Imetco® Remelt Alloy

Safety Data Sheet (SDS)

Section 1 – Identification

1(a) Product Identifier Used on Label: Inmetco® Remelt Alloy

1(b) Other Means of Identification: U100

1(c) Recommended Use of the Chemical and Restrictions on Use: None

1(d) Name, Address, and Telephone Number:

Inmetco, Inc.
One Inmetco Drive
Ellwood City, PA 16117

Phone number: 724-758-5515

1(e) Emergency Phone Number: Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

Section 2 – Hazard(s) Identification

2(a) Classification of the Chemical: Inmetco® Remelt Alloy is considered a hazardous material according to the criteria specified in REACH [REGULATION (EC) No 1907/2006] and CLP [REGULATION (EC) No 1272/2008] and OSHA 29 CFR 1910.1200 Hazard Communication Standard. The categories of Health Hazards as defined in "GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Third revised edition ST/SG/AC.10/30/Rev. 3" United Nations, New York and Geneva, 2009 have been evaluated. Refer to Section 3, 8 and 11 for additional information.

2(b) Signal Word, Hazard Statement(s), Symbols and Precautionary Statement(s):

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Carcinogenicity - 2 Reproductive Toxicity - 2 Single Target Organ Toxicity (STOT) Repeat Exposure - 1	**DANGER**	Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to lungs and central nervous system through prolonged or repeated inhalation exposure.
	Skin Sensitization - 1		May cause an allergic skin reaction.

Precautionary Statement(s):

Prevention	Response	Storage/Disposal
Do not breathe dusts / fume / gas / mist / vapor / spray. Wear protective gloves / protective clothing / eye protection / face protection. Contaminated work clothing must not be allowed out of the workplace. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.	If exposed, concerned or feel unwell: Get medical advice/attention. If on skin: Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.	Dispose of contents in accordance with federal, state and local regulations. Store locked up.

2(c) Hazards not Otherwise Classified: None Known

2(d) Unknown Acute Toxicity Statement (Mixture): None Known

Section 3 – Composition/Information on Ingredients

3(a-c) Chemical Name, Common Name (Synonyms), CAS Number and Other Identifiers, and Concentration:

Chemical Name	CAS Number	EC Number	% weight
Nickel	7440-02-0	231-111-4	10-20
Chromium	7440-47-3	231-157-5	10-16
Manganese	7439-96-5	231-105-1	1.5-3

EC- European Community
CAS- Chemical Abstract Service

Section 4 – First-aid Measures

4(a) Description of Necessary Measures:

- **Inhalation** If exposed, concerned or feel unwell: Get medical advice/attention.
- **Eye Contact:** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **Skin Contact:** If on skin: Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
- **Ingestion:** If exposed, concerned or feel unwell: Get medical advice/attention.

4(b) Most Important Symptoms/Effects, Acute and Delayed (Chronic):

Acute effects:

- **Inhalation:** Excessive exposure to high concentrations of dust may cause irritation to the eyes, skin and mucous membranes of the upper respiratory tract.
- **Eye:** Excessive exposure to high concentrations of dust may cause irritation to the eyes.
- **Skin:** Skin contact with dusts may cause irritation or sensitization, possibly leading to dermatitis. Skin contact with metallic dusts may cause physical abrasion.
- **Ingestion:** Ingestion of dust may cause nausea and/or vomiting.

Chronic Effects:

Individuals with chronic respiratory disorders (i.e., asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any airborne particulate matter exposure. Persons with pre-existing skin disorders may be more susceptible to dermatitis.

4(c) Immediate Medical Attention and Special Treatment: Treat symptomatically.

Section 5 – Fire-fighting Measures

5(a) Suitable (and Unsuitable) Extinguishing Media: Use extinguishers appropriate for surrounding materials.

5(b) Specific Hazards Arising from the Chemical: May form combustible dust concentrations in air.

5(c) Special Protective Equipment and Precautions for Fire-fighters: Self-contained NIOSH approved respiratory protection and full protective clothing should be worn when fumes and/or smoke from fire are present. Heat and flames cause emittance of acrid smoke and fumes. Do not release runoff from fire control methods to sewers or waterways. Firefighters should wear full face-piece self-contained breathing apparatus and chemical protective clothing with thermal protection. Direct water stream will scatter and spread flames and, therefore, should not be used.

Section 6 - Accidental Release Measures

6(a) Personal Precautions, Protective Equipment and Emergency Procedures: For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust. Personnel should be protected against contact with eyes and skin. Fine, dry material should be removed by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid using compressed air. Do not release into sewers or waterways.

6(b) Methods and Materials for Containment and Clean Up: Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations. Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

Section 7 - Handling and Storage

7(a) Precautions for Safe Handling: Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Do not breathe dusts. Wear protective gloves / protective clothing / eye protection / face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

7(b) Conditions for Safe Storage, Including any Incompatibilities: Whenever feasible, store locked up.

Section 8 - Exposure Controls / Personal Protection

8(a) Occupational Exposure Limits (OELs): The following exposure limits are offered as reference, for an experienced industrial hygienist to review.

Ingredients	OSHA PEL [1]	ACGIH TLV [2]	NIOSH REL [3]	IDLH [4]
Nickel	1.0 mg/m³ (as Ni metal & insoluble compounds)	1.5 mg/m³ (as inhalable fraction[5] Ni metal) 0.2 mg/m³ (as inhalable fraction Ni inorganic only insoluble and soluble compounds)	0.015 mg/m³ (as Ni metal & insoluble and soluble compounds)	10 mg/m³ (as Ni)
Manganese	(C) 5.0 mg/m³ (as Fume & Mn compounds)	0.2 mg/m³	(C) 5.0 mg/m³ 1.0 mg/m³ (as fume) (STEL) 3.0 mg/m³	500 mg Mn/m^3

Section 8 - Exposure Controls / Personal Protection (continued)

8(a) Occupational Exposure Limits (OELs) (continued):

Ingredients	OSHA PEL [1]	ACGIH TLV [2]	NIOSH REL [3]	IDLH [4]
Chromium	1.0 mg/m³ (as Cr, metal) 0.5 mg/m³ (as Cr II & III, inorganic compounds) 0.005 mg/m³ (as Cr VI, inorganic compounds & certain water insoluble) "AL" 0.0025 mg/m³ (as Cr VI, inorganic compounds & certain water insoluble)	0.5 mg/m³ (as Cr III, inorganic compounds) 0.5 mg/m³ (as Cr, metal) 0.05 mg/m³ (as Cr VI, inorganic compounds) 0.01 mg/m³ (as Cr VI, inorganic compounds & certain water insoluble)	0.5 mg/m³ (as Cr II & III, inorganic compounds) 0.5 mg/m³ (as Cr, metal) 0.001 mg/m³ (as Cr VI, inorganic compounds & certain water insoluble)	250 mg/m³ (as Cr II & metal) 25 mg/m³ (as Cr III) 15 mg/m³ (as Cr VI)

NE - None Established

1. OSHA PELs (Permissible Exposure Limits) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A ("C") designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.
2. Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. ACGIH TLVs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes. A Short Term Exposure Limit (STEL) is defined as the maximum concentration to which workers can be exposed for a short period of time (15 minutes) for only four times throughout the day with at least one hour between exposures.
3. The National Institute for Occupational Safety and Health Recommended Exposure Limits (NIOSH-REL) - Compendium of Policy and Statements. NIOSH, Cincinnati, OH (1992). NIOSH is the federal agency designated to conduct research relative to occupational safety and health. As is the case with ACGIH TLVs, NIOSH RELs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes.
4. The "immediately dangerous to life or health air concentration values (IDLHs)" are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970's by NIOSH. The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994.
5. Inhalable fraction. The concentration of inhalable particulate for the application of this TLV is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH 2015 TLVs ® and BEIs ® (Biological Exposure Indices) Appendix D, paragraph A.

8(b) Appropriate Engineering Controls: Local exhaust ventilation should be used to control the emission of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations. Emergency eye wash stations and deluge safety showers should be available in the work area.

8(c) Individual Protection Measures:

- **Respiratory Protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA.

  Warning! Air-purifying respirators both negative-pressure, and powered-air do not protect workers in oxygen-deficient atmospheres.
- **Eyes**: Wear eye protection/face protection. A face shield should be used when appropriate to prevent contact with splashed materials. Chemical goggles, face shields or glasses should be worn to prevent eye contact. Contact lenses should not be worn where industrial exposure to this material is likely.
- **Skin**: Persons handling this product should wear appropriate clothing to prevent skin contact. Wear protective gloves.
- **Other protective equipment**: An eyewash fountain and deluge shower should be readily available in the work area.

Section 9 - Physical and Chemical Properties

9(a) Appearance (physical state, color, etc.): Grey to Rust Red

9(b) Odor: Odorless

9(c) Odor Threshold: NA

9(d) pH: NA

9(e) Melting Point/Freezing Point: + 2500°F

9(f) Initial Boiling Point and Boiling Range: +3500°F

9(g) Flash Point: NA

9(h) Evaporation Rate: NA

9(i) Flammability (solid, gas): NA

9(j) Upper/Lower Flammability or Explosive Limits: NA

9(k) Vapor Pressure: NA

9(l) Vapor Density (Air = 1): NA

9(m) Relative Density: NA

9(n) Solubility(ies): NA

9(o) Partition Coefficient n-octanol/water: NA

9(p) Auto-ignition Temperature: ND

9(q) Decomposition Temperature: ND

9(r) Viscosity: ND

NA - Not Applicable

ND - Not Determined for product as a whole

Section 10 - Stability and Reactivity

10(a) Reactivity: Not Determined (ND)

10(b) Chemical Stability: Inmetco® Remelt Alloy is stable under normal storage and handling conditions.

10(c) Possibility of Hazardous Reaction: None Known

10(d) Conditions to Avoid: None Known

10(e) Incompatible Materials: None Known

10(f) Hazardous Decomposition Products: None Known

Section 11 - Toxicological Information

11 Information on Toxicological Effects: The following toxicity data has been determined for **Inmetco® Remelt Alloy** by using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of OSHA and the EU CPL:

Hazard Classification	Hazard Category		Hazard Symbols	Signal Word	Hazard Statement
	EU	OSHA			
Skin/Dermal Sensitization (covers Category 1)	1	1[d]		**Warning**	May cause an allergic skin reaction
Carcinogenicity (covers Categories 1A, 1B and 2)	2	2[g]		**Warning**	Suspected of causing cancer.
Toxic Reproduction (covers Categories 1A, 1B and 2)	2	2[h]		**Warning**	Suspected of damaging fertility or the unborn child.
STOT Following Repeated Exposure (covers Categories 1 & 2)	1	1[j]		**Danger**	Causes damage to central nervous system, and lungs through prolonged or repeated exposure.

NR Not Rated - Available data does not meet criteria for classification.

The Toxicological data listed below are presented regardless to classification criteria. Individual hazard classification categories where the toxicological information has met or exceeded a classification criteria threshold are listed above.

a. No LC_{50} or LD_{50} has been established for **Inmetco® Remelt Alloy**. The following data has been determined for the components:
- **Nickel:** LD_{50} >9000 mg/kg (Oral/Rat)
- **Manganese:** Rat LD_{50} > 2000 mg/kg (REACH)
  Rat LD_{50} > 9000 mg/kg (NLM Toxnet)

b. No Skin (Dermal) Irritation data available for **Inmetco® Remelt Alloy** as a mixture or its individual components.

c. No Eye Irritation data available for **Inmetco® Remelt Alloy** as a mixture or its individual components.

d. No Skin (Dermal)/Respiratory Sensitization data available for **Inmetco® Remelt Alloy** as a mixture. The following Skin (Dermal) Sensitization information was found for the components:.
- **Nickel:** May cause allergic skin sensitization.

e. No Aspiration Hazard data available for **Inmetco® Remelt Alloy** as a mixture or its individual components.

f. No Germ Cell Mutagenicity data available for **Inmetco® Remelt Alloy** as a mixture. The following Mutagenicity and Genotoxicity information was found for the components:.
- **Nickel:** EU RAR has found positive results in vitro and in vivo but insufficient data for classification

g. Carcinogenicity: IARC, NTP, and OSHA do not list **Inmetco® Remelt Alloy** as carcinogens. The following Carcinogenicity information was found for the components:
- **Welding Fumes -** IARC Group 2B carcinogen, a mixture that is possibly carcinogenic to humans.
- **Chromium (as metal and trivalent chromium compounds) –** IARC Group 3 carcinogens, not classifiable as to their human carcinogenicity.
- **Nickel and certain nickel compounds –** Group 2B - metallic nickel Group 1 - nickel compounds ACGIH confirmed human carcinogen. Nickel – EURAR Insufficient evidence to conclude carcinogenic potential in animals or humans; suspect carcinogen classification Category 2 Suspected of causing cancer.

h. No Toxic Reproduction data available for **Inmetco® Remelt Alloy** as a mixture. The following Toxic Reproduction data was found for the components:
- **Nickel**: Effects on fertility.

i. No Specific Target Organ Toxicity (STOT) following a Single Exposure data available for **Inmetco® Remelt Alloy** as a mixture or its individual components.

Section 11 - Toxicological Information(continued)

11 Information on Toxicological Effects (continued):

j. No Specific Target Organ Toxicity (STOT) following Repeated Exposure data was available for **Inmetco® Remelt Alloy** as a whole. The following STOT following Repeated Exposure data was found for the components:

- **Nickel**: Rat 4 wk inhalation LOEL 4 mg/m^3 Lung and Lymph node histopathology. Rat 2 yr inhalation LOEL 0.1 mg/ m^3 Pigment in kidney, effects on hematopoiesis spleen and bone marrow and adrenal tumor. Rat 13 Week Inhalation LOAEC 1.0 mg/m^3 Lung weights, and Alveolar histopathology.
- **Manganese**: Inhalation of metal fumes - Degenerative changes in human Brain; Behavioral: Changes in motor activity and muscle weakness (Whitlock *et al.*, 1966).

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure indices (BEIs) with Other Worldwide Occupational Exposure Values 2009, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Programme on Chemical Safety (IPCS), European Union Classification, Labeling and Packaging. (EU CPL), Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), International Uniform Chemical Information Database (IUCLID), TOXicology Data NETwork (TOXNET), European Risk Assessment Reports (EU RAR).

The following health hazard information is provided regardless to classification criteria and is based on the individual component(s):

Acute Effects by Component:

- **Nickel and nickel oxides:** Nickel may cause allergic skin sensitization. Nickel oxide may cause an allergic skin.
- **Chromium, chromium oxides and hexavalent chrome:** Hexavalent chrome causes damage to gastrointestinal tract, lung, severe skin burns and eye damage, serious eye damage, skin contact may cause an allergic skin reaction. Inhalation may cause allergic or asthmatic symptoms or breathing difficulties.
- **Manganese and manganese oxides:** Manganese and Manganese oxide are harmful if swallowed.

Delayed (chronic) Effects by Component:

- **Nickel and nickel oxides:** Exposure to nickel dusts and fumes can cause sensitization dermatitis, respiratory irritation, asthma, pulmonary fibrosis, edema, and may cause nasal or lung cancer in humans. Nickel causes damage to lungs through prolonged or repeated inhalation exposure. IARC lists nickel and certain nickel compounds as Group 2B carcinogens (sufficient animal data). ACGIH 2015 TLVs® and BEIs® lists insoluble nickel compounds as confirmed human carcinogens. Nickel is suspected of damaging the unborn child.
- **Chromium, chromium oxides and hexavalent chromium:** The health hazards associated with exposure to chromium are dependent upon its oxidation state. The metal form (chromium as it exists in this product) is of very low toxicity. The hexavalent form is very toxic. Repeated or prolonged exposure to hexavalent chromium compounds may cause respiratory irritation, nosebleed, ulceration and perforation of the nasal septum. Industrial exposure to certain forms of hexavalent chromium has been related to an increased incidence of cancer. NTP (The National Toxicology Program) Fourth Annual report on Carcinogens cites “certain Chromium compounds” as human carcinogens. ACGIH has reviewed the toxicity data and concluded that chromium metal is not classifiable as a human carcinogen. Hexavalent chromium may cause genetic defects and is suspected of damaging the unborn child. Developmental toxicity in the mouse, suspected of damaging fertility or the unborn child.
- **Manganese and manganese oxides:** Chronic exposure to high concentrations of manganese fumes and dusts may adversely affect the central nervous system with symptoms including languor, sleepiness, weakness, emotional disturbances, spastic gait, mask-like facial expression and paralysis. Animal studies indicate that manganese exposure may increase susceptibility to bacterial and viral infections. Occupational overexposure (Manganese) is a progressive, disabling neurological syndrome that typically begins with relatively mild symptoms and evolves to include altered gait, fine tremor, and sometimes, psychiatric disturbances. May cause damage to lungs with repeated or prolonged exposure. Neurobehavioral alterations in worker populations exposed to manganese oxides include: speed and coordination of motor function are especially impaired.

Section 12 - Ecological Information

12(a) Ecotoxicity (aquatic & terrestrial): No data available for the product, **Inmetco® Remelt Alloy** as a whole. This product is not an aquatic hazard, however processing may lead to the release of other compounds in bioavailable forms. The following information is offered for this product after processing. Processed dusts may migrate into soil and groundwater and be ingested by wildlife as follows:

- **Hexavalent Chrome:** EU RAR listed as category 1, found acute EC_{50} and LD_{50} to algae and invertebrates < 1 mg.
- **Nickel Oxide:** IUCLID found LC_{50} in fish, invertebrates and algae > 100 mg/l.

12(b) Persistence & Degradability: No Data Available

12(c) Bioaccumulative Potential: No Data Available

12(d) Mobility (in soil): No Data Available

Additional Information:

Hazard Category: Not Reported **Signal Word:** No Signal Word

Hazard Symbol: No Symbol

Hazard Statement: No Statement

Section 13 - Disposal Considerations

Disposal: This product should be recycled whenever possible. Product dusts and fumes from processing operations should also be recycled, or classified by a competent environmental professional and disposed of in accordance with applicable Local, State, and Federal regulations.

Container Cleaning and Disposal: Follow Local, State, and Federal regulations. Observe safe handling precautions.

Please note this information is for Inmetco® Remelt Alloy in its original form. Any alterations can void this information.

Section 14 - Transport Information

14 (a-g) Transportation Information:

US Department of Transportation (DOT) under 49 CFR 172.101 does not regulate **Inmetco® Remelt Alloy** as a hazardous material. All federal, state, and local laws and regulations that apply to the transport of this type of material must be adhered to.

Shipping Name: NOT DOT Regulated **Shipping Symbols:** NA **Hazard Class:** NA **UN No.:** NA **Packing Group** NA **DOT/ IMO Label:** NA **Special Provisions (172.102):** NA	**Packaging Authorizations** **a) Exceptions:** NA **b) Non-bulk:** NA **c) Bulk:** NA	**Quantity Limitations** **a) Passenger Aircraft or Rail:** NA **b) Cargo Aircraft Only:** NA **Vessel Stowage Location:** NA **DOT reportable quantities**: NA

International Maritime Dangerous Goods (IMDG) and the Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID) classification, packaging and shipping requirements follow the US DOT Hazardous Materials Regulation.

Regulations Concerning the International Carriage of Dangerous Goods by Road (ADR) does not regulate **Inmetco® Remelt Alloy** as a hazardous material.

Shipping Name: NOT DOT Regulated **Classification Code:** NA **UN No.:** NA **Packing Group:** NA **ADR Label:** NA **Special Provisions:** NA **Limited Quantities:** NA	**Packaging** **a) Packing Instructions:** NA **b) Special Packing Provisions:** NA **c) Mixed Packing Provisions:** NA	**Portable Tanks & Bulk Containers** **a) Instructions:** NA **b) Special Provisions:** NA

International Air Transport Association (IATA) does not regulate **Inmetco® Remelt Alloy** as a hazardous material.

Shipping Name: NOT DOT Regulated **Class/Division:** NA **Hazard Label (s):** NA **UN No.:** NA **Packing Group:** NA **Excepted Quantities (EQ):** NA	**Passenger & Cargo Aircraft Limited Quantity (EQ)**		**Cargo Aircraft Only**	**Special Provisions:** NA
	Pkg Inst: NA **Max Net Qty/Pkg:** NA	**Pkg Inst:** NA **Max Net Qty/Pkg:** NA	**Pkg Inst:** NA **Max Net Qty/Pkg:** NA	**ERG Code:** NA

Pkg Inst – Packing Instructions Max Net Qty/Pkg – Maximum Net Quantity per Package ERG – Emergency Response Drill Code

Inmetco® Remelt Alloy does not have a **Transport Dangerous Goods (TDG)** classification.

Section 15 - Regulatory Information

Regulatory Information: *The following listing of regulations relating to a Horsehead product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.*

This product and/or its constituents are subject to the following regulations:

OSHA Regulations: Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-2, Z-3): The product, **Inmetco® Remelt Alloy** as a whole is listed. Refer to Section 8, Exposure Controls and Personal Protection

EPA Regulations: The product, **Inmetco® Remelt Alloy** is not listed as a whole in the following regulatory listings. However, individual components of the product are listed:

Components	Regulations
Nickel	CAA, CERCLA, CWA, SARA 313
Chromium	CERCLA, CWA, SARA 313, RCRA, SDWA
Manganese	CAA, SARA 313, SDWA

SARA Potential Hazard Categories: Immediate Acute Health Hazard, Delayed Chronic Health Hazard

Section 313 Supplier Notification: The product, **Inmetco® Remelt Alloy** contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372:

CAS #	Chemical Name	Percent by Weight
7440-02-0	Nickel	20.0 max
7440-47-3	Chromium	16.0 max
7439-96-5	Manganese	3 max

Section 15 - Regulatory Information (continued)

State Regulations: The product, **Inmetco® Remelt Alloy** as a whole is not listed in any state regulations. However, individual components of the product are listed in various state regulations:

Pennsylvania Right to Know (RTK): Contains regulated material in the following categories:
- Hazardous Substances: Nickel, Chromium and Manganese
- Environmental Hazards: Nickel, Chromium and Manganese
- Special Hazardous Substance: Nickel and Chromium

California Prop. 65: Contains elements known to the State of California to cause cancer or reproductive toxicity. This includes Nickel and Chromium Hexavalent Compounds.

New Jersey: Contains regulated material in the following categories:
- Hazardous Substance: Nickel, Chromium and Manganese
- Special Health Hazard Substances: Chromium and Manganese
- Environmental Hazards: Nickel, Chromium and Manganese

Minnesota: Nickel, Chromium and Manganese

Massachusetts: Nickel, Chromium and Manganese

Other Regulations:

WHMIS Classification (Canadian): The product, **Inmetco® Remelt Alloy** is not listed as a whole. However individual components are listed.

Ingredients	WHMIS Classification
Nickel	D2A, D2B
Manganese	D2A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Section 16 - Other Information

Prepared By: Horsehead Corporation

Revision History:

06/11/2015 - Original

Additional Information:

Hazardous Material Identification System (HMIS) Classification

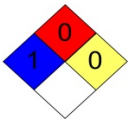
Health Hazard	1
Fire Hazard	0
Physical Hazard	0

HEALTH= **1**, * Denotes possible chronic hazard if airborne dusts or fumes are generated Irritation or minor reversible injury possible.

FIRE= **0**, Materials that will not burn.

PHYSICAL HAZARDS = **0**, Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

National Fire Protection Association (NFPA)



HEALTH = **1**, Exposure could cause irritation but only minor residual injury even if no treatment is given.

FIRE = **0,** Materials that will not burn.

INSTABILITY = **0**, Normally stable, even under fire exposure conditions, and are not reactive with water.

ABBREVIATIONS/ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists	**NIF**	No Information Found
BEIs	Biological Exposure Indices	**NIOSH**	National Institute for Occupational Safety and Health
CAS	Chemical Abstracts Service	**NTP**	National Toxicology Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	**ORC**	Organization Resources Counselors
CLP	Classification, Labelling and Packaging	**OSHA**	Occupational Safety and Health Administration
CFR	Code of Federal Regulations	**PEL**	Permissible Exposure Limit
CNS	Central Nervous System	**PNOR**	Particulate Not Otherwise Regulated
GI, GIT	Gastro-Intestinal, Gastro-Intestinal Tract	**PNOC**	Particulate Not Otherwise Classified
HMIS	Hazardous Materials Identification System	**PPE**	Personal Protective Equipment
IARC	International Agency for Research on Cancer	**ppm**	parts per million
LC50	Median Lethal Concentration	**RCRA**	Resource Conservation and Recovery Act
LD50	Median Lethal Dose	**REACH**	Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals
LD_{Lo}	Lowest Dose to have killed animals or humans	**RTECS**	Registry of Toxic Effects of Chemical Substances
LEL	Lower Explosive Limit	**SARA**	Superfund Amendment and Reauthorization Act
LOEL	Lowest Observed Effect Level	**SCBA**	Self-contained Breathing Apparatus
LOAEC	Lowest Observable Adverse Effect Concentration	**SDS**	Safety Data Sheet

Section 16 - Other Information (continued)

ABBREVIATIONS/ACRONYMS (continued):

µg/m³	microgram per cubic meter of air	**STEL**	Short-term Exposure Limit
mg/m³	milligram per cubic meter of air	**TLV**	Threshold Limit Value
mppcf	million particles per cubic foot	**TWA**	Time-weighted Average
MSHA	Mine Safety and Health Administration	**UEL**	Upper Explosive Limit
NFPA	National Fire Protection Association		

Disclaimer: This information is taken from sources or based upon data believed to be reliable. Our objective in sending this information is to help you protect the health and safety of your personnel and to comply with the OSHA Hazard Communication Standard and Title III of the Emergency Planning and Community Right-to-Know Act. Horsehead makes no warranty as to the absolute correctness, completeness, or sufficiency of any of the foregoing, or any additional, or other measures that may not be required under particular conditions. THIS HORSEHEAD SDS MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY IMPLIED WARRANTIES OTHERWISE ARISING FROM COURSE OF DEALING OR TRADE.