



Hot Rolled Carbon Steel Reinforcing Bar/Coil

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 4/1/2021 Revision date: 4/1/2021 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Hot Rolled Carbon Steel Reinforcing Bar/Coil

1.2. Recommended use and restrictions on use

Recommended use : Industrial use
Restrictions on use : None known

1.3. Supplier

Optimus Steel
P.O. Box 3869
Beaumont, TX 77704

1.4. Emergency telephone number

Emergency number : 800-424-9300 CHEMTREC

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Carcinogenicity Category 2	H351	Suspected of causing cancer

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning

Hazard statements (GHS US) : H317 - May cause an allergic skin reaction
H351 - Suspected of causing cancer

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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2.3. Other hazards which do not result in classification

No additional information available.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Iron oxide (Fe ₂ O ₃)	CAS-No.: 1309-37-1	91.1	Not classified.
Manganese	CAS-No.: 7439-96-5	2	Aquatic Acute 2, H401
Copper	CAS-No.: 7440-50-8	1.5	Aquatic Acute 1, H400
Carbon dioxide	CAS-No.: 124-38-9	0.9	Press. Gas (Comp.), H280
Nickel	CAS-No.: 7440-02-0	0.5	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372
Silicon	CAS-No.: 7440-21-3	0.4	Not classified.

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Never give anything by mouth to an unconscious person.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
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Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Not flammable.
Reactivity in case of fire : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry place. Store in a well-ventilated place. Keep cool.
Incompatible products : Strong acids. Strong bases.
Incompatible materials : Sources of ignition.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available.	
Iron oxide (Fe ₂ O ₃) (1309-37-1)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	5 mg/m ³ (respirable particulate matter)
ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	10 mg/m ³ (fume) 15 mg/m ³ (total dust (Rouge)) 5 mg/m ³ (respirable fraction (Rouge))
Silicon (7440-21-3)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Manganese (7439-96-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.02 mg/m ³ (respirable particulate matter) 0.1 mg/m ³ (inhalable particulate matter)
ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (Ceiling)	5 mg/m ³ (fume)
Copper (7440-50-8)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.2 mg/m ³ (fume)
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	0.1 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Carbon dioxide (124-38-9)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	5000 ppm
ACGIH OEL STEL [ppm]	30000 ppm
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	9000 mg/m ³
OSHA PEL (TWA) [2]	5000 ppm
Nickel (7440-02-0)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	1.5 mg/m ³ (inhalable particulate matter)

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Nickel (7440-02-0)	
ACGIH chemical category	Not Suspected as a Human Carcinogen
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	1 mg/m ³

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Chemical goggles or safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Solids. Metallic.
Color	: Gray
Odor	: Odorless
Odor threshold	: No data available.
pH	: No data available.
Melting point	: 1540 °C
Freezing point	: Not applicable
Boiling point	: 3000 °C
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available.
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available.
Relative vapor density at 20 °C	: No data available.
Relative density	: 7.85
Solubility	: No data available.
Partition coefficient n-octanol/water (Log Pow)	: No data available.
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available.
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available.
Explosion limits	: Not applicable
Explosive properties	: No data available.

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Oxidizing properties : No data available.

9.2. Other information

No additional information available.

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 conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. On combustion, forms: carbon oxides (CO and CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified.
Acute toxicity (dermal) : Not classified.
Acute toxicity (inhalation) : Not classified.

Iron oxide (Fe ₂ O ₃) (1309-37-1)	
LD50 oral rat	> 10000 mg/kg
Silicon (7440-21-3)	
LD50 oral rat	3160 mg/kg
ATE US (oral)	3160 mg/kg body weight
Manganese (7439-96-5)	
LD50 oral rat	9 g/kg
ATE US (oral)	9000 mg/kg body weight
Nickel (7440-02-0)	
LD50 oral rat	> 9000 mg/kg
LC50 Inhalation - Rat	> 10.2 mg/l (Exposure time: 1 h)

Skin corrosion/irritation : Not classified.
Serious eye damage/irritation : Not classified.

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Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified.
Carcinogenicity : Suspected of causing cancer.

Iron oxide (Fe ₂ O ₃) (1309-37-1)	
IARC group	3 - Not classifiable
Nickel (7440-02-0)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
In OSHA Hazard Communication Carcinogen list	Yes

Reproductive toxicity : Not classified.
STOT-single exposure : Not classified.
STOT-repeated exposure : Not classified.

Nickel (7440-02-0)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified.
Viscosity, kinematic : Not applicable
Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Iron oxide (Fe ₂ O ₃) (1309-37-1)	
LC50 - Fish [1]	100000 mg/l (Exposure time: 96 h - Species: Danio rerio [static])
Manganese (7439-96-5)	
LC50 - Fish [1]	> 3.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
Copper (7440-50-8)	
LC50 - Fish [1]	0.0068 – 0.0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 - Crustacea [1]	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 - Fish [2]	< 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Nickel (7440-02-0)	
LC50 - Fish [1]	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 - Crustacea [1]	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 - Crustacea [2]	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

No additional information available.

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12.3. Bioaccumulative potential

Carbon dioxide (124-38-9)

BCF - Fish [1]	(no bioaccumulation)
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12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

No additional information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with Department of Transport / IMDG / IATA

14.1. UN number

Not considered a dangerous good for transport regulations

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
No data available.

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IMDG

No data available.

IATA

No data available.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

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SARA Section 311/312 Hazard Classes	Health hazard - Carcinogenicity Health hazard - Respiratory or skin sensitization
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Manganese	CAS-No. 7439-96-5	2%
Copper	CAS-No. 7440-50-8	1.5%
Nickel	CAS-No. 7440-02-0	0.5%

Copper (7440-50-8)

CERCLA RQ	5000 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm
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Nickel (7440-02-0)

CERCLA RQ	100 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm
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15.2. International regulations

No additional information available.

15.3. US State regulations

⚠ WARNING: This product can expose you to Nickel, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
Iron oxide (Fe ₂ O ₃)(1309-37-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Silicon(7440-21-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

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Component	State or local regulations
Manganese(7439-96-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) List
Copper(7440-50-8)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) List
Nickel(7440-02-0)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances; U.S. - Pennsylvania - RTK (Right to Know) List
Carbon dioxide(124-38-9)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Full text of H-phrases	
H280	Contains gas under pressure; may explode if heated
H317	May cause an allergic skin reaction
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life

Safety Data Sheet (SDS), USA

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