MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material Name	**SCRAP CARBON STEEL AND CAST IRON WTH LEAD PAINT**
MSDS Number	935
Chemical Formula	Mixture
Product use	Recycling
Synonym(s)	Scrap building steel * Carbon steel 12L14 * Carbon steel scrap
Manufacturer information	Alcoa Inc. 201 Isabella Street Pittsburgh, PA 15212-5858 US Health and Safety: +1-412-553-4649
Emergency Information	USA: Chemtrec: +1-703-527-3887 +1-800-424-9300 ALCOA: +1-412-553-4001
Website	For a current MSDS, refer to Alcoa websites: www.alcoa.com or Internally at my.alcoa.com EHS Community

2. Hazards Identification

Emergency overview

Solid. Various colors. Odorless. Small chips, fine turnings and dust from processing may be ignitable.

Explosion/fire hazards may be present when (See Sections 5, 7 and 10 for additional information):
• Molten metal is in contact with water/moisture.

Dust and fumes from processing: Can cause irritation of the eyes, skin and upper respiratory tract. Acute overexposures: Can cause muscle cramps and metal fume fever (nausea, fever, chills, shortness of breath and malaise).

Potential health effects

The following statements summarize the health effects generally expected in cases of overexposures. User specific situations should be assessed by a qualified individual. Additional health information can be found in Section 11.

Eyes	Dust and fumes from processing: Can cause irritation.
Skin	Dust and fumes from processing: Can cause irritation. Prolonged or repeated skin contact may cause sensitization.
Inhalation	Dust and fumes from processing: Can cause irritation of the upper respiratory tract. Dust and fumes from mechanical processing: Acute overexposures: Can cause muscle cramps. Chronic overexposures: Can cause weakness in the extremities (peripheral neuropathy), respiratory sensitization, scarring of the lungs (pulmonary fibrosis), blood cell damage, central nervous system damage, secondary Parkinson's disease and reproductive harm. Additional health effects from elevated temperature processing (e.g., welding, melting): Dust and fumes from processing: Acute overexposures: Can cause metal fume fever (nausea, fever, chills, shortness of breath and malaise). Chronic overexposures: Can cause benign lung disease (siderosis), the accumulation of fluid in the lungs (pulmonary edema) and lung cancer.
Carcinogenicity and Reproductive Hazard	Product as shipped: Does not present any cancer or reproductive hazards. Dust and fumes from mechanical processing: Can present a cancer hazard (Lead compounds, Nickel). Can present a reproductive hazard (Lead compounds, Manganese). Dust and fumes from welding or elevated temperature processing: Can present a cancer hazard (Hexavalent chromium compounds, Lead compounds, Nickel compounds, Welding fumes). Can present a reproductive hazard (Lead compounds, Manganese compounds).
Medical conditions aggravated by exposure to product	Dust or fume from processing: Asthma, chronic lung disease, Secondary Parkinson's disease and skin rashes.

3. Composition / Information on Ingredients

Composition comments	Complete composition is provided below and may include some components classified as non-hazardous.

Components	CAS #	Percent
Coatings		
Lead compounds, inorganic	Not available	0.03 - 2.7
Metal Components		
Iron	7439-89-6	<99
Carbon	7440-44-0	<3.5
Silicon	7440-21-3	<2.6
Manganese	7439-96-5	<2
Chromium	7440-47-3	<1.2
Nickel	7440-02-0	<1.1

4. First Aid Measures

First aid procedures

Eye contact Dust and fume from processing: Rinse eyes with plenty of water or saline for at least 15 minutes. Consult a physician.

Skin contact Dust and fume from processing: Wash with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Inhalation Dust and fume from processing: Remove to fresh air. Check for clear airway, breathing, and presence of pulse. Provide cardiopulmonary resuscitation for persons without pulse or respirations. Consult a physician.

5. Fire Fighting Measures

Flammable/Combustible Properties This product does not present fire or explosion hazards as shipped. Small chips, fine turnings and dust from processing may be ignitable.

Fire / Explosion Hazards May be a potential hazard under the following conditions:
• Molten metal in contact with water/moisture. Moisture entrapped by molten metal can be explosive.

Extinguishing media

Suitable extinguishing media Use fire fighting methods and materials that are appropriate for surrounding fire.

Protection of firefighters

Protective equipment for firefighters Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

6. Accidental Release Measures

Spill or leak procedure Collect scrap for recycling.
If molten: Contain the flow using dry sand or salt flux as a dam. All tooling (e.g., shovels or hand tools) and containers which come in contact with molten metal must be preheated or specially coated. Allow the spill to cool before remelting as scrap.

7. Handling and Storage

Handling Avoid generating dust. Keep material dry. Avoid contact with sharp edges or heated metal.

Requreiments for Remelting of Scrap Material or Ingot

Molten metal and water can be an explosive combination. The risk is greatest when there is sufficient molten metal to entrap or seal off the water. Water and other forms of contamination on or contained in scrap or remelt ingot are known to have caused explosions in melting operations. While the products may have minimal surface roughness and internal voids, there remains the possibility of moisture contamination or entrapment. If confined, even a few drops of water can lead to violent explosions.

All tooling and containers which come in contact with molten metal must be preheated or specially coated. Molds and ladles must be preheated or oiled prior to casting. Any surfaces that may contact molten metal (i.e., concrete) should be specially coated.

During melting operations, the following minimum guidelines should be observed:
• Inspect all materials prior to furnace charging and completely remove surface contamination such as water, ice, snow, deposits of grease and oil or other surface contamination resulting from weather exposure, shipment, or storage.
• Store materials in dry, heated areas with any cracks or cavities pointed downwards.
• Preheat and dry large items adequately before charging into a furnace containing molten metal. This is typically done by use of a drying oven or homogenizing furnace. The drying cycle should bring the metal temperature of the coldest item of the batch to 400°F (200°C) and then hold at that temperature for 6 hours.

8. Exposure Controls / Personal Protection

Engineering controls

Dust and fume from processing: Use with adequate ventilation to meet the limits listed in Section 8.

Exposure data

Components

U.S. - OSHA - Specifically Regulated Chemicals	
Lead compounds, inorganic (Not available)	50 µg/m3 TWA (as Pb); 30 µg/m3 Action Level (as Pb, Poison - see 29 CFR 1910.1025)

Compounds Formed During Processing

U.S. - OSHA - Specifically Regulated Chemicals	
Chromium (VI) compounds (18540-29-9)	2.5 µg/m3 Action Level (as Cr.); 5 µg/m3 TWA (as Cr, Cancer hazard - See 29 CFR 1910.1026)

Occupational exposure limits

U.S. - OSHA

Components	Type	Value	Form
Chromium (7440-47-3)	TWA	1 mg/m3	
Lead compounds, inorganic (Not available)	TWA	50 µg/m3	(as Pb)
Manganese (7439-96-5)	Ceiling	5 mg/m3	(fume)
Nickel (7440-02-0)	TWA	1 mg/m3	
Silicon (7440-21-3)	TWA	5 mg/m3	(respirable fraction)
	TWA (total dust)	15 mg/m3	(total dust)
Compounds Formed During Processing	**Type**	**Value**	**Form**
Chromium (II) compounds (Not available)	TWA	0.5 mg/m3	(as Cr)
Chromium (III) compounds (Not available)	TWA	0.5 mg/m3	(as Cr)
Chromium (VI) compounds (18540-29-9)	Action	2.5 µg/m3	(as Cr)
	TWA (as Cr)	5 µg/m3	(as Cr)
Iron oxide (1309-37-1)	TWA	10 mg/m3	
Manganese compounds, inorganic (Not available)	Ceiling	5 mg/m3	(as Mn)
Nickel compounds, insoluble (Not available)	TWA	1 mg/m3	(as Ni)

Alcoa

Components	Type	Value	Form
Manganese (7439-96-5)	TWA	0.05 mg/m3	(total dust)
		0.02 mg/m3	(respirable fraction)
Compounds Formed During Processing	**Type**	**Value**	**Form**
Chromium (VI) compounds (18540-29-9)	TWA	0.25 ug/m3	(as Cr)
Manganese compounds, inorganic (Not available)	TWA	0.02 mg/m3	(respirable fraction, as Mn)
		0.05 mg/m3	(total dust, as Mn)

Compounds Formed During Processing	Type	Value	Form
Nickel compounds, insoluble (Not available)	TWA	0.1 mg/m3	(as Ni)

ACGIH

Components	Type	Value	Form
Chromium (7440-47-3)	TWA	0.5 mg/m3	
Lead compounds, inorganic (Not available)	TWA	0.05 mg/m3	(as Pb)
Manganese (7439-96-5)	TWA	0.2 mg/m3	
Nickel (7440-02-0)	TWA	1.5 mg/m3	(inhalable fraction)
Compounds Formed During Processing	**Type**	**Value**	**Form**
Chromium (III) compounds (Not available)	TWA	0.5 mg/m3	(as Cr)
Chromium (VI) compounds, certain water insoluble forms (Not available)	TWA	0.01 mg/m3	(as Cr)
Chromium (VI) compounds, water soluble forms (Not available)	TWA	0.05 mg/m3	(as Cr)
Iron oxide (1309-37-1)	TWA	5 mg/m3	(respirable fraction)
Manganese compounds, inorganic (Not available)	TWA	0.2 mg/m3	(as Mn)
Nickel compounds, insoluble (Not available)	TWA	0.2 mg/m3	(inhalable fraction, as Ni)

Personal protective equipment

Eye / face protection Wear safety glasses with side shields.

Skin protection Wear appropriate gloves to avoid any skin injury.

Respiratory protection Dust and fume from processing: Use NIOSH-approved respiratory protection as specified by an Industrial Hygienist or other qualified professional if concentrations exceed the limits listed in Section 8. Suggested respiratory protection: N95, N100 for lead.

General

Sampling to establish lead level exposure is advised where exposure to airborne particulate or fumes is possible. Consult OSHA Lead Standard 29 CFR 1910.1025 for specific health/industrial hygiene precautions and requirements to follow when handling lead compounds.

Personnel who handle and work with molten metal should utilize primary protective clothing like polycarbonate face shields, fire resistant tapper's jackets, neck shades (snoods), leggings, spats and similar equipment to prevent burn injuries. In addition to primary protection, secondary or day-to-day work clothing that is fire resistant and sheds metal splash is recommended for use with molten metal. Synthetic materials should never be worn even as secondary clothing (undergarments).

9. Physical & Chemical Properties

Appearance	Various colors
Boiling point	Not determined
Melting point	1999.4 - 2499.8 °F (1093 - 1371 °C)
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Flammability limits in air, lower, % by volume	Not applicable
Flammability limits in air, upper, % by volume	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Solubility (water)	Insoluble
Density	7.9 g/cm3
pH	Not applicable
Odor	Odorless.
Partition coefficient (n-octanol/water)	Not applicable

10. Chemical Stability & Reactivity Information

Chemical stability Stable under normal conditions of use, storage, and transportation.

Conditions to avoid Molten metal can react violently/explosively with water or moisture, particularly when the water is entrapped.

11. Toxicological Information

Health effects associated with ingredients

Carbon dust: Can cause irritation of eyes, mucous membranes and upper respiratory tract. Chronic overexposures: Can cause chronic bronchitis and scarring of the lungs (pulmonary fibrosis).

Silicon (inert dusts): Chronic overexposures: Can cause chronic bronchitis and narrowing of airways.

Manganese dust or fumes: Chronic overexposures: Can cause inflammation of the lung tissues, scarring of the lungs (pulmonary fibrosis), central nervous system damage, Secondary Parkinson's Disease and reproductive harm in males.

Chromium dust and fumes: Can cause irritation of eye, skin and respiratory tract. Metallic chromium and trivalent chromium: Not classifiable as to their carcinogenicity to humans by IARC.

Nickel dust and fume: Can cause irritation of eyes, skin and respiratory tract. Eye contact: Can cause inflammation of the eyes and eyelids (conjunctivitis). Skin contact: Can cause sensitization and allergic contact dermatitis. Chronic overexposures: Can cause perforation of the nasal septum, inflammation of the nasal passages (sinusitis), respiratory sensitization, asthma and scarring of the lungs (pulmonary fibrosis).
Nickel alloys IARC/NTP: Reviewed and not recommended for listing by NTP. Listed as possibly carcinogenic to humans by IARC (Group 2B).

Lead dust or fume: Can cause irritation of eyes and upper respiratory tract. Acute overexposures: Can cause nausea and muscle cramps. Chronic overexposures: Can cause weakness in the extremities (peripheral neuropathy), abdominal cramps, gastrointestinal tract effects, kidney damage, liver damage, central nervous system damage, damage to the blood forming organs, blood cell damage and reproductive harm. Can cause reduced fertility and fetal toxicity in pregnant women.
Lead (inorganic compounds): IARC/NTP: Listed as "reasonably anticipated to be a human carcinogen" by the NTP. Listed as probably carcinogenic to humans by IARC (Group 2A).

Health effects associated with compounds formed during processing

(The following could be expected if welded, remelted or otherwise processed at elevated temperatures)

Iron oxide: Chronic overexposures: Can cause benign lung disease (siderosis). Ingestion: Can cause irritation of gastrointestinal tract, bleeding, changes in the pH of the body fluids (metabolic acidosis) and liver damage.

Silica, amorphous: Acute overexposures: Can cause dryness of eyes, nose and upper respiratory tract.

Manganese oxide fumes: Can cause irritation of the eyes, skin, and respiratory tract. Acute overexposures: Can cause metal fume fever (nausea, fever, chills, shortness of breath and malaise).

Hexavalent chromium compounds (Chromium VI): Can cause irritation of eye, skin and respiratory tract. Skin contact: Can cause irritant dermatitis, allergic reactions and skin ulcers. Chronic overexposures: Can cause perforation of the nasal septum, respiratory sensitization, asthma, the accumulation of fluid in the lungs (pulmonary edema), lung damage, kidney damage, lung cancer, nasal cancer and cancer of the gastrointestinal tract. IARC/NTP: Listed as "known to be a human carcinogen" by the NTP. Listed as carcinogenic to humans by IARC (Group 1).

Nickel compounds: Associated with lung cancer, cancer of the vocal cords and nasal cancer. IARC/NTP: Listed as "known to be a human carcinogen" by the NTP. Listed as carcinogenic to humans by IARC (Group 1).

Welding fumes: IARC/NTP: Listed as possibly carcinogenic to humans by IARC (Group 2B).

Component analysis - LD50 No data available for this product.

Components

Toxicology Data - Selected LD50s and LC50s

Carbon (7440-44-0)	Oral LD50 Rat: >10000 mg/kg
Iron (7439-89-6)	Oral LD50 Rat: 984 mg/kg
Manganese (7439-96-5)	Oral LD50 Rat: 9 g/kg
Nickel (7440-02-0)	Oral LD50 Rat: >9000 mg/kg
Silicon (7440-21-3)	Oral LD50 Rat: 3160 mg/kg

Compounds Formed During Processing

Toxicology Data - Selected LD50s and LC50s

Iron oxide (1309-37-1)	Oral LD50 Rat: >10000 mg/kg

Carcinogenicity No information available for product.

Components

ACGIH - Threshold Limit Values - Carcinogens

Chromium (7440-47-3)	A4 - Not Classifiable as a Human Carcinogen
Lead compounds, inorganic (Not available)	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
Nickel (7440-02-0)	A5 - Not Suspected as a Human Carcinogen

IARC - Group 2A (Probably Carcinogenic to Humans)

Lead compounds, inorganic (Not available)	Monograph 87 [2006], Supplement 7 [1987] (Lead & inorganic lead cmpds evaluated as Group 2B on Suppl 7. Now as Group 2A on Monograph 87.)

IARC - Group 2B (Possibly Carcinogenic to Humans)

Nickel (7440-02-0)	Monograph 49 [1990], Supplement 7 [1987]

Compounds Formed During Processing

ACGIH - Threshold Limit Values - Carcinogens

Chromium (III) compounds (Not available)	A4 - Not Classifiable as a Human Carcinogen
Chromium (VI) compounds, certain water insoluble forms (Not available)	A1 - Confirmed Human Carcinogen
Chromium (VI) compounds, water soluble forms (Not available)	A1 - Confirmed Human Carcinogen
Iron oxide (1309-37-1)	A4 - Not Classifiable as a Human Carcinogen
Nickel compounds, insoluble (Not available)	A1 - Confirmed Human Carcinogen

IARC - Group 1 (Carcinogenic to Humans)

Chromium (VI) compounds (18540-29-9)	Monograph 49 [1990] (evaluated as a group)
Nickel compounds, insoluble (Not available)	Monograph 49 [1990] (evaluated as a group)

IARC - Group 2B (Possibly Carcinogenic to Humans)

Welding fumes (RR-00020-4)	Monograph 49 [1990]

NTP (National Toxicology Program) - Report on Carcinogens - Known Human Carcinogens

Chromium (VI) compounds (18540-29-9)	Known Human Carcinogen
Nickel compounds, insoluble (Not available)	Known Human Carcinogen

U.S. - OSHA - Specifically Regulated Carcinogens (1910.1001 to 1910.1096)

Chromium (VI) compounds (18540-29-9)	Workers exposed to Cr(VI) are at an increased risk of developing lung cancer - see 29 CFR 1910.1026

12. Ecological Information

Ecotoxicity

Components

Ecotoxicity - Freshwater Algae Data

Nickel (7440-02-0)	72 Hr EC50 freshwater algae (4 species): 0.1 mg/L; 72 Hr EC50 Selenastrum capricornutum: 0.18 mg/L

Ecotoxicity - Freshwater Fish Species Data

Iron (7439-89-6)	96 Hr LC50 Morone saxatilis: 13.6 mg/L [static]
Nickel (7440-02-0)	96 Hr LC50 Oncorhynchus mykiss: 31.7 mg/L (adult); 96 Hr LC50 Pimephales promelas: 3.1 mg/L; 96 Hr LC50 Brachydanio rerio: >100 mg/L

Ecotoxicity - Water Flea Data

Nickel (7440-02-0)	96 Hr EC50 water flea: 510 µg/L

Compounds Formed During Processing

Ecotoxicity - Freshwater Fish Species Data

Chromium (VI) compounds (18540-29-9)	96 Hr LC50 Pimephales promelas: 36.2 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 7.6 mg/L

Ecotoxicity - Water Flea Data

Chromium (VI) compounds (18540-29-9)	24 Hr EC50 water flea: 435 µg/L

Environmental Fate No data available for product.

13. Disposal Considerations

Disposal instructions Reuse or recycle material whenever possible. If reuse or recycling is not possible, disposal must be made according to local or governmental regulations.

Waste codes RCRA Status: Not federally regulated in the U.S. if disposed of "as is."
RCRA waste codes other than described here may apply depending on use of the product. Status must be determined at the point of waste generation. Refer to 40 CFR 261 or state equivalent in the U.S.

14. Transport Information

General Shipping Information

Basic shipping description:

UN number	-
Proper shipping name	Not regulated
Hazard class	-
Packing group	-

General Shipping Notes

- When "Not regulated", enter the proper freight classification, MSDS Number and Product Name onto the shipping paperwork.

15. Regulatory Information

US federal regulations In reference to Title VI of the Clean Air Act of 1990, this material does not contain nor was it manufactured using ozone-depleting chemicals.

Components

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Chromium (7440-47-3)	5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)
Nickel (7440-02-0)	100 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 45.4 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Chromium (7440-47-3)	1.0 % de minimis concentration
Lead compounds, inorganic (Not available)	0.1 % Supplier notification limit (Chemical Category N420)
Manganese (7439-96-5)	1.0 % de minimis concentration
Nickel (7440-02-0)	0.1 % de minimis concentration

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes, If particulates are generated during processing
Delayed Hazard - Yes, If particulates are generated during processing
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

State regulations

Components

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Chromium (7440-47-3)	Present
Iron (7439-89-6)	Present
Manganese (7439-96-5)	Present
Nickel (7440-02-0)	Present

U.S. - California - Proposition 65 - Carcinogens List

Nickel (7440-02-0)	carcinogen, initial date 10/1/89

U.S. - California - Proposition 65 - Developmental Toxicity

Lead compounds, inorganic (Not available)	developmental toxicity, initial date 2/27/87

U.S. - Massachusetts - Right To Know List

Chromium (7440-47-3)	Carcinogen; Extraordinarily hazardous
Manganese (7439-96-5)	Present

State regulations

Components

U.S. - Massachusetts - Right To Know List

Nickel (7440-02-0)	Carcinogen; Extraordinarily hazardous
Silicon (7440-21-3)	Present (dust, exempt when encapsulated or if particulates are not present and cannot be substantially generated through use of the product)

U.S. - Minnesota - Hazardous Substance List

Chromium (7440-47-3)	Present
Lead compounds, inorganic (Not available)	Carcinogen
Manganese (7439-96-5)	Present
Nickel (7440-02-0)	Carcinogen
Silicon (7440-21-3)	Present (dust)

U.S. - New Jersey - Right to Know Hazardous Substance List

Chromium (7440-47-3)	sn 0432
Manganese (7439-96-5)	sn 1155 (dust and fume)
Nickel (7440-02-0)	sn 1341 (dust and fume)
Silicon (7440-21-3)	sn 3125 (powder)

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

Chromium (7440-47-3)	Present
Nickel (7440-02-0)	Present

U.S. - Pennsylvania - RTK (Right to Know) List

Chromium (7440-47-3)	Environmental hazard; Special hazardous substance
Manganese (7439-96-5)	Environmental hazard
Nickel (7440-02-0)	Environmental hazard; Special hazardous substance
Silicon (7440-21-3)	Present

Inventory status

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 New and Existing Chemicals (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)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

MSDS History

Origination date: May 15, 1995
Supersedes: July 13, 2005
Revision date: May 8, 2009

MSDS Status

May 8, 2009: New format.
July 13, 2005: Reviewed on a periodic basis in accordance with Alcoa policy. Change(s) in Section: 1, 2, 3, 4, 8, 11 and 15.
May 10, 2002: New format: Replaces some alloys previously covered by Eastalco "Scrap Iron and Steel".

Prepared By

Hazardous Materials Control Committee
Preparer: Jon N. Peace, 412-553-2293/Robert W. Barr, 412-553-2618

MSDS System Number

139280

Other information

• Guide to Occupational Exposure Values 2009, Compiled by the American Conference of Governmental Industrial Hygienists (ACGIH).
• Documentation of the Threshold Limit Values and Biological Exposure Indices, Sixth Edition, 1991, Compiled by the American Conference of Governmental Industrial Hygienists, Inc. (ACGIH).
• NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, February 2004.
• Dangerous Properties of Industrial Materials, Sax, N. Irving, Van Nostrand Reinhold Co., Inc., 1984.
• Patty's Industrial Hygiene and Toxicology: Volume II: Toxicology, 4th ed., 1994, Patty, F. A.; edited by Clayton, G. D. and Clayton, F. E.: New York: John Wiley & Sons, Inc.
• expub, Expert Publishing, LLC., www.expub.com

Key/Legend:

ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPR	Cardio-pulmonary Resuscitation
DOT	Department of Transportation
DSL	Domestic Substances List (Canada)
EC	Effective Concentration
ED	Effective Dose
EINECS	European Inventory of Existing Commercial Chemical Substances
ENCS	Japan - Existing and New Chemical Substances
EWC	European Waste Catalogue
EPA	Environmental Protective Agency
IARC	International Agency for Research on Cancer
LC	Lethal Concentration
LD	Lethal Dose
MAK	Maximum Workplace Concentration (Germany) "maximale Arbeitsplatz-Konzentration"
NDSL	Non-Domestic Substances List (Canada)
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PIN	Product Identification Number
PMCC	Pensky Marten Closed Cup
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SIMDUT	Système d'Information sur les Matières Dangereuses Utilisées au Travail
STEL	Short Term Exposure Limit
TCLP	Toxic Chemicals Leachate Program
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System

m meter, cm centimeter, mm millimeter, in inch,
g gram, kg kilogram, lb pound, µg microgram,
ppm parts per million, ft feet

*** End of MSDS ***

SCRAP CARBON STEEL AND CAST IRON WTH LEAD PAINT

WARNING
Small chips, fine turnings and dust from processing may be ignitable.
Explosion/fire hazards may be present when:
Molten metal is in contact with water/moisture.

Dust and fumes from processing: Can cause irritation of the eyes, skin and upper respiratory tract. Acute overexposures: Can cause muscle cramps and metal fume fever (nausea, fever, chills, shortness of breath and malaise). Chronic overexposures: Can cause weakness in the extremities, benign lung disease, respiratory sensitization, scarring of the lungs, blood cell damage, central nervous system damage, secondary Parkinson's disease and reproductive harm.

FIRST AID

Eye contact	Dust and fume from processing: Rinse eyes with plenty of water or saline for at least 15 minutes. Consult a physician.
Skin contact	Dust and fume from processing: Wash with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.
Inhalation	Dust and fume from processing: Remove to fresh air. Check for clear airway, breathing, and presence of pulse. Provide cardiopulmonary resuscitation for persons without pulse or respirations. Consult a physician.

See Alcoa Material Safety Data Sheet No. 935 for more information about use and disposal.
Emergency Phone: (412) 553-4001

FIRE FIGHTING

Suitable extinguishing media	Use fire fighting methods and materials that are appropriate for surrounding fire.

SPILL PROCEDURES

Spill or leak procedure	Collect scrap for recycling. If molten: Contain the flow using dry sand or salt flux as a dam. All tooling (e.g., shovels or hand tools) and containers which come in contact with molten metal must be preheated or specially coated. Allow the spill to cool before remelting as scrap.

HANDLING AND STORAGE

Handling	Avoid generating dust. Keep material dry. Avoid contact with sharp edges or heated metal.

Contains:

Lead compounds, inorganic	Not available
Iron	7439-89-6
Carbon	7440-44-0
Silicon	7440-21-3
Manganese	7439-96-5
Chromium	7440-47-3
Nickel	7440-02-0

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ALCOA