

MATERIAL SAFETY DATA SHEET

SECTION I -- IDENTIFICATION

SUPPLIER NAME: VANGUARD STEEL LTD.	PRODUCT TYPE: FLUX CORED WIRE FOR MILD & HIGH TENSILE STEELS
ADDRESS: 2160 MEADOWPINE BLVD., MISSISSAUGA, ONTARIO, CANADA	TRADE NAME: BONARC E71T-1
TELEPHONE NUMBER: 905- 821-1100	SIZE: ALL SIZES
DATE PREPARED: MARCH 1, 2015	CLASSIFICATION: AWS E71T-1

SECTION II -- HAZARDOUS MATERIALS

FLUX INGREDIENTS	WT. %	TLV mg/m ³	SUPPLEMENTAL INFORMATION
TITANIUM OXIDE	15.4	10	(*) NOT LISTED NUISANCE VALUE MAXIMUM 10 mg/n ³
SODIUM SILICATE	0.4	10 (*)	
MAGNESIUM OXIDE	0.4	10 (*)	
MANGANESE	1.5	5	
ALUMINUM OXIDE	0.2	10	
SILICON OXIDE	1.0	10 (*)	
ZIRCONIUM	1.0	5	
IRON OXIDE	3.2	10	
OTHERS	WT. %	TLV mg/m³	
LOW CARBON STEEL STRIP	76.9	10 (*)	

SECTION III -- FIRE AND EXPLOSION HAZARD DATA

NON-FLAMMABLE:

WELDING ARC AND SPARKS CAN IGNITE COMBUSTIBLES AND FLAMMABLE PRODUCTS

SEE Z49.1 REFERENCED IN SECTION VI

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SECTION IV -- HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE:	MAXIMUM FUME EXPOSURE	5.0 mg/m ³
EFFECT OF OVEREXPOSURE:	WELDING FUMES 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	P	NOT NECESSARY
INCOMPATIBILITY (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 WELDED, THE PROCESS, ELECTRODES USED AND PROCEDURE.			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	P	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 ACCEPTABLE 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 INSTRUCTION AND THE PRECAUTIONARY LABEL ON THE PRODUCT.