

# SAFETY DATA SHEET



PRODUCT NAME: STAINLESS STEEL

## 1) NAME OF PRODUCTS

trade name <b>PEGO</b>	correspondence to			
	<b>AWS/ SFA A 5.9</b>	<b>EN 12072</b>	<b>DIN 8556 W.Nr.</b>	<b>BS 2901</b>
307 - 307 SI	-	18 8 Mn	1.4370	307S94
308AWS - H - LSI	ER 308L - H - 308LSi	19 9 L / H / LSi	1.4316 - 1.4302	308S92 - S96 - S93
309L - H - LSI	ER 309L - H - LSi	23 12 L / H / LSi	1.4332 - 4459	309S92 - S94 - S93
310	ER 310	25 20	1.4842	310S94
312	ER 312	29 9	1.4337	312S94
316 AWS - H - LSI	ER 316L - H - LSi	19 12 3 L / H / LSi	1.4430 - 1.4403	316S92 - S96 - S93
317L	ER 317L	19 13 4 L	1.4433	302S31
318 - 318SI	ER 318 - 318Si	19 12 3 Nb / NbSi	1.4576	301S22*
347 - 347SI	ER 347 - 347 Si	19 9 Nb / NbSi	1.4551	301S22
409	ER 409Cb	-	-	409S96
410	ER 410	13		410S94
420B - 420C	ER 420	X30Cr13 - X39Cr13	1.4028 - 1.4031	-
430	ER 430	17	1.4015	430S94
1.4122	-	-	1.4122	-
1.4313	ER 410NiMo*	13 4	1.4351	-
1.4455	-	20 16 3 Mn L	1.4455	-
1.4459	ER 309LMo*	23 12 2 L	1.4459*	309S95*-
1.4462	ER 2209	22 9 3 NL	1.4462	22 8 3 S92
1.4502	-	-	1.4502	-
1.4718	-	-	1.4718	-
25.9.4	-	25 9 4 N L	-	-
904/L	ER 385	20 25 5 LCu	1.4519	904S92

CHEMICAL FAMILY: METALS

FORM: WIRE

SUPPLIER **DMS Metallhandelsgesellschaft mbH**  
ADDRESS **Rathenaustraße 55**  
**D-63263 Neu-Isenburg**

TELEPHONE NUMBER: **0049 6204 608275-77**

FAX NUMBER **0049 6204 608275-78**

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## 2) COMPOSITION - IDENTIFICATION OF INGREDIENTS

MATERIAL OR COMPONENT	CAS NUMBER	EXPOSURE LIMITS		OSHA PEL (mg/m <sup>3</sup> )	ACGIH TLV(mg/m <sup>3</sup> )
		%	WEIGHT		
<u>Alloy Elements</u>					
Carbon ( C)	7440-44-0	0.00	1.0	None Listed	None Listed
Chromium ( Cr)	7440-47-3	0.00	30.0	1.0 as chrome	.5 as chrome salts
Copper ( Cu)	7440-50-3	0.00	4.0	0.2 as copper 1.0 dust	.2 as fume; 1.0 dust
Manganese ( Mn)	7439-96-5	0.05		10.0 5 as manganese	.5 as dust , 1 fume
Molybdenum (Mo)	7439-98-7	0.00	10.0	15 as insoluble comp.'s	10 as insoluble comp.'s
Nickel (Ni)	7440-02-0	0.00	30.0	1.0 as Nickel	1.0 as Nickel
Phosphorous (P)	7723-14-0	0.05 Max		0.1 as Phosphorous	0.1 as Phosphorous
Silicon (Si)	7440-21-3	0.00	3.0	None Listed	10 total dust
Sulfur (S)	7704-34-9	0.00	0.5	13 Sulfur dioxide	5 Sulfur dioxide
Boron (B)	7440-42-8	0.00	0.01	15 as Boron Oxide	10 as Boron Oxide
Iron (Fe.)	7439-89-5	100 Max		10 iron fume; N/A as FE	N/A as iron; 5 as Fe
Titanium (Ti)	7440-32-6	0.00	0.4	13	10 as Total dust
Cobalt (CO)	7440-48-4	0.00	1.0	0.1 as metals, dust, fume	0.1 as metals, dust, fume
Niobium (NB)	7440-03-1	0.00	0.7	0.2	0.2
Nitrogen (N)	10102-44-0	0.00	0.4	6.0 as NO <sub>2</sub>	6.0 as NO <sub>2</sub>

Note: The above listing is a summary of elements used in alloying steel. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts.

## 3) HAZARDS IDENTIFICATION

Steel products in the natural state do not present an inhalation, ingestion, or contact health hazard. However, operations such as welding, burning, sawing, brazing, grinding, and possibly machining, which results in elevating the temperature of the product to or above its melting point or results in the generation of airborne particulate may present hazards. The above operations should be performed in well ventilated areas. The major exposure hazard is inhalation.

### EFFECTS OF OVEREXPOSURE ARE AS FOLLOWS:

- Acute: Excessive inhalation of metallic fumes and dusts may result in irritation of eyes, nose, and throat. Also high concentrations of fumes and dusts of iron-oxide, manganese, copper, zinc & lead may result in metal fume fever. Typical symptoms consist of a metallic taste in the mouth, dryness and irritation of the throat, chills and fever, and usually last from 12 to 48 hours.
- Chronic: Chronic and prolonged inhalation of high concentrations of fumes or dust of the following elements may lead to the condition listed opposite to the elements:
- Chromium - Various forms of dermatitis, inflammation and/or ulceration of upper respiratory tract, and possible cancer of nasal passages and lungs.
  - Copper - Pulmonary effects.
  - Iron (iron-oxide) - Pulmonary effects, sclerosis
  - Manganese - Bronchitis, pneumonia, lack of coordination.
  - Molybdenum - Pain in joints, hands, knees and feet.  
Morphological changes in the liver, kidneys and spleen: anaemia, diarrhoea, coma, deformity and growth retardation.
  - Nickel - SAME AS CHROMIUM
  - Phosphorus - Necrosis of the mandible
  - Sulphur - Edema of the lungs  
(as sulphur dioxide)

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## 4) FIRTS AID MEASURES

Inhalation of airborne fumes and particulate, remove to fresh air. Get medical attention.

Eye Contact : immediately flush well with running water. Get medical attention.

Skin contact: if irritation develops, remove clothing and wash well with soap and water. If condition persists, get medical attention.

## 5) FIRE FIGHTING MEASURES

Steel products in the solid state do not present a fire or explosion hazard.

## 6) ACCIDENTAL REALISE MEASURES:

Not applicable to steel in the solid state

## 7) HANDLING AND STORAGE :

HANDLING: Avoid exposures to welding fumes, radiation, spatter, electrical shock, heated materials and dust.

Do not ingest. Handle with care to avoid strings and cuts. Spooled wire can spring.

STORAGE: Keep separate from chemical substances like acids which could cause chemical reactions

## 8) EXSPOSURES CONTROLS / PERSONAL PROTECTION:

RESPIRATORY: NOSHA-approved respirators should be used to avoid excessive inhalation of fumes and particulate. Ventilation should be provided during welding, burning, grinding and other machining operations.

EYE: Safety glasses should be used when sawing, burning, welding, grinding, and other machining operations.

OTHER CLOTHING & EQUIPMENT: Additional clothing and protective equipment may be needed depending on the operations.

## 9) PHYSICAL AND CHEMICAL PROPERTIES

APPARENCE: solid, non-volatile

ODOR: : Odourless

COULOR: Gray, Silvery, Black with metallic lustre

Melting Point: Base Meta 2750° F

Vapour Pressure (MM HG at 20° C)

Not Applicable

Specific Gravity: (Water + 1)

Greater than 7

Vapour Density (Air = 1)

Not Applicable

Evaporation Rate

Not Applicable

Boiling Point

Not Applicable

Solubility in Water

Not Applicable

## 10) STABILITY AND REACTIVITY

STABILITY : Stable except at extreme heat (above 2750° F).

REACTIVITY : with strong acids to form hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS : Smoke fumes and oxide of iron, manganese, chromium, nickel and molybdenum when welding or flame cutting.

Area to be kept well ventilated.

## 11) TOXICOLOGICAL INFORMATION

Steel products in the natural state do not present an inhalation, ingestion, or contact health hazard. However, operations such as welding, burning, sawing, brazing, grinding, and possibly machining, which results in elevating the temperature of the product to or above its melting point or results in the generation of airborne particulate may present hazards. The above operations should be performed in well ventilated areas. The major exposure hazard is inhalation.

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## **12) ECOLOGICAL INFORMATION**

No known harmful effects. No precautions are required. The product is normally inert in aqueous solutions

## **13) DISPOSAL CONSIDERATIONS**

The preparation should be recycled as large extent as possible since it is a valuable raw material in production of stainless steel.

## **14) TRANSPORT INFORMATIONS**

No international regulations or restriction are applicable

## **15) REGULATORY INFORMATIONS**

Read and understand the manufacturer's instructions

Ask for your employer's safety practices which should be based on manufacturers hazard data available to him. Take precautions when welding and protect yourself and others.

Fumes and gases can be dangerous to your health. Arc rays can injure eyes and burn skin.

Electric shock can kill. Keep your head out of the fumes. Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone, and the general area. Wear correct eye, ear and body protection. Do not touch live electrical parts.

## **16) DISCLAIMER**

The information in SDS was obtained from sources which we believe are reliable. The information, however, is provided without any representation or warranty, expressed or implied, regarding its accuracy or correctness.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

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