(Material Identification)

Material Name: Carbon Steel and high strength low alloy.
Chemical Family: Metals
Form: Cold Rolled and/or Galvanized Steel Sheets in Coils.

1. INGREDIENTES PERIGOSOS (Hazardous Ingredients)

(Alloy Elements) Name and Symbol	% (%Weight)	(Exposure Limits)	
		OSHA PEL (mg/m^3)	ACGTH TLV(mg/m^3)
(Carbon) (C)	0.00-2.00	Not applicable *	Not applicable *
(Manganese) (Mn)	0.05-5.00	Not applicable *	Not applicable *
(Phosphorus) (P)	0.15 max	Not applicable *	Not applicable *
(Sulfur) (S)	0.35 max	Not applicable *	Not applicable *
(Silicon) (Si)	0.00-3.00	Not applicable *	Not applicable *
(Niobium) (Nb)	0.00-0.10	Not applicable *	Not applicable *
(Titanium) (Ti)	0.00-0.20	Not applicable *	Not applicable *
(Vanadium) (V)	0.00-0.10	Not applicable *	Not applicable *
(Aluminum) (Al)	0.00-0.20	Not applicable *	Not applicable *
(Copper) (Cu)	0.00-0.60	Not applicable *	Not applicable *
(Molybdenum) (Mo)	0.00-0.15	Not applicable *	Not applicable *
(Chromium) (Cr)	0.00-0.80	Not applicable *	Not applicable *
(Nickel) (Ni)	0.00-1.00	Not applicable *	Not applicable *
(Boron) (B)	0.00-0.10	Not applicable *	Not applicable *
(Iron) (Fe)	Matrix (base metal)	Not applicable *	Not applicable *

The described elements may be hazardous to health and/or the environment. In steel, they are dissolved and/or precipitated in an iron matrix and aren't hazardous to health and/or environment.

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.

Toxicity: Airborne particulates may be harmful to lungs.

2. PROPRIEDADES FÍSICAS (Physical Data):

Melting Point	1535 ºC (2795 ºF)
Absolute boiling point	3000 ºC (5432 ºF)
Specific Gravity	7,86
Atomic mass	55,84
Atomic number	26
Mean specific heat	0,11 cal/g. ºC (460j/kg. K)
Melting heat	3,7 kcal/at.g (74928,37j/kg)
Appearance	Gray, Silvery, Black with Metallic luster.
Odor	Odorless

3. (Fire and Explosion Data):

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

4. (Health/Safety Information):

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

Effects of overexposure:

(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 and 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 do the condition listed opposite to the element:

- Iron (iron-oxide) – Pulmonary effects, siderosis.
- Manganese – Bronchitis, pneumonitis, lack of coordination.
- Phosphorous – Necrosis of the mandible.
- Sulfur (as sulfur dioxide) – Edema of the Lungs.).
- Nickel e Chromium – Certain nickel and chromium compounds have listed by as nasal and lung carcinogen.

(First Aid):

a) Inhalation of airborne plume, fumes and particulates – remove to fresh air. Seek medical attention).

b) Eye contact: Immediately flush well with running water. Get medical attention.

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

6. (Reactivity Data)

a) Stability: Stable except at extreme heat (above 1500 ºC).

b) Incompatibility: Reacts with strong acids to form hydrogen gas.

c) Hazardous Decomposition Products: Smoke fumes and oxyde of iron, manganese, chromium, nickel and molybdenum when welding or flame cutting. Area to be kept well ventillated.

7. Special Protection Information

a) Respiratory: Approved respirators should be used to avoid excessive inhalation of fumes and particulates. In the absence of natural ventilation, mechanical ventilation must be provided if plume, fumes and particluates exceed established PEL's. Recommended when performing tasks such as welding, burning, grinding and other machining operations).

b) Eyes: Appropriate eye protection (Safety Glasses, Face shield, Welding and Cutting Helmets etc,.) during welding, grinding, and or other Machine operations.

c) Other clothing and equipment: Additional clothing and protective equipment may be needed depending on the nature and extent of the work being performed. Personal protective Equipment Hazard Assessments may need to be performed according to State and Federal Laws.

8. Special Precautions:

Good housekeeping practices should be maintained at all times in the work area. Safety and working equipment should be maintained in good condition. Steel may be protected with various coatings, oil or paints. In such cases, and depending on the nature of the material, special precautions should be taken when handling, cutting, welding, burning and any other operations that may result in the formation of fume, dust or particulates).

9. Other Informations)

(The information in this MSDS 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,
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