Hastelloy® 1 Product Name: Hastelloy® Other: Hastelloy® (276, Hastelloy* C22 Supplie: Stanford Advanced Materials E-mail: Sale@samaterials.com Tel: (949) 407-8904 Address: 2361 Birtcher Dr., Lake Forest, CA 92630 U.S.A. 24 HOUR EMERGENCY ASSISTANCE: (949) 407-8904 Recommended Uses: Scientific Research 2 HAZARDS IDENTIFICATION GHS Classification (29 CPR 1910.1200): Not classified as hazardous GHS Label Elements: Signal Word: N/A Hazard Statements: N/A Precautionary Statements: N/A 231-107-2 Chromium Molydenum 7439-987 2.5-4.5 231-134-9 Cobe Stabel Telements: N/A 231-107-2 Chromium Marqueres / 740-62-2 1 231-107-2 Chromium Marqueres / 740-63-5 1 231-107-2 Chromium Marqueres / 740-62-2 1 231-107-2 Chromium 740-42-2 2 231-107-2 Chromium 740-42-2 2 231-107-1 2 2														
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 <u>4 FIRST AID MEASURES</u> General Measures: Under normal handling and use, exposure to solid forms of this material present few health hazards. Subsequent operations such as grinding, melting or welding may produce potentially hazardous dust or fumes which can be inhaled or come in contact with the skin or eyes. INHALATION: Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek medical attention. INGESTION: Rinse mouth with water. Do not induce vomiting. Seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person. SKIN: Remove contaminated clothing, brush material off skin, wash affected area with soap and water. Seek 	11.	:				Н.	:		231-158-0 231-105-1	2.5 ;··· <1	<2 <	7440-48-4 7439-96-5	lt ;··· janese	Cobalt Manga
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	H.,									cious person.	unconsci	mouth to an u	E STION : Rir anything by	INGE: give a
EYES: Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek	, i .	11				. i .		$\pm e^{i}$. i .	er, including	persist. rm wate	if symptoms with lukewar	cal attențion 5: Flush eyes	médic EYES :
medical attention if symptoms persist.		• . :					1.1						cal attention	

Hastelloy[®] SAFETY DATA SHEET

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation. See section 11 for more information.

Indication of Immediate Medical Attention and Special Treatment: No other relevant information available.

5 FIREFIGHTING MEASURES

Extinguishing Media: Use suitable extinguishing media for surrounding material and type of fire. **Unsuitable Extinguishing Media**: No information available.

Specific Hazards Arising from the Material: This product does not present fire or explosion hazards as shipped. Small chips, fine turnings and dust from processing may be ignitable. May emit metal oxide fumes under fire conditions.

Special Protective Equipment and Precautions for Firefighters: Full face, self-contained breathing apparatus and full protective clothing when necessary.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate respiratory and protective equipment specified in section 8. Avoid dust formation. Avoid contact with skin and eyes. Avoid breathing dust or fume. Methods and Materials for Containment and Cleaning Up: Sweep or scoop up. Place in a closed container for further handling and disposal. Scrap can be collected for recycling.

Environmental Precautions: Do not allow to enter drains or to be released to the environment,

7 HANDLING AND STORAGE

Precautions for Safe Handling: Avoid creating dust. Provide adequate ventilation if dusts are created. See section 8 for information on personal protection equipment.Conditions for Safe Storage: Store in a sealed container. Store in a cool, dry area. See section 10 for more

information on incompatible materials.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:	OSHA/PEL:		ACGIH/TLV:		
Nickel	1 mg/m ³		1.5 mg/m ³		
Molybdenum	15 mg/m ³ (insoluble compounds,	total dust)	10 mg/m ³ (insoluble compounds, inhalab	le)	
Chromium	1 mg/m ³		0.5 mg/m ³		
Iron	No exposure limit established	11	No exposure limit established	: * *	11
Tungsten	5 mg/m ³		5 mg/m ³		
Cobalt	0.1 mg/m ³		0.02 mg/m ³		
Manganese	5 mg/m ³		0.2 mg/m ³	1	1.
Vanadium	No exposure limit established		No exposure limit established		

Engineering Controls: Ensure adequate ventilation to maintain exposures below occupational limits. Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Respiratory Protection: If permissible levels are exceeded, use NIOSH approved dust respirator.

Eye Protection: Safety glasses

Skin Protection: Wear impermeable gloves, protective work clothing as necessary.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

- Form:
- Solid in various forms

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Color:	Silver-gra	y metallic	1.1			1.					
Odor:	Odorless	,	'								
Odor Threshold:	Not deteri	mined									
pH:		N/A									
Melting Point:			5 °C - 1370	°C							
Boiling Point:		No dat									
Flash Point:		N/A									
Evaporation Rate	:	N/A									
Flammability		No data	a .:			. :					
Jpper Flammable	Limit:	No data									
Lower Flammable		No data									
apor Pressure:		No dat	1.1	1	111	1.1	11	111		:: ·	
apor Density		N/A									
Relative Density	(Specific G		~8.9 g/cc								
Solubility in H ₂ O:		Insolu									
Partition Coefficie				etermined		: * *			111	11	
Autoignition Tem		No dat	-								
Decomposition Te											
Viscosity:	-	N/A				· :	:				
		,								1	
10 STABILITY A Reactivity: No dat		<u>IVITY</u>	· · ·	· · ·	111	1.1	1	1.1.1	· · ·	1:1	
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Hastelloy[®] SAFETY DATA SHEET

Manganese: Chronic inhalation exposure of humans to high levels of manganese may result in a syndrome called manganism which typically begins with feelings of weakness and lethargy and progresses to other symptoms such as gait disturbances, clumsiness, tremors, speech disturbances, a mask-like facial expression and psychological disturbances. Manganese is an essential micronutrient in humans. Vanadium: No data

Acute Toxicity: No data Carcinogenicity: Nickel: NTP: R - reasonably anticipated to be a human carcinogen IARC: 2B - possibly carcinogenic to humans

To the best of our knowledge the chemical, physical and toxicological characteristics of the substance are not fully known.

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12 ECOLOGICAL INFOR										
Ecotoxicity: No data										
Persistence and Degrada	ability: No data									
Bioaccumulative Potenti		: * *	11.		111	11.		111	11.	. :
Mobility in Soil: No data										
Other Adverse Effects: N	lo further relevan	nt infor	mation ava	ailable.						
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13 DISPOSAL CONSIDE	RATIONS									
Waste Disposal Method:										
Product: Dispose of in acc					ations.					
Packaging: Dispose of in										
14 TRANSPORT INFOR	MATION	: • •	11.		: • •			: • •		. :
DOT/ADR/IATA/IMDG F		t regul	ated							
UN Number:	N/A	-								
UN Proper Shipping Nan										
Transport Hazard Class:										
Packing Group:	N/A									
Marine Pollutant: No		1.1	1		1.1	1		1.1	1	
Special Precautions: N/A	N N									
15 REGULATORY INFO	1	: • •	::. ::.			Н.			÷.	.:
TSCA Listed: All compone										
Regulation (EC) No 1272										
Canada WHMIS Classific									1.1	
HMIS Ratings: Health: 0		-	Reactivit	-						
NFPA Ratings: Health: 0		-	Reactivi	=						
Chemical Safety Assess	nent : A chemical	l safet	y assessme	ent has not	: been carrie	ed out.		1.1		
16 OTHER INFORMATIO	ON									
Hastelloy [®] is a registered t		nes In	ternational	Inc						
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guide. Eagle Alloys Corpora										
with the above product.		inclu i		iy damage	resulting i					
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