MATERIAL SAFETY DATA SHEET

CARBON BILLETS

SECTION I – MATERIAL IDENTIFICATION

Manufacturer's Name
Gerdau AmeriSteel
Contact
Matt D. Moore
Director, Safety & Health
Address
P. O. Box 31328
Tampa, FL 33631-3328
Product
Carbon Billets

Emergency Telephone Number
813/286-8383
Telephone Number for Information
813/286-8383
Date Prepared
12/01/93

SECTION II – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components (Common Name)	CAS No.	OSHA PEL (mg/m^3)	ACGIH TLV (mg/m^3)	Other Limits Recommended	% (optional)
Iron (as Iron Oxide fume)	1309-37-1	10.0	5.0	n/a	97.0
Carbon (as Carbon Dioxide)	24-38-9	18,000.0	9,000.0	n/a	0.9
Manganese	7439-96-5	5.0	5.0	n/a	2.0
Phosphorous (yellow)	7723-14-0	0.1	0.1	n/a	0.06
Sulfur (as Sulfur Dioxide)	7446-09-5	5.0	5.2	n/a	0.08
Silicon	7740-21-3	5.0	10.0	n/a	0.4
Copper (as fume)	7440-50-8	0.1	0.2	n/a	1.5
Vanadium (as fume)	1314-62-1	0.05	0.05	n/a	0.05
Nickel	7440-02-0	0.1	0.05	n/a	0.5
Tin (inorganic)	7740-31-5	2.0	2.0	n/a	0.08

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point Specific
3000°C (5432°F)
Vapor Pressure (mm Hg)
n/a
Vapor Density (AIR = 1)
n/a
Solubility in Water
n/a

Gravity (H_2O = 1)
7.0
Melting Point
1535°C (2795°F)
Evaporation Rate (Butyl Acetate = 3)
n/a
Appearance and Odor
Gray solid/metallic odor or odorless

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)
n/a
Extinguishing Media
For molten metal, use Class D chemical or sand
Special Fire Fighting Procedures
n/a
Unusual Fire and Explosion Hazards
Concentrations of metallic fines in the air could present an explosion hazard

Flammable Limits	LEL	UEL
	n/a	n/a

SECTION V – REACTIVITY DATA

Stability	Unstable	Stable	Conditions to Avoid
		X	n/a

Incompatibility (Materials to Avoid)

Strong Acids

Hazardous Decomposition or Byproducts

Metal fumes if heated

Hazardous Polymerization	May Occur	Will Not Occur	Conditions to Avoid
		X	Above the melting point, iron oxide fumes may be present

SECTION VI – HEALTH HAZARD DATA

Route(s) of Entry	Inhalation?	Skin?	Ingestion?
	Fumes if heated sufficiently	no	no

Carcinogenicity	NTP?	IARC Monographs?	OSHA Regulated?
Nickel	n/a	n/a	no

Signs and Symptoms of Exposure

Acute: Fume inhalation - irritation of eyes, nose, throat, and lungs. Metal fume fever or flu-like symptoms.

Chronic: Fume inhalation - bronchitis, pneumonitis, siderosis, upper respiratory tract irritation, headaches, lack of coordination, metal fume fever.

Medical Conditions Generally Aggravated by Exposure

Respiratory conditions may be aggravated by exposure to metal fumes or dusts.

Emergency and First Aid Procedures

Inhalation - move to fresh air, administer oxygen if necessary. Call a physician.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled

Fine particles and small chips should be swept up and disposed of properly.

Waste Disposal Method

Follow all solid waste disposal regulations of local, state, and Federal authorities.

Precautions to Be Taken in Handling and Storing

n/a

Other Precautions

User should consult applicable standards for specific process employed to determine any special precautions needed to insure the health and safety of its employees.

SECTION VIII – CONTROL MEASURES

Respiratory Protection

NIOSH-approved dust/mist/fume respirator if P.E.L. is exceeded.

Ventilation	Local Exhaust	Special
	To keep welding fumes below P.E.L.	n/a
	Mechanical (General)	**Other**
	Recommended	n/a

Gloves Protective	Eye Protection
As per A.W.S. recommendations	Safety glasses or goggles as per ANSI Z-86.1. Welding hood for welding, cutting, burning or brazing.

Other Protective Clothing or Equipment

As per applicable standards for process

Work/Hygiene Practices

Observe safe work practices