



## Safety Data Sheet acc. to OSHA HCS

Printing date 01/15/2023

Reviewed on 05/11/2022

### 1 Identification

**Product identifier**

**Trade name:** AMASTEEL

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:**

*Ervin Industries, Inc.  
3893 Research Park Drive  
Ann Arbor, MI 48108-2217  
Phone: (734)-769-4600/Fax: (734)-663-0136  
sales@ervinindustries.com  
http://www.ervinindustries.com*

**Information department:**

*Quality Assurance Department  
(mo-thu: 8 a.m.-4 p.m., fr: 8 a.m. - 1 p.m.)*

**Emergency telephone number:** *Phone: (734)-769-4600/Fax: (734)-663-0136*

**EUPCS:** *PC-TEC-12*

### 2 Hazard(s) identification

**Classification of the substance or mixture**

*The product is not classified, according to the Globally Harmonized System (GHS).*

**Label elements**

**GHS label elements** *Void*

**Hazard pictograms** *Void*

**Signal word** *Void*

**Hazard statements** *Void*

**Classification system:**

**NFPA ratings (scale 0 - 4)**

*Health = 0*

*Fire = 0*

*Reactivity = 0*

**HMIS-ratings (scale 0 - 4)**

*Health = 0*

*Fire = 0*

*Reactivity = 0*

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

**Description:** *Mixture: consisting of the following components.*

**Dangerous components:**

|           |           |            |
|-----------|-----------|------------|
| 7440-44-0 | carbon    | 0.80-1.20% |
| 7439-96-5 | manganese | 0.35-1.20% |
| 7440-21-3 | silicon   | 0.40-1.50% |
| 7704-34-9 | sulfur    | <0.05%     |
| 7440-02-0 | Nickel    | <0.2%      |

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7723-14-0 | red phosphorus

<0.05%

### 4 First-aid measures

#### Description of first aid measures

**General information:** No special measures required.

**After inhalation:**

Supply fresh air; consult doctor in case of complaints.

In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:**

Rinse with warm water.

If skin irritation continues, consult a doctor.

**After eye contact:**

Rinse opened eye for several minutes under running water.

Consult a doctor.

**After swallowing:**

Rinse out mouth and then drink plenty of water.

If symptoms persist consult doctor.

**Information for doctor:**

**Most important symptoms and effects, both acute and delayed** No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing agents:**

CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

Use fire fighting measures that suit the environment.

**For safety reasons unsuitable extinguishing agents:** Water

#### Special hazards arising from the substance or mixture

Product is not flammable.

Fine metal dust removed as a waste stream and / or contamination during the blasting process,

poses a small minor risk of causing a fire or explosion.

#### Advice for firefighters

**Protective equipment:** No special measures required.

### 6 Accidental release measures

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

Scrap and debris can cause slip and fall hazards. It is recommended that floors and work areas be kept clean at all times.

floors and work areas clean at all times.

**Environmental precautions:** No special measures required.

**Methods and material for containment and cleaning up:** Pick up mechanically.

#### 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 disposal information.

None

None

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### Protective Action Criteria for Chemicals

| PAC-1:    |                |                        |
|-----------|----------------|------------------------|
| 7439-96-5 | manganese      | 3 mg/m <sup>3</sup>    |
| 7440-21-3 | silicon        | 45 mg/m <sup>3</sup>   |
| 7440-44-0 | carbon         | 6 mg/m <sup>3</sup>    |
| 7723-14-0 | red phosphorus | 0.27 mg/m <sup>3</sup> |
| 7440-02-0 | Nickel         | 6 mg/m <sup>3</sup>    |

  

| PAC-2:    |                |                       |
|-----------|----------------|-----------------------|
| 7439-96-5 | manganese      | 5 mg/m <sup>3</sup>   |
| 7440-21-3 | silicon        | 100 mg/m <sup>3</sup> |
| 7440-44-0 | carbon         | 330 mg/m <sup>3</sup> |
| 7723-14-0 | red phosphorus | 3 mg/m <sup>3</sup>   |
| 7440-02-0 | Nickel         | 330 mg/m <sup>3</sup> |

  

| PAC-3:    |                |                         |
|-----------|----------------|-------------------------|
| 7439-96-5 | manganese      | 1,800 mg/m <sup>3</sup> |
| 7440-21-3 | silicon        | 630 mg/m <sup>3</sup>   |
| 7440-44-0 | carbon         | 2,000 mg/m <sup>3</sup> |
| 7723-14-0 | red phosphorus | 18 mg/m <sup>3</sup>    |
| 7440-02-0 | Nickel         | 2,000 mg/m <sup>3</sup> |

## 7 Handling and storage

### Handling:

#### Precautions for safe handling

Take special care to prevent the product from leaking. Exercise special care when removing the tie-down straps that are part of the bulk pallet shipments.

**Information about protection against explosions and fires:** No special measures required.

### Conditions for safe storage, including any incompatibilities

#### Storage:

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** None.

**Storage class:** 13

**Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

**Additional information about design of technical systems:** No further data; see item 7.

### Control parameters

#### Components with limit values that require monitoring at the workplace:

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.

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|                            |   |
|----------------------------|---|
| <b>7439-96-5 manganese</b> |   |
| PEL                        | Ceiling limit value: 5 mg/m <sup>3</sup><br>as Mn   |
| REL                        | Short-term value: 3 mg/m <sup>3</sup><br>Long-term value: 1 mg/m <sup>3</sup><br>fume, as Mn  |
| TLV                        | Long-term value: 0.02* 0.1** mg/m <sup>3</sup><br>as Mn; A4, *respirable **inhalable fraction |
| <b>7440-21-3 silicon</b>   |   |
| PEL                        | Long-term value: 15* 5** mg/m <sup>3</sup><br>*total dust **respirable fraction               |
| REL                        | Long-term value: 10* 5** mg/m <sup>3</sup><br>*total dust **respirable fraction               |
| TLV                        | TLV withdrawn   |

**Regulatory information**

PEL: Guide to Occupational Exposure Values (OSHA PELs)  
REL: Guide to Occupational Exposure Values (NIOSH RELs)  
TLV: Guide to Occupational Exposure Values (TLV)

**Additional information:** The lists that were valid during the creation were used as basis.

**Exposure controls**

**Personal protective equipment:**

**Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation.  
Filter P2

**Protection of hands:** Leather gloves

**Material of gloves** Recommended thickness of the material: ≥ - mm

**Penetration time of glove material** Value for the permeation: Level ≤ -

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing

### 9 Physical and chemical properties

|  |   |
|--|---|
| <b>Information on basic physical and chemical properties</b> |   |
| <b>General Information</b>                                   |   |
| <b>Appearance:</b>   |   |
| Form:  | Solid   |
| Odor:  | Odorless                                      |
| Odor threshold:  | Not determined.                               |
| pH-value:  | Not applicable.                               |
| <b>Change in condition</b>                                   |   |
| Melting point/Melting range:                                 | 1500 °C (2,732 °F) (~2700 °F)                 |
| Boiling point/Boiling range:                                 | 3000 °C (5,432 °F) (~5400 °F)                 |
| Flash point:   | Not applicable.                               |
| Flammability (solid, gaseous):                               | Not determined.                               |
| Decomposition temperature:                                   | Not determined.                               |
| Auto igniting:   | Product is not selfigniting.                  |
| Danger of explosion:   | Product does not present an explosion hazard. |

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|  |   |
|--|---|
| <b>Explosion limits:</b>   |   |
| Lower:   | <i>Not determined.</i>                            |
| Upper:   | <i>Not determined.</i>                            |
| <b>Vapor pressure:</b>   | <i>Not applicable.</i>                            |
| <b>Density at 20 °C (68 °F):</b>                                       | <i>7.8 g/cm<sup>3</sup> (65.09 lbs/gal)</i>       |
| Relative density   | <i>Not determined.</i>                            |
| Vapor density  | <i>Not applicable.</i>                            |
| Evaporation rate   | <i>Not applicable.</i>                            |
| <b>Solubility in / Miscibility with Water:</b>                         | <i>Insoluble.</i>                                 |
| <b>Partition coefficient (n-octanol/water):</b> <i>Not determined.</i> |   |
| <b>Viscosity:</b>  |   |
| Dynamic:   | <i>Not applicable.</i>                            |
| Kinematic:   | <i>Not applicable.</i>                            |
| <b>Solvent content:</b>  |   |
| VOC content:   | <i>0.00 %</i>                                     |
| Solids content:  | <i>100.0 %</i>                                    |
| <b>Other information</b>   | <i>No further relevant information available.</i> |

### 10 Stability and reactivity

**Reactivity** *No further relevant information available.*

**Chemical stability**

**Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*

**Possibility of hazardous reactions** *No dangerous reactions known.*

**Conditions to avoid** *No further relevant information available.*

**Incompatible materials:** *No further relevant information available.*

**Hazardous decomposition products:** *No dangerous decomposition products known.*

### 11 Toxicological information

**Information on toxicological effects**

**Acute toxicity:**

**Primary irritant effect:**

**on the skin:** *No irritant effect.*

**on the eye:** *No irritating effect.*

**Sensitization:**

*Examination nickel release in accordance with DIN EN 1811: 2012-10: done*

*Sample Number 2016-00916*

*<0.1 µg per cm<sup>2</sup> and week*

*therefore no sensitization detected*

**Additional toxicological information:**

*The product is not subject to classification according to internally approved calculation methods for preparations:*

*When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.*

**Carcinogenic categories**

|   |   |
|---|---|
| <b>IARC (International Agency for Research on Cancer)</b> |   |
| 7440-02-0 Nickel  | 1 |

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|  |   |
|--|---|
| <b>NTP (National Toxicology Program)</b>                         |   |
| 7440-02-0   Nickel   | R |
| <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b> |   |
| None of the ingredients is listed.                               |   |

### 12 Ecological information

**Toxicity**

**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability** No further relevant information available.

**Behavior in environmental systems:**

**Bioaccumulative potential** No further relevant information available.

**Mobility in soil** No further relevant information available.

**Additional ecological information:**

**General notes:** Not hazardous for water.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects** No further relevant information available.

### 13 Disposal considerations

**Uncleaned packagings:**

**Recommendation:**

*Disposal must be made according to official regulations.  
completely emptied packaging in 25kg paper bag: paper recycling  
completely emptied packaging in big bags: commercial waste disposal  
completely emptied packaging in steel barrels: metal recycling*

### 14 Transport information

|  |                 |
|--|-----------------|
| <b>UN-Number</b><br>DOT, ADR, ADN, IMDG, IATA                                  | Void            |
| <b>UN proper shipping name</b><br>DOT, ADR, ADN, IMDG, IATA                    | Void            |
| <b>Transport hazard class(es)</b><br>DOT, ADR, ADN, IMDG, IATA<br>Class        | Void            |
| <b>Packing group</b><br>DOT, ADR, IMDG, IATA                                   | Void            |
| <b>Environmental hazards:</b>  | Not applicable. |
| <b>Special precautions for user</b>  | Not applicable. |
| <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |

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UN "Model Regulation": Void

**15 Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture**  
Sara**Section 355 (extremely hazardous substances):**

7723-14-0 | red phosphorus

**Section 313 (Specific toxic chemical listings):**

7439-96-5 | manganese

7723-14-0 | red phosphorus

**TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

**Hazardous Air Pollutants**

7439-96-5 | manganese

7723-14-0 | red phosphorus

**Proposition 65**Warning: This product can expose you to chemicals including Nickel, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**Chemicals known to cause cancer:**

7440-02-0 | Nickel

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**Carcinogenicity categories****EPA (Environmental Protection Agency)**

7439-96-5 | manganese

D

7723-14-0 | red phosphorus

D

**TLV (Threshold Limit Value)**

None of the ingredients is listed.

**NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

**GHS label elements** Void**Hazard pictograms** Void**Signal word** Void**Hazard statements** Void**National regulations:****Information about limitation of use:** Employment restrictions concerning young persons must be observed.**Water hazard class:** Generally not hazardous for water.

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**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**Motivo da mudança:**

Version 2: 28.05.2015: Section 5.1 Extinguishing agents; 8.1 AGW measuring method.

Version 3: 06.09.2015: Section 1, 15, adaptation to the regulation 453/2015/EC, 830/2015/EU, 18/2012/EU

Version 4: 05.03.2016: Section 1.3

Version 5: 19.06.2016: Section 13

Version 6: 07.06.2019: Section 3, 8

Version 7: 16.02.2020: Section 13

Version 8: 18.02.2021: Section 1, 13, 15

Version 9: 11.05.2022: Section 2, 8, 15

**Contact:** Dr. W. Assmann**Date of preparation / last revision** 01/15/2023**Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

**\* Data compared to the previous version altered. Amasteel****Safety Data Sheet: AMASTEEL**