

# MATERIAL SAFETY DATA SHEET

## MATERIAL IDENTIFICATION AND USE

**MATERIAL NAME:** STAINLESS/SPECIALTY STEEL

**SYNONYMS:** INCLUDES ALL SHEET PRODUCTS, PLATE, STRIP, BAR, INGOTS, SLABS AND TUBULAR PRODUCTS.

**MATERIAL USE:** MANUFACTURE OF ARTICLES

**Marmon/Keystone Canada Inc.**



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HAZARDOUS INGREDIENTS BASE METAL			(ALL VALUES ARE EXPRESSED AS WEIGHT PERCENT)			
COMPONENT *	CAS NUMBER	TLV ACGIH (mg/m <sup>3</sup> )	LD50/LC50	ELECTRIC ALLOY STEEL	TOOL STEELS	300, 400 SERIES STAINLESS STEELS
IRON	7438-89-5	5 (Fume)	NOT AVAILABLE	95	90	80
CHROMIUM	7440-47-3	0.5	NOT AVAILABLE	5	25	30
NICKEL	7440-02-0	1	>9 gm/kg (oral-rat)	5	5	35
MOLYBDENUM	7439-98-7	10	NOT AVAILABLE	2	5	6
VANADIUM	1314-62-1	0.05	NOT AVAILABLE	2	5	-
COBALT	7440-48-4	0.8	NOT AVAILABLE	75	8	1
MANGANESE	7439-96-5	1 (fume)	>9 gm/kg (oral-rat)	-	-	2.5
ALUMINUM	7429-90-5	10	NOT AVAILABLE	1.5	-	-
SILICON	7440-21-3	10	NOT AVAILABLE	2	2.5	-
COPPER	7440-50-8	.2 (fume)	NOT AVAILABLE	-	-	5

\* AS REQUIRED BY WHMIS INGREDIENT DISCLOSURE LIST. FOR EXACT COMPOSITION REFER TO ANALYSIS OR SPECIFICATIONS.

## NON-METALLIC COATINGS

DRY-LUBE	- MIXTURE OF BORATE AND CARBONATE SOAP LUBRICANTS FOR METAL FORMING.	NOTE: INDIVIDUAL COATING COMPONENTS ARE PRESENT AT
PRE-LUBE	- PETROLEUM BASED OIL COATING USED FOR METAL FORMING.	VALUES BELOW THE REPORTING REQUIREMENTS OF THE
LUBE OIL	- LUBRICATING PROTECTIVE PETROLEUM BASED OIL.	WHMIS INGREDIENT DISCLOSURE LIST.
SLUGHING OIL	- MINERAL OIL BASED PROTECTIVE COATING CONTAINING SMALL QUANTITIES OF ANTI-OXIDANTS.	
VANISHING OIL	- SOLVENT APPLIED PETROLEUM OIL PROTECTIVE COATING LEAVING A WAX-LIKE PROTECTIVE COATING.	

## PHYSICAL DATA

PHYSICAL STATE: SOLID	ODOUR: na	EVAPORATION RATE: na	BOILING POINT: na
VAPOUR PRESSURE: na	VAPOUR DENSITY: na	FREEZING POINT: 1530 C	DENSITY 7.86
COEFFICIENT WATER/OIL DISTRIBUTION: na		pH: na	ODOUR THRESHOLD: na
APPEARANCE: SILVER GREY METALLIC (STEEL)		SOLUBILITY IN WATER: na	

FIRE AND EXPLOSION HAZARDS

-- NOT APPLICABLE --

CHEMICAL STABILITY: YES

INCOMPATIBILITY TO OTHER SUBSTANCES: YES

CONDITIONS OF REACTIVITY: na

CONTACT WITH MINERAL ACIDS WILL RELEASE HYDRAGEN GAS

HAZARDOUS DECOMPOSITION PRODUCTS: na

**PAGE -1- LEGEND: na NOT APPLICABLE, U UNKNOWN**

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS OBTAINED FROM THE USE THEREOF.

# MATERIAL NAME: STAINLESS/SPECIALTY STEEL

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## PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: DEPENDENT UPON PROCESS BEING PERFORMED ON MATERIAL. EACH OPERATION MUST BE ADDRESSED FOR SUITABLE EQUIPMENT.

GLOVES (Specify): LEATHER FACED EYE ((Specify):

CLOTHING (Specify): na FOOTWEAR (Specify): na

RESPIRATORY (Specify): NA OTHER: (Specify): NA APPROVED FUME FILTER RESPIRATOR, GLOVES & EYEWEAR REQUIRED DURING WELDING.

ENGINEERING CONTROLS (e.g. ventilation, enclosures, specify): GENERAL OR LOCAL EXHAUST VENTILATION DURING WELDING.

LEAK AND SPILL PROCEDURES: na

STORAGE REQUIREMENTS: na

SPECIAL SHIPPING INFORMATION: na

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## TOXICOLOGICAL PROPERTIES OF MATERIAL

ROUTE OF ENTRY: PROLONGED SKIN CONTACT WITH COATED STEEL MAY CAUSE SKIN IRRITATION IN SENSITIVE INDIVIDUALS. INHALATION OF METAL PARTICULATE OR ELEMENTAL, OXIDE FUMES GENERATED DURING WELDING, BURNING, GRINDING OR MACHINING MAY POSE ACUTE OR CHRONIC HEALTH EFFECTS.

EFFECTS OF ACUTE EXPOSURE TO MATERIAL: INHALATION OF OVEREXPOSURE TO MANGANESE, COPPER OR ZINC (COATED PRODUCTS) MAY CAUSE METAL FUME FEVER CHARACTERIZED BY FEVER AND CHILLS (i.e. FLU-LIKE SYMPTOMS) APPEARS 4-6 HOURS AFTER EXPOSURE WITH NO LONG-TERM EFFECTS.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL: PROLONGED INHALATION OVEREXPOSURE TO METAL FUME FROM PRODUCT MAY CAUSE THE FOLLOWING EFFECTS: BENIGN PNEUMONOCONIOSIS (SIDEROSIS) WITH FEW OR NO SYMPTOMS (IRON OXIDE); CERTAIN NICKEL AND CHROMIUM COMPOUNDS HAVE BEEN LISTED WITH IARC AS NASAL AND LUNG CARCINOGENS. COBALT DUST MAY RESULT IN AN ASTHAMA-LIKE CONDITION (COUGH/SHORTNESS OF BREATH).

IRRITANCY OF MATERIAL: na  
REPRODUCTIVE EFFECTS: na  
CARCINOGENICITY OF MATERIAL:

SENSITIZATION TO MATERIAL: na  
TERATOGENICITY OF MATERIAL: na  
IARC LISTS CERTAIN HEXAVALENT CHROMIUM COMPOUNDS UNDER ITS GROUP 1 CATEGORY -- "CONFIRMED HUMAN CARCINOGEN".  
IARC LISTS NICKEL AND CERTAIN NICKEL COMPOUNDS UNDER ITS GROUP 2A CATEGORY -- "SUSPECTED HUMAN CARCINOGEN".

SYNERGISTIC MATERIALS: na  
MUTAGENICITY OF MATERIAL: na

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NOTE: PROLONGED SKIN CONTACT MAY CAUSE REDDENING AND DRYING OF SKIN OR DERMATITIS IN SENSITIVE INDIVIDUALS FROM NICKEL, CHROMIUM AND COBALT CONTENT IN STEEL.

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## FIRST AID MEASURES

SKIN: MAINTAIN GOOD PERSONAL HYGIENE, WASH WITH SOAP AND WATER, SEEK MEDICAL ATTENTION IF NECESSARY.

INHALATION: REMOVE TO FRESH AIR, SEEK MEDICAL ATTENTION IF NECESSARY.

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## PREPARATION OF MATERIAL SAFETY DATA SHEET

PREPARED BY: CSCI

Preparation Date: March 1, 2003

NOTE: CONTACT SUPPLIER FOR ADDITIONAL PRODUCT INFORMATION.

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