MATERIAL SAFETY DATA SHEET

UGINE-SAVOIE IMPHY

SECTION I - Identification

Manufacturer:

UGITECH
Usine d'Ugine
73400 Ugine
FRANCE
Telephone: 011-33-79-89-30-21

U.S.A. Subsidiary
Sales and Distribution:

UGINE STAINLESS & ALLOYS, INC.
2005 South Easton Road, Suite 208
Doylestown, PA 18901
Telephone: (215) 345-5200
Contact: Julie Ringwood

Product Identification

- *Alloy:* 303
- *Nominal Composition (% by weight):*

Ni	8.90
Cr	18.30
Mn	1.80
Si	1.00
Fe	Balance

* *COATINGS:* *Certain materials such as lime, alkaline salts, borax or mineral oil in the processing, and certain residuals (<1% total weight of product) may remain on the product's surface.*

UGINE STAINLESS & ALLOYS, INC. makes no warranty with respect to information contained in this M.S.D.S. and relinquishes all liability from reliance thereon.

SECTION II - Hazardous Ingredients for 303

		ACGIH TLVs		OSHA PELs		NIOSH RELs		
		TWA	STEL/ CEIL (C)	TWA	STEL/ CEIL (C)	TWA	STEL/ CEIL (C)	Carcinogenicity Category
Substance	CAS #	MG/M	MG/M	MG/M	MG/M	MG/M	MG/M	
Ni	7440-02-0	1.5 **I**	0	1.0	0	0.015	0	IARC-2B MAK-1 NIOSH-Ca NTP-R TLV-A5
Cr	7440-47-3	0.5	0	1.0	0	0.5	0	IARC-3 TLV-A4
Fe - oxide dust & fume	1309-37-1	5.0	0	10.0	0	5.0	0	IARC-3 TLV-A4
Mn – compounds Mn - fume	7439-96-5 7439-96-5	0.2 0.2	0 0	0 0	C5 C5	1 1	3 3	EPA-D EPA-D
Si	7440-21-3	10	0	15*;5** *Total dust **Respirable fraction	0	10*;5** *Total dust **Respirable fraction	0	

NOTE: PEL/TWA data based on solid, metallic form, unless otherwise indicated.

SECTION III - Physical Data

Boiling Point	:	N/A
Melting Point	:	2400° to 2800° Fahrenheit
Vapor Pressure	:	N/A
Vapor Density	:	N/A
Solubility in Water	:	N/A
Specific Gravity	:	7.5 to 8.5
Percent Volatile by Volume	:	N/A
Evaporation Rate	:	N/A
Appearance and Odor	:	Solid metal, odorless

SECTION IV - Fire and Explosion Hazard Data

None. Product is a metallic solid in wire, rod, bar, strip, sheet, plate or disc form.

SECTION V - Health Hazard Data

Specialty metals, in their various forms, as delivered, are not known to present any health hazards. Welding, grinding, cutting, stamping, abrading, or any other manufacturing method creating a dust, fume or oxide may cause hazardous levels of certain elements, as addressed in SECTION II. In such cases, extra precautions appropriate to the operation and industry safety standards should be taken (see SECTION VIII for more details

Listed below are certain critical effects (TLV Basis) which apply to hazardous ingredients found in alloys supplied. Please refer to SECTION II for a list of potential hazardous ingredients found in the subject alloy(s).

Chromium	:	Irritation; dermatitis.
Cobalt	:	Asthma; lung; CVS
Copper	:	Irritation; GI; metal fume fever
Iron	:	Pneumoconiosis
Manganese	:	CNS (manganism); lung; reproductive
Molybdenum	:	Irritation
Nickel	:	Dermatitis; pneumoconiosis; kidney; Cancer (lung); irritation
Silicon	:	Lung
Titanium	:	(Dioxide) Lung.
Vanadium	:	(Pentoxide Dust & Fume) Irritation; lung.

Primary routes of entry:

Exposure occurs generally through inhalation of fumes and dust created during certain manufacturing operations. Certain elements, however, may be hazardous through direct skin and/or eye contact. Ingestion, while highly unlikely, could also be harmful in the case of certain elements.

Emergency and first-aid procedures:

Utilize standard First-Aid procedures as normally administered for situations resulting from day-to-day operation.

Examples:

Inhalation	:	Move individual to fresh air. Consult physician.
Skin	:	Wash immediately with water and mild antiseptic detergent. Consult physician.
Eye	:	Flush with water. Consult physician.
Ingestion	:	Highly unlikely. Consult physician.

SECTION VI - Reactivity Data

Stability	:	Stable
Incompatibility	:	N/A
Hazardous Decomposition	:	N/A
Hazardous Polymerization	:	N/A

SECTION VII - Spill or Leak Procedures

Not applicable.

SECTION VIII - Special Protection Information

Respiratory Protection	:	In manufacturing or handling procedures creating dust or fumes in excess of the PEL/TLV levels given in SECTION II, NIOSH-approved respirators should

be worn to limit unnecessary inhalation of potentially hazardous dust particles or fumes.

Skin and Eye Protection : Protective clothing, gloves and glasses should be worn as warranted by the manufacturing operation.

Ventilation : In manufacturing or handling procedures creating dust or fumes in excess of the PEL/TLV levels given in SECTION II, exhaust systems should be utilized to keep potentially harmful dust particles or fumes below PEL/TLV levels stated in SECTION II.

Protective Equipment : As warranted by accepted safety standards pertinent to your warehouse/manufacturing operation. Special attention should be given to respirator protection, proper ventilation and protection against skin and eye irritation, through the use of protective clothing, gloves and glasses.

SECTION IX - Special Precautions / Additional Information

Special Precautions : None, other than those indicated in SECTION VIII.

Additional information : During welding, precautions should be taken for airborne contaminants and noxious gases that may originate from the welding process or from components of the welding rod. Of special concern are silica or silicates, or both; fluorides; copper; manganese; carbon monoxide and nitrogen oxides. Arc and sparks generated when welding with this product could be a source of ignition for combustible and flammable materials.

REFERENCES

Code of Federal Regulations, Title 29, Part 1910.1000, Subpart Z, *"Toxic and Hazardous Substances,"* Rev. July 1, 1990.

Code of Federal Regulations, Title 29, Part 1910.12000, *"Hazard Communication."*

Code of Federal Regulations, Title 29, Appendices B and C to Part 1900.1200. *"Hazard Determination (Mandatory)"* and *"Information Sources (Advisory)."*

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