

1. Identification

Product identifier	Carbon Steel Seamless and Welded Pipe
Other means of identification	
Synonyms	Process & Power (Medium Alloy Steel, Low Alloy Steel, High Alloy and Stainless Steel, Carbon Steel * OCTG (Carbon Steel, Stainless Steel, Carbon Steel Welded) * MINING (C-Mn Steel Welded) * Line Pipe (C-Mn Steel, Stainless Steel, C-Mn Steel Welded) * INDUSTRIAL APPLICATIONS (C-Mn Steel Welded, Carbon Steel Welded) * Auto (All Bearing Steel Grades) * Seamless steel pipes * Welded steel pipes
Recommended use	OCTG
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company Name / Address	TenarisDalmine - Piazza Caduti 6 Luglio 1944, 1-24044, Dalmine (BG), Italy TenarisSiderca - 250 Dr. Simini Street - B2804MHA Campana, Buenos Aires, Argentina TenarisTamsa - Km. 433.7 Carr. Mexico, Veracruz Via Xalapa, 91697 Veracruz, Veracruz, Mexico TenarisNKK - 2-1 Ikegami. Kawasaki-ku, 210-0855 Kawasaki, Kawasaki, Japan TenarisAlgoma - 547 Wallace Terrace, ON P6c 1L9 Sault Saint Marie, Ontario, Canada TenarisSilcotub - 93, Mihai Viteazu Blvd., 450131 Zalau, Salaj County, Romania TenarisConfab - Av. Dr. Gastao Vidigal Neto 475 - 12414-900 Pindamonhangaba, Cidade Nova, Sao Paulo, Brazil TenarisTuboCaribe - Carrera 13, No. 93B-51, 4to. Piso, Santa Fe de Bogota, Cudinamarca, Colombia TenariSiat - Guatemala 3400-B1822AXZ Valentin Alsina, Buenos Aires, Argentina TenarisPrudential - 1800, 140-4th Ave. S.W. - T2P 3N3, Calgary, Alberta, Canada TenarisHicman - 5000 N County Rd. 967, 72315 Blytheville, Arkansas, USA TenarisConroe - 699 FM 3083, 77301 Conroe, Texas, USA

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Sensitization, skin	Category 1
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Warning
Hazard statement	May cause an allergic skin reaction.
Precautionary statement	
Prevention	Avoid breathing dust. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.
Response	If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Nickel	7440-02-0	≤ 36
Chromium	7440-47-3	≤ 30
Manganese	7439-96-5	≤ 14.5
Molybdenum	7439-98-7	≤ 8
Silicon	7440-21-3	≤ 6.5
Tungsten	7440-33-7	≤ 2
Copper	7440-50-8	≤ 2
Aluminum	7429-90-5	≤ 1.5
Carbon	7440-44-0	≤ 4
Niobium	7440-03-1	≤ 1
Vanadium	7440-62-2	≤ 1
Iron	7439-89-6	Balance to 100

Composition comments

This product contains small amounts of various elements in addition to those listed. These small quantities are frequently referred to as "trace" or "residual" elements that generally originate in the raw materials used. The product may contain the following trace or residual elements including typical percentages for the elements identified: Vanadium ≤ 0.55%, Titanium ≤ 0.1%, Sulfur ≤ 0.3 %, Calcium ≤ 0.01%, Lead ≤ 0.01% and Boron ≤ 0.07%.

Percentages are expressed as maximum concentrations of trace elements for the purpose of communicating the potential hazards of the finished product. Consult product specifications for specific composition information.

Product surfaces may be treated with small amounts of corrosion-inhibiting oil that may contain mineral oil or petroleum distillates, or paints, epoxies, laminates, etc., generally applied at the customer's request. Refer to the coating manufacturer's SDS for hazards associated with coatings. All concentrations are in percent by weight.

4. First-aid measures

Inhalation

In case of inhalation of high concentrations of dusts: Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

Eye contact

Contact with dust: Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth thoroughly if dust is ingested. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Special powder against metal fires. Dry sand.

Unsuitable extinguishing media

Hot molten material will react violently with water resulting in spattering and fuming.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed. Fire or high temperatures create: Metal oxides.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Fire fighting equipment/instructions

Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out.

General fire hazards

Solid metal is not flammable; however, finely divided metallic dust or powder may form an explosive mixture with air.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Not applicable to steel products in the solid state.
For spills involving finely divided particles, clean-up personnel should protect eyes and skin from accidental contact. If material is in a dry state, avoid inhalation of dust. Wet sweeping methods or vacuuming must be applied to prevent spreading of dry and fine dusts. Avoid using compressed air.

Methods and materials for containment and cleaning up

Massive, solid metal: Pick up and arrange disposal without creating dust.
Dust: Collect dust or particulates using a vacuum cleaner with a HEPA filter. Use approved industrial vacuum cleaner for removal. Collect material in appropriate, labeled containers for recovery or disposal in accordance with local regulations.

Environmental precautions

Do not release collected material into sewers or waterways.

7. Handling and storage**Precautions for safe handling**

Use lifting and work devices in accordance with manufacturer's instructions when handling these products. Lifting device and attachments (such as spreader bars, chains sling hooks, plate clamps, hoists, cranes, forklifts) must be load-rated sufficient for the job. Provide appropriate exhaust ventilation at places where dust is formed. Avoid breathing dust/fume. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Use proper lifting techniques. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

To avoid steel tubes to roll, slip, slide, or fall over restrain them appropriately while stored. Shelves or racking systems must be suitably designed for the purpose. Large steel pipe should be stored lying flat or secured in cradle racks. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
		1 mg/m ³	Respirable dust.
Chromium (CAS 7440-47-3)	PEL	1 mg/m ³	
Copper (CAS 7440-50-8)	PEL	1 mg/m ³	Dust and mist.
		0.1 mg/m ³	Fume.
Manganese (CAS 7439-96-5)	Ceiling	5 mg/m ³	Fume.
Molybdenum (CAS 7439-98-7)	PEL	15 mg/m ³	Total dust.
Nickel (CAS 7440-02-0)	PEL	1 mg/m ³	
Silicon (CAS 7440-21-3)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

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

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable fraction.
Chromium (CAS 7440-47-3)	TWA	0.5 mg/m ³	
Copper (CAS 7440-50-8)	TWA	1 mg/m ³	Dust and mist.
		0.2 mg/m ³	Fume.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0.1 mg/m3	Inhalable fraction.
Molybdenum (CAS 7439-98-7)	TWA	0.02 mg/m3	Respirable fraction.
		3 mg/m3	Respirable fraction.
Nickel (CAS 7440-02-0) Tungsten (CAS 7440-33-7)	TWA	10 mg/m3	Inhalable fraction.
	STEL	1.5 mg/m3	Inhalable fraction.
	TWA	10 mg/m3	
		5 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	5 mg/m3	Welding fume or pyrophoric powder.
		5 mg/m3	Respirable.
		10 mg/m3	Total
Chromium (CAS 7440-47-3)	TWA	0.5 mg/m3	
Copper (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
Manganese (CAS 7439-96-5)	STEL	3 mg/m3	Fume.
	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
Tungsten (CAS 7440-33-7)	STEL	10 mg/m3	
	TWA	5 mg/m3	
Vanadium (CAS 7440-62-2)	STEL	3 mg/m3	
	TWA	1 mg/m3	

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide easy access to water supply or an emergency shower.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Normal eye protection practices should be used. If dusty conditions exist, chemical goggles are recommended.

Skin protection**Hand protection**

Regular work gloves.

Other

Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties**Appearance****Physical state**

Solid.

Form

Massive, solid metal.

Color

Metallic gray.

Odor

Not available.

Odor threshold

Not available.

pH

Not applicable.

Melting point/freezing point

Not available.

Initial boiling point and boiling range	Not applicable.
Flash point	Not available.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Solid: Non flammable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	7.85 (H2O=1)
Solubility(ies)	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Massive metal is stable under normal conditions of use, storage and transport.
Possibility of hazardous reactions	Contact with acids will release flammable hydrogen gas.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Fluorine. Chlorine. Calcium hypochlorite. Iron oxide dust in contact with calcium hypochlorite evolve oxygen which may increase fire and explosion risk.
Hazardous decomposition products	Thermal oxidative decomposition of steel products can produce fumes containing iron and manganese oxides as well as other elements. If present, surface treatments and coatings such as oil, paint, resin, varnish may generate noxious gases.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Solid: No adverse effects due to inhalation are expected.
Skin contact	May cause an allergic skin reaction.
Eye contact	Dust may irritate the eyes.
Ingestion	Not likely, due to the form of the product.

Symptoms related to the physical, chemical and toxicological characteristics May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	Not classified.
Serious eye damage/eye irritation	Not classified.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
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Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	For solid product: The product is not classified as carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Chromium (CAS 7440-47-3)	3 Not classifiable as to carcinogenicity 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.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
Chronic effects	Prolonged inhalation of dust may be harmful. Prolonged exposure may cause chronic effects.
Further information	Symptoms may be delayed.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. Metals in massive forms presents a limited hazard for the environment.
Persistence and degradability	Not relevant for inorganic substances.
Bioaccumulative potential	No data available.
Mobility in soil	Metals in massive form are not mobile in the environment.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Steel scrap should be recycled whenever possible. Product dusts and fumes from processing operations should also be recycled, or classified and disposed of in accordance with applicable federal, state or local regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	Not applicable.
Waste from residues / unused products	Recover and recycle, if practical.
Contaminated packaging	Steel pipes may contain metallic and/ or plastic packaging (thread protectors) and/ or wood that should be recycled whenever possible or classified and disposed in accordance with applicable federal, state or local regulations.

14. Transport information

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

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Chromium (CAS 7440-47-3)	LISTED
Copper (CAS 7440-50-8)	LISTED
Nickel (CAS 7440-02-0)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Aluminum	7429-90-5	≤ 1.5
Chromium	7440-47-3	≤ 30
Copper	7440-50-8	≤ 2
Lead	7439-92-1	≤ 0.01
Manganese	7439-96-5	≤ 14.5
Nickel	7440-02-0	≤ 36
Vanadium	7440-62-2	≤ 1

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Chromium (CAS 7440-47-3)
Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Nickel (CAS 7440-02-0)

US. Massachusetts RTK - Substance List

Aluminum (CAS 7429-90-5)
Chromium (CAS 7440-47-3)
Copper (CAS 7440-50-8)
Manganese (CAS 7439-96-5)
Molybdenum (CAS 7439-98-7)
Nickel (CAS 7440-02-0)
Silicon (CAS 7440-21-3)
Tungsten (CAS 7440-33-7)
Vanadium (CAS 7440-62-2)

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

Aluminum (CAS 7429-90-5)
Chromium (CAS 7440-47-3)
Copper (CAS 7440-50-8)
Manganese (CAS 7439-96-5)
Molybdenum (CAS 7439-98-7)
Nickel (CAS 7440-02-0)
Silicon (CAS 7440-21-3)
Tungsten (CAS 7440-33-7)
Vanadium (CAS 7440-62-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Aluminum (CAS 7429-90-5)
Chromium (CAS 7440-47-3)
Copper (CAS 7440-50-8)
Manganese (CAS 7439-96-5)
Molybdenum (CAS 7439-98-7)
Nickel (CAS 7440-02-0)
Silicon (CAS 7440-21-3)
Tungsten (CAS 7440-33-7)
Vanadium (CAS 7440-62-2)

US. Rhode Island RTK

Aluminum (CAS 7429-90-5)
Carbon (CAS 7440-44-0)
Chromium (CAS 7440-47-3)
Copper (CAS 7440-50-8)
Manganese (CAS 7439-96-5)
Molybdenum (CAS 7439-98-7)
Nickel (CAS 7440-02-0)
Silicon (CAS 7440-21-3)
Tungsten (CAS 7440-33-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
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)	No
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 14-June-2017

Revision date -

Version # 01

NFPA ratings



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.