Toxicity**

No data available on product.

Persistence and degradability

No data available on product.

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

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.

SECTION 14: TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

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

NFPA Rating (for product dust)



SECTION 16: OTHER INFORMATION

16.1 Further information/disclaimer

Prepared by :
A. Zahner Co.
1400 East Ninth Street
Kansas City, MO 64106
+1 (816) 474-8882

Issuing Date	9/12/2024
Revision Date	5/22/2025
Revision Note:	Applied style guide for consistency across document

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. All materials may present unknown hazards and should be used with caution. In no event shall we be held liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if we have been advised of the possibility of such damages.

End of Safety Data Sheet