MATERIAL SAFETY DATA SHEET

SECTION I -- IDENTIFICATION

SUPPLIER NAME: VANGUARD STEEL LTD.	**PRODUCT TYPE:** MIG WIRE FOR STAINLESS STEEL
ADDRESS: 2160 MEADOWPINE BLVD., MISSISSAUGA ONTARIO CANADA	**TRADE NAME:** BONARC ER316LSi
TELEPHONE NUMBER: 905-821-1100	**SIZE:** ALL SIZES
DATE PREPARED: MARCH 6, 2012	**CLASSIFICATION** AWS ER316LSi

SECTION II -- HAZARDOUS MATERIALS

COVERING AND FLUX INGREDIENTS	WT. %	TLV mg/m^3	SUPPLEMENTAL INFORMATION
STAINLESS STEEL WIRE	100.00	--	(*) NOT LISTED NUISANCE VALUE MAXIMUM 10 mg/m^3
NOMINAL WIRE COMPOSITION			
CARBON	0.01	--	
SILICON	0.70	10 (*)	
MANGANESE	1.60	1.00	
CHROMIUM	19.14	0.50	
NICKEL	12.20	1.00	
PHOSPORUS	0.020	--	
SULFUR	0.002	--	
MOLYBDENUM	2.32	10.0	
IRON	BAL	10 (*)	
OTHERS	**WT. %**	**TLV mg/m^3**	

SECTION III -- FIRE AND EXPLOSION HAZARD DATA

NON-FLAMMABLE:

WELDING ARC AND SPARKS CAN IGNITE COMBUSTABLES AND FLAMMABLE PRODUCTS

SEE Z49.1 REFERENCED IN SECTION VI

MATERIAL SAFETY DATA SHEET

SECTION IV -- HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE:	MAXIMUM FUME EXPOSURE 5.0 mg/m^3
EFFECT OF OVEREXPOSURE:	WELDING FUME MAY RESULT IN DISCOMFORT SUCH AS DIZZINESS,
	NAUSEA OR IRRITATION OF NOSE, THROAT OR EYES
	ARC RAYS CAN INJURE EYES AND BURN SKIN, ELECTRIC SHOCK CAN KILL
EMERGENCY AND FIRST AID PROCEDURES:	CALL FOR MEDICAL AID. IF BREATHING IS DIFFICULT
	GIVE OXYGEN. IN ALL CASES CALL A PHYSICIAN

SECTION V -- REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	•	NOT NECESSARY
INCOMPATABILITY (MATERIALS TO AVOID): NOT NECESSARY			
HAZARDOUS DECOMPOSITION PRODUCTS: WELDING FUMES AND GASES CANNOT BE CLASSIFIED SIMPLY			
THE COMPOSITION AND QUANTITY OF BOTH ARE DEPENDANT ON THE METAL BEING WELDING, THE PROCESS,			
ELECTRODES USED AND PROCEDURE			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	•	NOT NECESSARY

SECTION VI -- SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIALS ARE RELEASED OR SPILLED:	NOT NECESSARY
WASTE DISPOSAL METHOD:	USE SCRAP DISPOSAL IN AN ENVIRONMENTALLY ACCEPTALBE MANNER ACCORDING TO LOCAL REGULATIONS UNLESS OTHERWISE NOTED.

SECTION VII -- SPECIAL PROTECTION INFORMATION	
RESPIRATORY PROTECTION: USE RESPIRABLE FUME RESPIRATOR WHEN WELDING IN CONFINED SPACE	
USE ENOUGH VENTILATION: EXHAUST AT THE ARC, OR BOTH, TO KEEP FUMES AND GASES AWAY FROM YOUR BREATHING ZONE AND THE GENERAL AREA.	
PROTECTIVE GLOVES: YES, WHEN WELDING	EYE PROTECTION: SHIELD NECESSARY WHEN WELDING
OTHER PROTECTIVE EQUIPMENT: MAY INCLUDE ARM PROTECTORS, APRONS, SHOULDER PROTECTION, HATS, AND DARK SUBSTANTIAL CLOTHING. DO NOT ALLOW LIVE ELECTRODES TO CONTACT SKIN.	

SECTION VIII -- SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HAULING AND STORING:	KEEP DRY
OTHER PRECAUTIONS:	READ AND UNDERSTAND THE MANUFACTURER'S INTSRUCTION AND THE PRECAUTIONARY LABEL ON THE PRODUCT