

Safety Data Sheet acc. to OSHA HCS

Printing date 08/28/2018

Reviewed on 06/03/2018

1 Identification

Product identifier

Trade name: AMASTEEL

Application of the substance / the mixture *Cast steel*

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: 8a.m.-4p.m., fr 8a.m.-1p.m.)

Emergency telephone number: *Tel.: +(734)-769-4600/Fax: (734)-663-0136*

2 Hazard(s) identification

Classification of the substance or mixture

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

Additional information: *Reference test method for release of nickel available - see action 11*

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	0.8-1.2%
7439-96-5	manganese	0.35-1.2%
7440-21-3	silicon	0.4-1.5%
7704-34-9	sulfur	<0.05%
7723-14-0	phosphorus	<0.05%
7440-02-0	nickel	<0.2%

(Contd. on page 2)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/28/2018

Reviewed on 06/03/2018

Trade name: AMASTEEL

(Contd. of page 1)

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.

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. If symptoms persist, 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: CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water

Special hazards arising from the substance or mixture

products are non-flammable.

Fine metal dust that is created as a waste stream and/or contaminants that are removed during the blasting process may pose a small risk of 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 remnants can create slip-and-fall hazards. It is recommended to keep 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.

Protective Action Criteria for Chemicals

PAC-1:		
7440-44-0	carbon	6 mg/m ³
7440-21-3	silicon	45 mg/m ³
7723-14-0	phosphorus	0.27 mg/m ³
7440-02-0	nickel	4.5 mg/m ³
PAC-2:		
7440-44-0	carbon	330 mg/m ³
7440-21-3	silicon	100 mg/m ³
7723-14-0	phosphorus	3 mg/m ³
7440-02-0	nickel	50 mg/m ³
PAC-3:		
7440-44-0	carbon	2,000 mg/m ³

(Contd. on page 3)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/28/2018

Reviewed on 06/03/2018

Trade name: AMASTEEL

		(Contd. of page 2)
7440-21-3	silicon	630 mg/m ³
7723-14-0	phosphorus	18 mg/m ³
7440-02-0	nickel	99 mg/m ³

7 Handling and storage

Handling:

Precautions for safe handling

Special care must be exercised to prevent product leakage. Exercise extra caution when removing the tension straps that are part of wholesale pallet deliveries.

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.

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.

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

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment:

Use suitable respiratory protective device in case of insufficient ventilation.

Filter P2

Protection of hands:

Leather gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/28/2018

Reviewed on 06/03/2018

Trade name: AMASTEEL

(Contd. of page 3)

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

The determined penetration times according to EN 374 part III are not performed under practical conditions.

Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

Eye protection: Safety glasses

Body protection: Protective work clothing

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Solid
Odor: Odorless
Odor threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: 1500 °C (2732 °F) (~2700 °F)
Boiling point/Boiling range: 3000 °C (5432 °F) (~5400 °F)
Flash point: Not applicable.
Flammability (solid, gaseous): Not determined.

Ignition temperature:

Decomposition temperature: Not determined.
Auto igniting: Product is not selfigniting.
Danger of explosion: Product does not present an explosion hazard.
Explosion limits:
Lower: Not determined.
Upper: Not determined.
Vapor pressure: Not applicable.
Density at 20 °C (68 °F): 7.8 g/cm³ (65.091 lbs/gal)
Relative density Not determined.
Vapor density Not applicable.
Evaporation rate Not applicable.

Solubility in / Miscibility with

Water: Insoluble.
Very little danger of rust forming.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic: Not applicable.
Kinematic: Not applicable.

Solvent content:

Organic solvents: 0.0 %
VOC content: 0.0 g/l / 0.00 lb/gl

Other information

No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.

(Contd. on page 5)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/28/2018

Reviewed on 06/03/2018

Trade name: AMASTEEL

(Contd. of page 4)

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 cm² 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

IARC (International Agency for Research on Cancer)

7440-02-0	nickel	1
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NTP (National Toxicology Program)

7440-02-0	nickel	R
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OSHA-Ca (Occupational Safety & Health Administration)

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: Generally 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

Waste treatment methods

Recommendation:

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

(Contd. on page 6)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/28/2018

Reviewed on 06/03/2018

Trade name: AMASTEEL

(Contd. of page 5)

Uncleaned packagings:

Recommendation: *Disposal must be made according to official regulations.*

14 Transport information

UN-Number DOT, ADR, ADN, IMDG, IATA	Void
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Void
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Void
Packing group DOT, ADR, IMDG, IATA	Void
Environmental hazards: Marine pollutant:	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
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 | phosphorus

Section 313 (Specific toxic chemical listings):

7439-96-5 | manganese

7723-14-0 | phosphorus

7440-02-0 | nickel

TSCA (Toxic Substances Control Act):

7440-44-0 | carbon

7440-21-3 | silicon

7704-34-9 | sulfur

7723-14-0 | 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



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.

(Contd. on page 7)

Safety Data Sheet acc. to OSHA HCS

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(Contd. of page 6)

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 | phosphorus

D

TLV (Threshold Limit Value established by ACGIH)

7440-02-0 | nickel

A5

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

7440-02-0 | nickel

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.***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.

Contact: *Dr. W. Assmann***Date of preparation / last revision** *08/28/2018 / 6***Abbreviations and acronyms:***ADR: Accord européen sur le transport 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**ACGIH: American Conference of Governmental Industrial Hygienists**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 & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**** Data compared to the previous version altered. AMASTEEL**