Inconel Hastelloy Flux Cored Wire

1 PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Inconel Hastelloy Flux Cored Wire
Common Name: 673, 4082, 4182, 4625, 4637, 4638
SDS Number: 29
Revision Date: 5/29/2015
Version: 2
Product Use: Welding

Supplier Details:
WELD MOLD COMPANY
750 Rickett Road
Brighton, MI 48116

Emergency: 810-229-9521
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2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):

Health, Skin corrosion/irritation, 1
Health, Specific target organ toxicity - Single exposure, 3
Health, Carcinogenicity, 1
Health, Specific target organ toxicity - Repeated exposure, 2

GHS Label elements, including precautionary statements

GHS Signal Word: DANGER

GHS Hazard Pictograms:

GHS Hazard Statements:

H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation
H350 - May cause cancer
H373 - May cause damage to organs through prolonged or repeated exposure
CGA-HG11 - SYMPTOMS MAY BE DELAYED.

GHS Precautionary Statements:

P232 - Protect from moisture.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
CGA-PG27 - Read and follow the Safety Data Sheet (SOS) before use.

Hazards not otherwise classified (HNOC) or not covered by GHS

Route of Entry: Eyes; Skin
Target Organs: Throat; Nose, Respiratory system

Inhalation: Short term overexposure to welding fumes may result in discomfort such as: dizziness, nausea, or dryness or irritation of the nose, throat, lungs, and/or eyes.
ACCUTE EFFECTS: Irritating to the nose, throat and respiratory tract.
SUBCHRONIC/CHRONIC TOXICITY
CHRONIC: Chronic overexposure to welding fumes can result in: Chronic respiratory problems, iron build-up in the lungs, bone erosion, reduced pulmonary functions and nervous disorders.

Skin Contact: The bright light produced by the arc can burn skin and eyes

Eye Contact: Fumes may be moderately irritating to the eyes

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas#	%	Chemical Name
7440-44-0	0.02-0.15%	Carbon
7439-96-5	0-10%	Manganese compounds and fumes (as Mn)
7440-21-3	0.2-1%	Silicon
7440-47-3	13-25%	Chromium
7439-98-7	0-23%	Molybdenum: soluble and insoluble compounds
7440-33-7	0-4.5%	Tungsten
7440-48-4	0-13%	Cobalt, metal, dust and fume (as Co)
7439-89-6	0-20%	Iron
1314-62-1	0-0.6%	Vanadium, pentoxide dust and fume
7440-02-0	0-71.28%	Nickel, metallic and alloys
7440-50-8	0-0.5%	Copper
13463-67-7	0-20%	Titanium dioxide
15096-52-3	0-0.5%	Sodium aluminum flouride (as F)
1317-65-3	0-2%	Calcium carbonate (limestone)
12030-97-6	0-2%	Titanate (TiO32-), dipotassium
7789-75-5	0-2%	Calcium fluoride (CaF2)
7440-67-7	0-5%	Zirconium
7440-03-1	0-4.5%	Niobium

EXPOSURE LIMITS

CHEMICAL NAME	OSHA PEL	ACGIH TLV
Carbon	NL	NL
Manganese compounds	5 mg/m3	1 mg/m3
Silicon	10 mg/m3* = Total dust, <=Respirable fraction	10 mg/m3 Total Dust
Chromium	1 mg/m3	0.5 mg/m3
Soluble compounds, as Mo	15 mg/m3	10 mg/m3
Tungsten	5 mg/m3 TWA, 10mg/m3 STEL	5 mg/m3 TWA, 10 mg/m3 STEL (inhalable)
Cobalt	.01 mg/m3 TWA	.02 mg/m3 TWA
Iron	10 mg/m3 TWA (Total Dust)	10 mg/m3 TWA (particles)
Vanadium	0.05 mg/m3 TWA	1 mg/m3 TWA
Nickel Metal	1 mg/m3	1.5 mg/m3
Copper	1 mg/m3	1 mg/m3
Titanium dioxide	10 mg/m3 NL = Not Listed	10 mg/m3
Sodium aluminum fluoride	2.5 mg/m3 as F	2.5 mg/m3
Calcium Carbonate (limestone)	15 mg/m3	2 mg/m3
Titanate, dipotassium	2.5 mg/m3 (Dust) TWA	2.5 mg/m3 TWA
Calcium Fluoride	2.5 mg/m3 As F	2.5 mg/m3
Zirconium	5 mg/m3	10 mg/m3

Niobium	NL	NL

4 FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention. Non-irritating.

5 FIRE FIGHTING MEASURES

Welding consumables are not flammable, however the welding arc and sparks will ignite other combustible materials. Do not weld in the presence of combustible materials.

6 ACCIDENTAL RELEASE MEASURES

GENERAL PROCEDURES: Prevent waste from contaminating the surrounding environment. Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, provincial, and local regulations.

7 HANDLING AND STORAGE

Storage Requirements: Store in a dry area.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTION

EYES AND FACE: S39 - Wear eye/face protection

RESPIRATORY: Use sufficient ventilation, local exhaust at the arc, or both to keep the fumes and gases below TLV's in the workers breathing zone. In confined spaces use respirable fume respirator or air-supplied respirator.

PROTECTIVE CLOTHING: The intensity of the arc and the sparks emitted from it can cause severe burns. All skin should be covered

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State: The welding consumable discussed herein is composed of a wire strip or solid wire rod with or without a flux based core or outer coating.

10 STABILITY AND REACTIVITY

Hazardous Decomposition: The composition and quantity of welding fumes generated are dependent upon several variables including the base material, base material contaminants and/or coatings (paint, galvanized, etc.) welding process utilized. Other factors that will effect the quantity of fumes available for inhalation are the number of welding operators in a designated work area, the quality of ventilation, the position of the operator with respect to the fume plume, as well as the presence of contaminants in the atmosphere from other manufacturing operations. Reasonably expected fume constituents of this product would include: complex oxides of iron, manganese, silicon, chromium, nickel, molybdenum, calcium, magnesium, and titanium.
COMMENTS: No hazard exists until this product is used in welding.

11 TOXICOLOGICAL INFORMATION

REPRODUCTIVE TOXIN: Not known
MUTAGENICITY: Not known

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No data available

13 DISPOSAL CONSIDERATIONS

Dispose of in accordance with federal, state and local regulations.

14 TRANSPORT INFORMATION

SPECIAL SHIPPING NOTES: Special shipping considerations for this product are limited to those necessary to prevent damaging the product.

15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES

Manganese compounds and fumes (as Mn) (7439-96-5) [0-10%] MASS, NJHS, OSHAWAC, PA, SARA313, TSCA, TXAIR

Silicon (7440-21-3) [0.2-1%] MASS, OSHAWAC, PA, TSCA, TXAIR

RQ(5000LBS), Chromium (7440-47-3) [13-25%] CERCLA, EPCRAWPC, HWRCRA, MASS, NJHS, NRC, OSHAWAC, PA, PRIPOL, SARA313, TOXICPOL, TSCA, TXAIR

Molybdenum: soluble and insoluble compounds (7439-98-7) [0-23%] MASS, OSHAWAC, PA, TSCA, TXAIR

Tungsten (7440-33-7) [0-4.5%] MASS, OSHAWAC, PA, TSCA, TXAIR

Cobalt, metal, dust and fume (as Co) (7440-48-4) [0-13%] MASS, NJHS, OSHAWAC, PA, PROP65, SARA313, TSCA, TXAIR

Iron (7439-89-6) [0-20%] TSCA

RQ(100LBS), Nickel, metallic and alloys (7440-02-0) [0-71.28%] CERCLA, EPCRAWPC, MASS, NJHS, NRC, OSHAWAC, PA, PRIPOL, SARA313, TOXICPOL, TSCA

Titanium dioxide (13463-67-7) [0-20%] MASS, OSHAWAC, PA, TSCA, TXAIR

Calcium carbonate (limestone) (1317-65-3) [0-2%] MASS, OSHAWAC, PA, TSCA, TXAIR

Titanate (TiO32-), dipotassium (12030-97-6) [0-2%] TSCA

Calcium fluoride (CaF2) (7789-75-5) [0-2%] TSCA

Zirconium (7440-67-7) [0-5%] MASS, OSHAWAC, PA, TSCA, TXAIR

Niobium (7440-03-1) [0-4.5%] TSCA

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Regulatory CODE Descriptions
-----------------------------------------------------------------
RQ = Reportable Quantity
MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
OSHAWAC = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA313 = SARA 313 Title III Toxic Chemicals
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level
CERCLA = Superfund clean up substance
EPCRAWPC = EPCRA Water Priority Chemicals
HWRCRA = RCRA Hazardous Wastes
NRC = Nationally Recognized Carcinogens
PRIPOL = Clean Water Act Priority Pollutants
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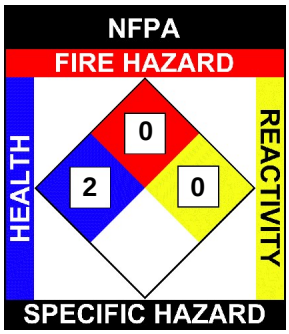
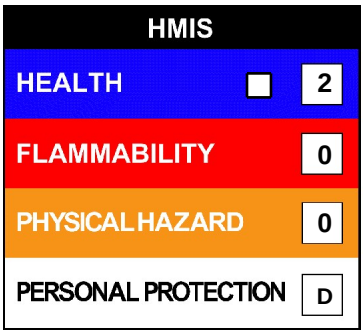
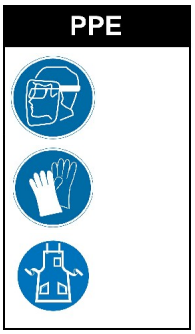
TOXICPOL = Clean Water Act Toxic Pollutants
PROP65 = CA Prop 65

16 OTHER INFORMATION

NFPA: Health = 2, Fire = 0, Reactivity = 0, Specific Hazard = n/a
HMIS III: Health = 2, Fire = 0, Physical Hazard = 0
HMIS PPE: D - Face Shield and Eye Protection, Gloves, Apron







REGULATORY INFORMATION

UNITED STATES
SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
313 REPORTABLE INGREDIENTS: This product contains some or all of the following reportable ingredients; Copper, Chromium, Manganese and Nickel
TSCA (TOXIC SUBSTANCE CONTROL ACT)
"WARNING": This product contains the following chemical(s) known to the state of California to cause cancer: Nickel (metallic) CAS# 7440-02-0