

1. Identification

Product identifier Steel Joists, Joist Girders, Bridging & Accessories (Painted, Unpainted, and/or Galvanized)
Other means of identification Not available.
Recommended use Steel Fabricated Parts.
Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information

Manufacturer/Supplier New Millennium Building Systems
 1992 NW Bascom Norris Drive, Lake City, FL 32055
 Telephone: 386-466-1300

6115 County Road 42, Butler, IN 46721
 Telephone: 260-868-6000

100 Diuguids Lane, Salem, VA 24153
 540-389-0211

New Millennium Building Systems
 Carr. Panamericana 9920
 Col. Puente Alto
 C.P. 32695
 Ciudad Juarez
 Chihuahua, Mexico

3565 US Highway 32 North, Hope, AR 71801
 Telephone: 870-722-4100

Contact Person Safety Department
Emergency (800)-424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
OSHA defined hazards Not classified.

Label elements

Hazard symbol None.
Signal word None.
Hazard statement None.

Precautionary statement

Prevention Observe good industrial hygiene practices.
Response Wash skin with soap and water.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) Not classified.

Supplemental information

Hazard statement In its manufactured and shipped state, this product is considered non-hazardous. Processing may generate hazardous fumes and dusts.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Iron	7439-89-6	94-99

Manganese	7439-96-5	0.25-1.65
Carbon	7440-44-0	0.01-1.1
Coating(s)	-	< 1
Copper	7440-50-8	0 - 0.99
Chromium	7440-47-3	0.0-0.9
Nickel	7440-02-0	0.03 - 0.75
Silicon	7440-21-3	0.05 - 0.5
Molybdenum	7439-98-7	0.01 - 0.2
Sulphur	7704-34-9	0.001 - 0.08
Lead	7439-92-1	0 - 0.07
White phosphorus	7723-14-0	<= 0.06
Aluminium	7429-90-5	0.001 - 0.01
Iron oxide**	1309-37-1	0

Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Iron oxide is formed at temperatures above the melting point.

The product is an alloy. At temperatures above the melting point steel products may liberate fumes containing oxides of iron and alloying elements. This product may contain a coating at a concentration below 1.0% by weight. MSDS's for specific coatings are available upon request.

4. First-aid measures

Inhalation

In case of inhalation of fumes from heated product: Move into fresh air and keep at rest. Get medical attention if symptoms persist. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration.

Skin contact

Wash skin with soap and water. In case of burns with hot metal, rinse with plenty of cold water. If burns are severe, consult a physician. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact

Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention promptly if symptoms persist or occur after washing.

Ingestion

Solid steel: Not applicable. Dust: Get medical attention if any discomfort continues.

Most important symptoms/effects, acute and delayed

Exposed individuals may experience eye tearing, redness, and discomfort. May dry the skin leading to discomfort and dermatitis. High concentrations of dust may irritate throat and respiratory system and cause coughing.

5. Fire-fighting measures

Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

Not applicable.

Specific hazards arising from the chemical

No unusual fire or explosion hazards noted.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions

Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Cold solid metal: No special precautions are necessary beyond normal good hygiene practices. See Section 8 of the MSDS for additional personal protection advice when handling this product. Hot metal: Avoid contact with hot material. Wear protective clothing as described in Section 8 of this safety data sheet.

Methods and materials for containment and cleaning up

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Collect for recycling.

Environmental precautions

No specific precautions.

7. Handling and storage

Precautions for safe handling

Avoid contact with sharp edges and hot surfaces. Use appropriate gloves and tools to ensure safe handling. Use work methods which minimize dust/fume production. Do not breathe fumes and dusts. The organic material(s) of the coating(s) may generate fumes or gases when heated or melted. Observe safety measures suited to the coating(s) when handling, cutting or melting. Follow the recommendations in ANSI Z49.1, Safety in welding and cutting (ANSI=American National Standard Institute).

Conditions for safe storage, including any incompatibilities

Store in a dry place. Store away from: Strong oxidizing agents. Acids.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Lead (CAS 7439-92-1)	TWA	0.05 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	PEL	5 mg/m3 15 mg/m3	Respirable dust. Total dust.
Carbon (CAS 7440-44-0)	PEL	5 mg/m3 15 mg/m3	Respirable fraction. Total dust.
Chromium (CAS 7440-47-3)	PEL	1 mg/m3	
Copper (CAS 7440-50-8)	PEL	1 mg/m3	Dust and mist.
Iron oxide** (CAS 1309-37-1)	PEL	0.1 mg/m3 10 mg/m3	Fume. Fume.
Manganese (CAS 7439-96-5)	Ceiling	5 mg/m3	Fume.
Molybdenum (CAS 7439-98-7)	PEL	15 mg/m3	Total dust.
Nickel (CAS 7440-02-0)	PEL	1 mg/m3	
Silicon (CAS 7440-21-3)	PEL	5 mg/m3 15 mg/m3	Respirable fraction. Total dust.
White phosphorus (CAS 7723-14-0)	PEL	0.1 mg/m3	

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Carbon (CAS 7440-44-0)	TWA	15 millions of particle

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	1 mg/m3	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable fraction.
Chromium (CAS 7440-47-3)	TWA	0.5 mg/m3	
Copper (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
Iron oxide** (CAS 1309-37-1)	TWA	0.2 mg/m3 5 mg/m3	Fume. Respirable fraction.
Lead (CAS 7439-92-1)	TWA	0.05 mg/m3	
Manganese (CAS 7439-96-5)	TWA	0.2 mg/m3	
Molybdenum (CAS 7439-98-7)	TWA	3 mg/m3 10 mg/m3	Respirable fraction. Inhalable fraction.
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3	Inhalable fraction.
White phosphorus (CAS 7723-14-0)	TWA	0.1 mg/m3	

US NIOSH Pocket Guide to Chemical Hazards: Recommended exposure limit (REL)

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m3	Respirable.

US NIOSH Pocket Guide to Chemical Hazards: Recommended exposure limit (REL)

Components	Type	Value	Form
		5 mg/m3	Welding fume or pyrophoric powder.
		10 mg/m3	Total
Carbon (CAS 7440-44-0)	TWA	2.5 mg/m3	Respirable.
Chromium (CAS 7440-47-3)	TWA	0.5 mg/m3	
Copper (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
Iron oxide** (CAS 1309-37-1)	TWA	5 mg/m3	Dust and fume.
Lead (CAS 7439-92-1)	TWA	0.05 mg/m3	
Manganese (CAS 7439-96-5)	TWA	1 mg/m3	Fume.
Nickel (CAS 7440-02-0)	TWA	0.015 mg/m3	
Silicon (CAS 7440-21-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
White phosphorus (CAS 7723-14-0)	TWA	0.1 mg/m3	

US NIOSH Pocket Guide to Chemical Hazards: Short Term Exposure Limit (STEL)

Components	Type	Value	Form
Manganese (CAS 7439-96-5)	STEL	3 mg/m3	Fume.

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Lead (CAS 7439-92-1)	300 micrograms/liter	Lead	Blood	*

* - For sampling details, please see the source document.

Exposure guidelines

**Iron oxide is formed at temperatures above the melting point.

Appropriate engineering controls

Adequate ventilation should be provided so that exposure limits are not exceeded. Use local exhaust when welding, burning, sawing, brazing, grinding or machining to prevent excessive dust or fume exposure.

Individual protection measures, such as personal protective equipment

Eye/face protection

Use of safety glasses or goggles is required for welding, burning, sawing, brazing, grinding or machining operations. In addition to safety glasses or goggles, a welding helmet with appropriate shaded shield is required during welding, burning, or brazing. A face shield is recommended, in addition to safety glasses or goggles, during sawing, grinding, or machining.

Skin protection

Hand protection

Wear protective gloves. While handling product and/or steel packing material wear cut resistant gloves and sleeves for laceration protection.

Other

Wear suitable protective clothing.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards

When material is heated, wear gloves to protect against thermal burns. Thermally protective apron and long sleeves are recommended when volume of hot material is significant.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements.

9. Physical and chemical properties

Appearance

Massive, solid metal.

Physical state

Solid.

Form

Solid.

Color

Gray (painted), metallic gray (unpainted or galvanized).

Odor

None.

Odor threshold

Not available.

pH

Not applicable.

Melting point/freezing point

2750 °F (1510 °C) / Not applicable.

Initial boiling point and boiling range

Not applicable.

Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - upper (%)	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	7.9
Solubility(ies)	Insoluble in water.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Other information	
Solubility (other)	Not available.

10. Stability and reactivity

Reactivity	Stable at normal conditions.
Chemical stability	This product is stable under expected conditions of use.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Contact with incompatible materials. Avoid contact with acids and oxidizing substances.
Incompatible materials	Strong acids. Oxidizing agents.
Hazardous decomposition products	At elevated temperatures: Acrid fumes. Metal oxides. Inorganic compounds. Strong Acid Contact: Hydrogen, Inorganic compounds.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Solid steel: Not relevant, due to the form of the product. However, ingestion of dusts generated during working operations may cause nausea and vomiting.
Inhalation	No inhalation hazard under normal conditions. Welding, burning, sawing, brazing, grinding or machining operations may generate fumes and dusts of metal oxides. High concentrations of freshly formed fumes/dusts of metal oxides can produce symptoms of metal fume fever.
Skin contact	Under normal conditions of intended use, this material does not pose a risk to health. Dust may irritate skin. Skin contact may aggravate an existing dermatitis. Contact with hot material can cause thermal burns which may result in permanent damage.
Eye contact	Under normal conditions of intended use, this material does not pose a risk to health. Contact with hot material can cause thermal burns which may result in permanent damage. Grinding and sanding this product may generate dust. Dust may irritate the eyes.

Symptoms related to the physical, chemical and toxicological characteristics Exposed individuals may experience eye tearing, redness, and discomfort. May dry the skin leading to discomfort and dermatitis. High concentrations of dust may irritate throat and respiratory system and cause coughing.

Information on toxicological effects

Acute toxicity Inhalation of dust (generated at high temperatures only) may cause mild irritation of the upper respiratory tract. Prolonged contact may cause redness, irritation and cracking. Welding, cutting and metalizing can generate ozone. Ozone can cause irritation of eyes, nose and respiratory tract.

Components	Species	Test Results
Carbon (CAS 7440-44-0)		
Acute		
<i>Oral</i>		
LD50	Rat	> 10000 mg/kg
Iron (CAS 7439-89-6)		
Acute		
<i>Oral</i>		
LD50	Rat	30 g/kg
Silicon (CAS 7440-21-3)		
Acute		
<i>Oral</i>		
LD50	Rat	3160 mg/kg
Skin corrosion/irritation	Dust may irritate skin.	
Serious eye damage/eye irritation	Dust may irritate the eyes.	
Respiratory sensitization	No data available.	
Skin sensitization	Contains nickel: May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available.	
Carcinogenicity	Nickel is listed by IARC (Group 2B) and NTP. A residual chrome VI compound from the surface coating is water soluble and is carcinogenic. Chromium VI compounds are regarded as human carcinogens by IARC, NTP, OSHA and ACGIH.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Chromium (CAS 7440-47-3)		3 Not classifiable as to carcinogenicity to humans.
Iron oxide** (CAS 1309-37-1)		3 Not classifiable as to carcinogenicity to humans.
Lead (CAS 7439-92-1)		2B Possibly carcinogenic to humans.
Nickel (CAS 7440-02-0)		2B Possibly carcinogenic to humans.
NTP Report on Carcinogens		
Nickel (CAS 7440-02-0)		Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Reproductive toxicity	No data available.	
Specific target organ toxicity - single exposure	No data available.	
Specific target organ toxicity - repeated exposure	No data available.	
Aspiration hazard	Not relevant, due to the form of the product.	
Chronic effects	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. The product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals in contact with skin. The ingredients of the alloy are bound within the product and release is not expected under normal conditions.	
	Chronic inhalation of high concentrations of iron oxide fumes or dust may lead to benign pneumoconiosis (siderosis). Inhalation of high concentrations of iron oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens. Exposure to manganese fume/dust can affect the central nervous system (apathy, drowsiness, weakness and other chronic symptoms such as postural tremors). Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.	

12. Ecological information

Ecotoxicity The environmental hazard of the product is considered to be limited.

Components	Species	Test Results
Copper (CAS 7440-50-8)		
Aquatic		
Fish	LC50 Striped bass (<i>Morone saxatilis</i>)	0.024 mg/l, 96 hours
Iron (CAS 7439-89-6)		
Aquatic		
Fish	LC50 Channel catfish (<i>Ictalurus punctatus</i>)	> 500 mg/l, 96 hours
Lead (CAS 7439-92-1)		
	LC50 Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>)	1.17 mg/l, 96 Hours

Components	Species	Test Results
Molybdenum (CAS 7439-98-7)		
Aquatic		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)
800 mg/l, 96 hours		
White phosphorus (CAS 7723-14-0)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna)
Fish	LC50	Bluegill (Lepomis macrochirus)
0.025 - 0.037 mg/l, 48 hours		
0.002 - 0.006 mg/l, 96 hours		

Persistence and degradability No data available.
Bioaccumulative potential No data available on bioaccumulation.
Mobility in soil Not relevant, due to the form of the product.
Other adverse effects None known.

13. Disposal considerations

Disposal instructions Dispose waste and residues in accordance with applicable federal, state, and local regulations.
Local disposal regulations Dispose of in accordance with local regulations.
Hazardous waste code Not regulated.
Waste from residues / unused products Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Recover and recycle, if practical.
Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated as a hazardous material by DOT.
IATA
Not regulated as a dangerous good.
IMDG
Not regulated as a dangerous good.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations Under some use conditions, this material may be considered to be hazardous in accordance with OSHA 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

LEAD (CAS 7439-92-1)	Reproductive toxicity Central nervous system Kidney Blood Acute toxicity
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CERCLA Hazardous Substance List (40 CFR 302.4)

Chromium (CAS 7440-47-3)	LISTED
Copper (CAS 7440-50-8)	LISTED
Lead (CAS 7439-92-1)	LISTED
Manganese (CAS 7439-96-5)	LISTED
Nickel (CAS 7440-02-0)	LISTED
White phosphorus (CAS 7723-14-0)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No
SARA 311/312 Hazardous chemical No

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Chromium (CAS 7440-47-3)
Lead (CAS 7439-92-1)
Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)
White phosphorus (CAS 7723-14-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations WARNING: This product contains chemical(s) known to the State of California to cause cancer.

US. Massachusetts RTK - Substance List

Aluminium (CAS 7429-90-5)
Chromium (CAS 7440-47-3)
Copper (CAS 7440-50-8)
Iron oxide** (CAS 1309-37-1)
Lead (CAS 7439-92-1)
Manganese (CAS 7439-96-5)
Molybdenum (CAS 7439-98-7)
Nickel (CAS 7440-02-0)
Silicon (CAS 7440-21-3)
Sulphur (CAS 7704-34-9)
White phosphorus (CAS 7723-14-0)

US. New Jersey Worker and Community Right-to-Know Act

Aluminium (CAS 7429-90-5)	500 lbs
Chromium (CAS 7440-47-3)	500 lbs
Copper (CAS 7440-50-8)	500 lbs
Lead (CAS 7439-92-1)	500 lbs
Manganese (CAS 7439-96-5)	500 lbs
Nickel (CAS 7440-02-0)	500 lbs
White phosphorus (CAS 7723-14-0)	100 lbs

US. Pennsylvania RTK - Hazardous Substances

Aluminium (CAS 7429-90-5)
Chromium (CAS 7440-47-3)
Copper (CAS 7440-50-8)
Iron oxide** (CAS 1309-37-1)
Lead (CAS 7439-92-1)
Manganese (CAS 7439-96-5)
Molybdenum (CAS 7439-98-7)
Nickel (CAS 7440-02-0)
Silicon (CAS 7440-21-3)
Sulphur (CAS 7704-34-9)
White phosphorus (CAS 7723-14-0)

US. Rhode Island RTK

Aluminium (CAS 7429-90-5)
Chromium (CAS 7440-47-3)
Copper (CAS 7440-50-8)
Lead (CAS 7439-92-1)
Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)
White phosphorus (CAS 7723-14-0)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Lead (CAS 7439-92-1)
Nickel (CAS 7440-02-0)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes

Steel Joists, Joist Girders, Bridging & Accessories (Painted, Unpainted, and/or Galvanized)

SDS US

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Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	04-June-2013
Revision date	07-June-2013
Version #	02
Disclaimer	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment. MSDS's for specific coatings are available upon request.