

1. PRODUCT and COMPANY INFORMATION

PRODUCT	SUPERSTRUT® METAL FRAMING, PIPE HANGERS AND ACCESORIES	EMERGENCY TELEPHONE NUMBER	CHEMTREC: 800-424-9300
CATALOG NUMBERS	SEE SECTION 17	TELEPHONE NUMBER FOR INFORMATION	901-252-5000 ext. 8324
MANUFACTURER / SUPPLIER	THOMAS & BETTS CORPORATION	DATE OF REVISION or PREPARATION	APRIL 30, 2009
ADDRESS	8155 T & B BOULEVARD, MEMPHIS, TENNESSEE 38125		

2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS	CAS #	% BY WT	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA PEL	OSHA STEL
IRON	7439-89-6	95 – 98	5 mg/m ³	N/A	N/A	IRON OXIDE FUME: 10 mg/m ³	N/A
MANGANESE	7439-96-5	0.15 – 1.65	0.2 mg/m ³	N/A	N/A	FUME AS Mn: 1 mg/m ³	N/A
						COMPOUND AS Mn: C 5 mg/m ³	
NICKEL	7440-02-0	0.04 – 1.1	1 mg/m ³	N/A	N/A	1 mg/m ³	N/A
CHROMIUM	7440-47-3	0.02 – 1.1	0.5 mg/m ³	N/A	N/A	METAL (Cr): 1 mg/m ³	N/A
						CHROMIC ACID AND CHROMATE: C 0.1 mg/m ³	
SILICON	7440-21-3	0.01 – 0.95	10 mg/m ³	N/A	N/A	TOTAL DUST: 15 mg/m ³	N/A
						RESPIRABLE DUST: 5 mg/m ³	
ALUMINUM	7429-90-5	0.02 – 0.504	10 mg/m ³	N/A	N/A	TOTAL DUST: 15 mg/m ³	N/A
						RESPIRABLE DUST: 5 mg/m ³	
COPPER	7440-50-8	0.01 – 0.4	FUME: 15 mg/m ³	N/A	N/A	FUME AS Cu: 0.1 mg/m ³	N/A
			DUST & MIST: 5 mg/m ³				
ANTIMONY	7440-36-0	0.005 – 0.06	AS Sn: 0.5 mg/m ³	N/A	N/A	AS Sn: 0.5 mg/m ³	N/A
ZINC	7440-66-6	0.0001 – 1.0	FUME: 6 mg/m ³	N/A	N/A	FUME: 5 mg/m ³	N/A
			DUST: 10 mg/m ³			TOTAL DUST: 10 mg/m ³	
						RESPIRABLE FRACTION: 5 mg/m ³	

ADDITIONAL COMPONENT INFORMATION: AS SUPPLIED, THIS PRODUCT IS CONSIDERED NON-HAZARDOUS UNDER 29 CFR 1910.1200 (HAZARDOUS COMMUNICATION). HOWEVER, DUSTS, PARTICULATES OR FUMES GENERATED IN THE PROCESSING OF THIS PRODUCT ARE HAZARDOUS.

3. HAZARDS IDENTIFICATION
EMERGENCY OVERVIEW

PRODUCT IS SOLID IRON ALLOY WITH ZINC ALONE OR WITH ZINC AND GOLD CHROMIUM FINISH. AS SUPPLIED, THIS PRODUCT DOES NOT PRESENT A PHYSICAL OR HEALTH HAZARD. PROCESSING OF THE PRODUCT FOR FINAL USES CAN INCLUDE FORMATION OF DUSTS, PARTICULATES OR FUMES, WHICH MAY PRESENT CERTAIN HEALTH HAZARDS. DUSTS FROM THIS PRODUCT MAY POSE A DUST EXPLOSION HAZARD. CONTACT OF MOLTEN PRODUCT WITH WATER POSES AN EXPLOSION HAZARD. FIREFIGHTERS SHOULD WEAR A POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE PIECE.

ROUTES OF EXPOSURE
SIGNS and SYMPTOMS

EYES:	DUST OR POWDER MAY BE IRRITATING TO THE EYES. RUBBING MAY CAUSE ABRASION OF THE CORNEA.
INGESTION:	DUSTS OR POWDER MAY CAUSE TEMPORARY IRRITATION OF THE THROAT, STOMACH AND GASTROINTESTINAL TRACT.
INHALATION:	DUSTS AND POWDERS FROM THIS PRODUCT MAY CAUSE IRRITATION TO THE NASAL PASSAGES AND RESPIRATORY TRACT. WHEN INHALED IN VERY LARGE AMOUNTS, DAMAGE TO THE LUNGS MAY OCCUR. DUST, PARTICULATES OR FUMES THAT MAY BE PRODUCED MAY CONTAIN METALS THAT CAUSE METAL FUME FEVER, A TRANSITORY CONDITION INCLUDING FEVER, CHILLS, ACES, COUGH AND GENERAL MALAISE.
SKIN:	DUST OR POWDER MAY IRRITATE THE SKIN. RUBBING MAY INCREASE MECHANICAL IRRITATION TO THE SKIN. PRODUCT CONTAINS CHROMIUM AND NICKEL, WHICH MAY CAUSE AN ALLERGIC SKIN REACTION. NO COMPONENTS OF THIS PRODUCT ARE KNOWN TO BE ABSORBED THROUGH THE SKIN.

4. FIRST AID MEASURES
ROUTES OF ENTRY
FIRST AID INSTRUCTIONS

EYE CONTACT:	FOR CONTACT WITH DUSTS OR PARTICULATES, FLUSH EYES WITH WATER FOR 15 MINUTES. EYE INJURIES FROM SOLID PARTICLES SHOULD BE TREATED BY A PHYSICIAN IMMEDIATELY.
INGESTION:	NO NEED FOR FIRST AID IS ANTICIPATED IF DUST OR PARTICULATES FROM THE MATERIAL ARE SWALLOWED, HOWEVER IF SYMPTOMS DEVELOP, SEEK MEDICAL ATTENTION.

MATERIAL SAFETY DATA SHEETREVISION NO: **1**
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INHALATION: IF LARGE AMOUNTS OF DUSTS, FUMES OR PARTICULATES ARE GENERATED, MOVE PERSON TO FRESH AIR. IF SYMPTOMS DEVELOP, SEEK MEDICAL ATTENTION.

SKIN CONTACT: FOR SKIN CONTACT WITH DUSTS OR POWDERS, WASH IMMEDIATELY WITH SOAP AND WATER. CUTS OR ABRASIONS SHOULD BE TREATED PROMPTLY WITH THOROUGHLY CLEANSING OF THE AFFECTED AREA.

5. FIRE FIGHTING MEASURES

EXPLOSION DATA: N/A

FLAMMABILITY: LEL: N/E UEL: N/E

EXTINGUISHING MEDIA: USE METHODS FOR THE SURROUNDING FIRE.

GENERAL FIRE HAZARDS: THIS MATERIAL WILL NOT BURN. FINE DUST OF THIS MATERIAL MIXED WITH OXYGEN AND A SUITABLE SOURCE OF IGNITION MAY POSE AN EXPLOSION HAZARD.

FIRE FIGHTING: FIREFIGHTERS SHOULD WEAR A FULL-FACE; SELF-CONTAINED BREATHING APPARATUS AND IMPERVIOUS PROTECTIVE CLOTHING.

FLASH POINT: N/A

HAZARDOUS COMBUSTION PRODUCTS: METALLIC FINISH WILL START SOFTENING AT 600-900° F AND THE BASE MATERIAL WILL BEGIN SOFTENING AT APPROXIMATELY 2400° F. THEY WILL FORM IRRITATING AND TOXIC FUMES.

6. ACCIDENTAL RELEASE MEASURES

CONTAINMENT PROCEDURES: CONTAINMENT OF THIS MATERIAL SHOULD NOT BE NECESSARY. IF DUSTS OR PARTICULATES ARE GENERATED, ELIMINATE SOURCES OF IGNITION.

CLEAN-UP PROCEDURES: SMALL PIECES OF THIS PRODUCT MAY BE COLLECTED WITH A BROOM AND SHOVEL. DUSTS AND PARTICULATES MAY BE COLLECTED BY USING A VACUUM WITH A HEPA FILTER. PLACE COLLECTED MATERIAL IN A CLOSED CONTAINER.

EVACUATION PROCEDURES: ISOLATE AREA. KEEP UNNECESSARY PERSONNEL AWAY.

SPECIAL PROCEDURES: NONE NECESSARY.

DISPOSAL: WASTE MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL ENVIRONMENTAL CONTROL REGULATIONS.

7. HANDLING and STORAGE

HANDLING PROCEDURES: AVOID GENERATING DUSTS OR PARTICULATES. AVOID INHALATION OF DUSTS, PARTICULATES OR FUMES. AVOID CONTACT OF DUSTS OR PARTICULATES WITH EYES OR SKIN. WASH THOROUGHLY AFTER HANDLING.

OTHER PRECAUTIONS: DO NOT SAND, FLAME CUT, BRAZE OR WELD DRY COATING WITHOUT A NIOSH APPROVED RESPIRATOR OR APPROPRIATE VENTILATION AND GLOVES.

STORAGE PROCEDURES: STORE IN A DRY AREA.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

EXPOSURE CONTROLS WHENEVER DUSTS, PARTICULATES OR FUMES ARE GENERATED, USE APPROPRIATE LOCAL EXHAUST VENTILATION TO KEEP EXPOSURES BELOW THE REGULATED LIMITS.

PERSONAL PROTECTION

EYE PROTECTION: WEAR SAFETY GLASSES WITH SIDE SHIELDS. ADDITIONAL PROTECTION MAY BE NECESSARY FOR SOME OPERATIONS.

HAND PROTECTION: WEAR LEATHER OR OTHER APPROPRIATE GLOVES, IF NECESSARY, FOR THE TYPE OF OPERATION.

RESPIRATORY PROTECTION: WHEN DUSTS OR THERMAL PROCESSING FUMES ARE GENERATED AND VENTILATION IS NOT SUFFICIENT TO EFFECTIVELY REMOVE THEM, APPROPRIATE NIOSH/MSHA APPROVED RESPIRATORY PROTECTION MUST BE PROVIDED.

SKIN PROTECTION: LEATHER OR OTHER APPROPRIATE GLOVES, IF NECESSARY, FOR THE TYPE OF OPERATION.

VENTILATION: USE APPROPRIATE LOCAL EXHAUST VENTILATION TO KEEP EXPOSURE BELOW THE REGULATED LIMITS.

WORK / HYGIENIC: USE GOOD INDUSTRIAL HYGIENE PRACTICES IN HANDLING THIS MATERIAL.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE:	METALLIC GREY / GOLD CHROMIUM FRAMES & CHANNELS	AUTO-IGNITION TEMPERATURE:	N/A
BOILING POINT:	N/A	COLOR:	BASED ON SPECIFICATION
DENSITY (lbs/gal):	N/A	EVAPORATION RATE (BUTYL ACETATE = 1):	N/A
FLAMMABILITY:	N/A	ODOR:	NONE
MELTING POINT:	2400 - 2800° F (1316 - 1538° C)	PERCENT, VOLATILE BY WEIGHT (%):	N/A
PERCENT, SOLIDS BY WEIGHT (%):	N/A	PHYSICAL STATE:	SOLID
PH:	N/A		

SOFTENING POINT (FINISH): 600 - 900° F (316 - 482° C)

SOLUBILITY
IN WATER @ 68° F (20° C): INSOLUBLE

VAPOR DENSITY
OF PRINCIPAL SOLVENT

(AIR = 1): N/A

VISCOSITY: N/A

SOFTENING POINT

(BASE METAL): 2400° F (1316° C)

SPECIFIC GRAVITY (H₂O =
1): 7.5 - 8.5 g/cm³

VAPOR PRESSURE

OF PRINCIPAL SOLVENT: N/A

VOC CONTENT (lbs / gal): N/A

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: STABLE

CONDITIONS TO AVOID: NONE KNOWN

INCOMPATIBLE MATERIALS: WILL REACT WITH STRONG ACIDS TO LIBERATE METALLIC FUMES. MATERIAL FINISH WILL BEGIN SOFTENING AT 600 - 900° F AND BASE MATERIAL WILL BEGIN SOFTENING AT APPROXIMATELY 2400° F. THEY WILL FORM TOXIC FUMES.

HAZARDOUS
DECOMPOSITION

PRODUCTS: N/A

HAZARDOUS
POLYMERIZATION: WILL NOT OCCUR

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION

ACUTE TOXICOLOGY

A: GENERAL PRODUCT INFORMATION

THE PRODUCT AS SHIPPED DOES NOT PRESENT A HEALTH HAZARD. OPERATIONS, WHICH SUPPLY SUFFICIENT ENERGY TO THE PRODUCT (I.E., WELDING, HIGH SPEED GRINDING OR MELTING) CAN RELEASE DUST OR FUMES, WHICH MAY MAKE COMPONENTS OF THE PRODUCT BIOLOGICALLY AVAILABLE. EXPOSURE TO DUSTS OR FUMES FROM SOME METALS INCLUDING IRON, MANGANESE, CHROMIUM, COPPER AND ZINC CAN PRODUCE A CONDITION KNOWN AS A METAL FUME FEVER, A FLU-LIKE ILLNESS WITH NAUSEA, VOMITING, CHEST TIGHTNESS, MUSCLE ACHES AND WEAKNESS.

CHRONIC EXPOSURE TO IRON CAN LEAD TO MOTTILING OF THE LUNGS, A CONDITION KNOWN AS SIDEROSIS WHICH IS A BENIGN PNEUMOCONIOSIS AND DOES NOT CAUSE SIGNIFICANT PHYSIOLOGICAL IMPAIRMENT OF THE LUNGS. EARLY SIGNS OF MANGANESE POISONING ARE

SLUGGISHNESS, LOSS OF APPETITE, SLEEPINESS, WEAKNESS IN THE LEGS, UNCONTROLLABLE LAUGHTER, HALLUCINATIONS, DELUSIONS, SPASTIC OR SLOW GAIT, SPEECH IMPAIRMENT, AGGRESSIVENESS, TREMOR, MASK-LIKE FACES, AND CLUMSY MOVEMENTS. OCCUPATIONAL

EXPOSURE TO MANGANESE HAS BEEN REPORTED TO INCREASE THE INCIDENCE OF PNEUMONIA, BRONCHITIS AND LUNG INFLAMMATION. EXPOSURE TO CHROMIUM (VI) CAN CAUSE ALLERGIC CONTACT DERMATITIS AND SKIN ULCERATION, PERFORATION OF THE NASAL SEPTUM AND LUNG, AND KIDNEY AND LIVER DAMAGE. INHALATION OF ALUMINUM DUST MAY CAUSE ALUMINOSIS, A TYPE OF PULMONARY FIBROSIS.

OCCUPATIONAL EXPOSURE TO ANTIMONY DUSTS CAN CAUSE A FORM OF DERMATITIS KNOWN AS ANTIMONY SPOTS. CHRONIC INHALATION OF ANTIMONY DUSTS CAN CAUSE PNEUMOCONIOSIS, WHICH CAN PROGRESS, TO OBSTRUCTIVE LUNG DISEASE. CHRONIC EXPOSURE TO ANTIMONY DUSTS AND FUMES CAN ALSO CAUSE EYE IRRITATION, DIARRHEA, VOMITING, ABDOMINAL CRAMPS, GASTRIC ULCERATION AND CARDIAC EFFECTS.

CHRONIC EXPOSURE TO COPPER FUME OR DUST CAN CAUSE RESPIRATORY TRACT IRRITATION, HEMOLYTIC ANEMIA AND ALLERGIC CONTACT DERMATITIS. CHRONIC EXPOSURE TO NICKEL CAN CAUSE RHINITIS, SINUSITIS AND PERMANENT ALLERGIC CONTACT DERMATITIS AND SENSITIZATION. DUSTS AND FUMES FROM THIS PRODUCT MAY CAUSE CANCER, REPRODUCTIVE AND/OR BIRTH DEFECTS.

B: COMPONENT LD50/LC50

IRON (7439-89-6): ORAL LD50 RAT: 30 gm/kg
MANGANESE (7439-96-5): ORAL LD50 RAT: 9 gm/kg
SILICON (7440-21-3): ORAL LD50 RAT: 3160 gm/kg
ANTIMONY (7440-36-0): ORAL LD50 RAT: 7 gm/kg

CARCINOGENICITY

A: GENERAL PRODUCT INFORMATION

NO INFORMATION AVAILABLE FOR THE PRODUCT. OCCUPATIONAL EXPOSURE TO NICKEL DUSTS OR FUMES INCREASES THE RISK OF RESPIRATORY CANCERS. CHRONIC EXPOSURE TO CHROMIUM (VI) HAS BEEN ASSOCIATED WITH AN INCREASED RISK OF CANCER. INHALATION OF ANTIMONY PRODUCED LUNG TUMORS IN EXPERIMENTAL ANIMALS, AND THERE IS A POSSIBLE LINK BETWEEN OCCUPATIONAL EXPOSURE AND LUNG CANCER IN HUMANS. COPPER HAS CAUSED CANCER WHEN IMPLANTED IN EXPERIMENTAL ANIMALS.

B: COMPONENT CARCINOGENICITY

NICKEL (7440-02-0)

NIOSH: OCCUPATIONAL CARCINOGEN

NTP: SUSPECT CARCINOGEN (LISTED UNDER "NICKEL AND CERTAIN NICKEL COMPOUNDS") (POSSIBLE SELECT CARCINOGEN)

IARC: MONOGRAPH 49: 1990 (EVALUATED AS A GROUP) (RELATED TO NICKEL COMPOUNDS)(GROUP 1 CARCINOGENIC TO HUMANS)

IARC: MONOGRAPH 49: 1990 (METALS AND ALLOYS)(GROUP 2B SUFFICIENT ANIMAL DATA)

CHROMIUM (7440-47-3)

ACGIH: A4-NOT CLASSIFIABLE AS A HUMAN CARCINOGEN

IARC: MONOGRAPH 49: 1990 (GROUP 3 NOT CLASSIFIABLE)

EPIDEMIOLOGY	NO INFORMATION AVAILABLE FOR THIS PRODUCT.
NEUROTOXICITY	NO INFORMATION AVAILABLE FOR THE PRODUCT. CHRONIC EXPOSURE TO MANGANESE CAN LEAD TO NEUROLOGICAL CONDITION OF PARKINSONISM AND TO DIMINISHED FINE MOTOR COORDINATION. OCCUPATIONAL EXPOSURE TO ALUMINUM HAS BEEN ASSOCIATED WITH INCREASE ADVERSE EFFECTS ON THE CENTRAL NERVOUS SYSTEM.
MUTAGENICITY	NO INFORMATION AVAILABLE FOR THE PRODUCT. MANGANESE AND CHROMIUM (VI) HAVE BEEN SHOWN TO CAUSE MUTATIONS IN EXPERIMENTAL SYSTEMS. ALUMINUM AND ANTIMONY HAVE BEEN SHOWN TO INCREASE THE NUMBER OF SISTER CHROMATID EXCHANGES AND ANTIMONY IS CLASTOGENIC WHEN ORALLY ADMINISTERED TO LABORATORY ANIMALS. COPPER CAN INDUCE DNA STRUCTURAL TRANSFORMATIONS AND CHROMOSOMAL ABERRATIONS. NICKEL INHIBITED DNA REPAIR AND INDUCED TRANSFORMATION IN EXPERIMENTAL ASSAYS.
TERATOGENICITY	NO INFORMATION AVAILABLE FOR THE PRODUCT. MANGANESE, CHROMIUM AND ALUMINUM HAVE BEEN SHOWN TO HAVE TERATOGENIC EFFECTS. MANGANESE, CHROMIUM, ANTIMONY, COPPER AND NICKEL HAVE BEEN REPORTED TO HAVE ADVERSE REPRODUCTIVE EFFECTS IN EXPERIMENTAL ANIMALS. CHROMIUM, COPPER AND NICKEL HAVE BEEN SHOWN TO BE FETOTOXIC IN EXPERIMENTAL ANIMALS.
OTHER TOXICOLOGICAL INFORMATION	NONE IDENTIFIED.
CARCINOGENICITY	<p>NTP: NO</p> <p>IARC MONOGRAPHS: NO</p> <p>OSHA REGULATED: NO</p>
ACUTE:	DUST, PARTICULATES AND VAPORS THAT MAY BE PRODUCED IN THE PROCESSING OF THIS PRODUCT MAY BE IRRITATING TO THE EYES, SKIN, RESPIRATORY SYSTEM AND GASTROINTESTINAL TRACT. DUSTS, PARTICULATES OR FUMES THAT MAY BE PRODUCED MAY CONTAIN METALS THAT CAUSE METAL FUME FEVER, A FLU-LIKE CONDITION LASTING 24 TO 48 HOURS AND INCLUDES FEVER, CHILLS, ACHES, COUGH AND GENERAL MALAISE. EXPOSURE TO DUSTS, PARTICULATES OR FUMES CONTAINING NICKEL MAY CAUSE CANCER. FUMES CONTAINING METALLIC COMPONENTS IN THIS PRODUCT MAY BE HAZARDOUS.
CHRONIC:	NONE KNOWN

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION	NO DATA AVAILABLE
ECOTOXICITY	NO INFORMATION AVAILABLE FOR THE PRODUCT.
ENVIRONMENTAL FATE	NO INFORMATION AVAILABLE FOR THE PRODUCT.

13. DISPOSAL CONSIDERATION

US EPA WASTE NUMBERS & DESCRIPTIONS

A: GENERAL PRODUCT INFORMATION

THIS PRODUCT IS NOT REGULATED AS A HAZARDOUS WASTE BY THE FEDERAL EPA. COLLECTED DUSTS AND OTHER SIMILAR WASTES GENERATED DURING PROCESSING OF THE PRODUCT COULD CONTAIN A CONSTITUENT IDENTIFIED AS HAZARDOUS UNDER 40 CFR § 261.24.

DISPOSAL INSTRUCTIONS

PRODUCT DUST AND FINE WASTE MUST BE TESTED USING METHODS DESCRIBED IN 40 CFR PART 261 TO DETERMINE IF THEY EXHIBIT A CHARACTERISTIC OF HAZARDOUS WASTE. WASTE MUST BE TREATED AND/OR DISPOSED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (DOT)

PROPER SHIPPING NAME: NOT REGULATED

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

A: GENERAL PRODUCT INFORMATION:	NO INFORMATION AVAILABLE FOR THE PRODUCT.
B: COMPONENT INFORMATION:	THIS MATERIAL CONTAINS ONE OR MORE OF THE FOLLOWING CHEMICALS REQUIRED TO BE IDENTIFIED UNDER SARA SECTION 302 (40 CFR 355 APPENDIX A). SARA SECTION 313 (40 CFR 372.65) AND/OR CERCLA (40 CFR 302.4)
ZINC (7440-66-6)	
SARA 313:	FORM R REPORTING REQUIRED FOR 1.0% de MINIMUS CONCENTRATION (ONLY FUME OR DUST).
CERCLA:	FINAL RQ = 1000 POUNDS (454 kg) (NO REPORTING OF RELEASES OF THIS HAZARDOUS SUBSTANCE IS REQUIRED IF THE DIAMETER OF THE SOLID METAL RELEASED IS EQUAL TO OR EXCEEDS 0.004 INCHES).
MANGANESE (7439-96-5)	
SARA 313:	FORM R REPORTING REQUIRED FOR 1.0% de MINIMUS CONCENTRATION.
NICKEL (7440-02-0)	
SARA 313:	FORM R REPORTING REQUIRED FOR 0.1% de MINIMUS CONCENTRATION
CERCLA:	FINAL RQ = 1000 POUNDS (454 kg) (NO REPORTING OF RELEASES OF THIS HAZARDOUS SUBSTANCE IS REQUIRED IF THE DIAMETER OF THE SOLID METAL RELEASED IS EQUAL TO OR EXCEEDS 0.004 INCHES).
CHROMIUM (7440-47-3)	
SARA 313:	FORM R REPORTING REQUIRED FOR 1.0% de MINIMUS CONCENTRATION

MATERIAL SAFETY DATA SHEET

CERCLA: FINAL RQ = 5000 POUNDS (2270 kg) (NO REPORTING OF RELEASES OF THIS HAZARDOUS SUBSTANCE IS REQUIRED IF THE DIAMETER OF THE SOLID METAL RELEASED IS EQUAL TO OR EXCEEDS 0.004 INCHES).

TSCA: ALL COMPONENTS ARE INCLUDED IN THE EPA TOXIC SUBSTANCES CONTROL ACT (TSCA) CHEMICAL SUBSTANCES INVENTORY.

RCRA HAZARD CLASS: THIS PRODUCT IS *NOT* CLASSIFIED AS A HAZARDOUS WASTE UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT, OR ITS REGULATIONS, 40 CFR §261 *et seq.*

CLEAN AIR ACT: THE FOLLOWING COMPONENTS OF THIS PRODUCT ARE REGULATED AS HAPs: *NONE*

SARA TITLE III INFORMATION

SECTION 302: THERE ARE NO COMPONENTS OF THIS PRODUCT WITH KNOWN CAS NUMBERS WHICH ARE ON THE 40 CFR PART 355 APPENDIX A LIST OF EXTREMELY HAZARDOUS SUBSTANCES.

SECTION 311 / 312: THIS PRODUCT IS NOT SUBJECT TO THIS SECTION 311/312 REPORTING REQUIREMENT.

SECTION 313: THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS WITH KNOWN CAS NUMBERS THAT EXCEED THE *de minimus* LIMIT, ARE SUBJECT TO REPORTING UNDER SARA TITLE III, SECTION 313 AND 40 CFR 372.

CHEMICALS	CAS #
MANGANESE	7439-96-5
NICKEL	7440-02-0
CHROMIUM	7440-47-3

STATE REGULATIONS / RIGHT-TO-KNOW
A: GENERAL PRODUCT INFORMATION

OTHER STATE REGULATIONS MAY APPLY. CHECK INDIVIDUAL STATE REQUIREMENTS. THE FOLLOWING STATEMENT(S) ARE PROVIDED UNDER THE CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65):

WARNING! THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER - NICKEL.

INTERNATIONAL

WHMIS (CANADA): THIS PRODUCT HAS BEEN CLASSIFIED AS CONTROLLED PRODUCT ACCORDING TO THE HAZARD CRITERIA OF THE CONTROLLED PRODUCTS REGULATIONS (CPR).

LABELS: CANADIAN LABEL CLASSIFICATION REQUIRED ON CONTAINER(S): *NONE*

16. OTHER INFORMATION
OTHER INFORMATION

REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF THIS INFORMATION, BUT THE MANUFACTURER MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO THIS INFORMATION. THE MANUFACTURER MAKES NO REPRESENTATION AND ASSUMES NO LIABILITY FOR ANY DIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM IT'S USE.

HAZARD RATING SYSTEM

	HMIS	NFPA	KEY
HEALTH	1*	1	4 = SEVERE
FLAMMABILITY	0	0	3 = SERIOUS
REACTIVITY	0	0	2 = MODERATE
			1 = SLIGHT
			0 = MINIMAL
			* = CHRONIC

REVISION SUMMARY

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SUPERCEDES ISSUE DATE

March 13, 2001

ABBREVIATIONS

N/E = NOT ESTABLISHED
 N/A = NOT AVAILABLE
 EPA = ENVIRONMENTAL PROTECTION AGENCY
 ACGIH = AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
 IARC = INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
 NIOSH = NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
 NTP = NATIONAL TOXICOLOGY PROGRAM
 OSHA = OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 TLV = THRESHOLD LIMIT VALUE
 NFPA = NATIONAL FIRE PROTECTION ASSOCIATION
 HMIS = HAZARDOUS MATERIAL INFORMATION SYSTEM
 CFR = CODE OF FEDERAL REGULATIONS
 HEPA = HIGH EFFICIENCY PARTICULATE AIR
 CERCLA = COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT
 SARA = SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT

OTHER

R PHRASE = N/A
 S PHRASE = N/A

17. T&B CATALOG NUMBERS / PRODUCT NUMBERS

TO BE USED IF SECTION 1 DOES NOT HAVE SPACE TO LIST T&B CATALOG NUMBERS.

B 900 10	C 105 4	G 959	700 1-STR	A1400 20	AN270 4	C720 1-1/4	E142 1/2 2 1/2	P716 1/4
B 900 20	C 105 4 1/2	G 960	700 2-STR	A1400HS 10	AP206	C720 18	E142 1/4 1	P716 2
B 900 2A 10	C 105 5	G 962 1	700 3/4-STR	A1400HS 20	AP232	C720 2	E142 1/4 1 1/2	P716 2 1/2
B 900 2A 20	C 105 6	G 962 2	700 3/8-STR	A1400P 10	AP232 SQ	C720 20	E142 1/4 1 1/4	P716 3
B 900 2B 10	C 105 8	G 962 3	701 1 1/2	A1400P 20	AP235	C720 2-1/2	E142 1/4 2 1/4	P716 3 1/2
B 900 2C 20	C 105 AL 1	G 962 4	701 1 1/4	A1400S 10	AP235 SQ	C720 3	E142 3/8 1	P716 3/4
B 900 2D 10	C 105 AL 1 1/2	G 962 D1	701 1 1/8	A1400S 20	AW204	C720 3/4	E142 3/8 1 1/2	P716 3/8
B 900 3C 10	C 105 AL 1 1/4	G 962 D2	701 1 3/4	A208	AW205 L	C720 3-1/2	E142 3/8 1 1/4	P716 4
B 900 AL 10	C 105 AL 1/2	G 963 1	701 1 3/8	A209	AW205 R	C720 4	E142 3/8 2 1/4	Q202
B 900 M 10	C 105 AL 2	G 965 10	701 1 5/8	A210	AW214	C720 5	E142 3/8 3/4	Q205
B 900 M 20	C 105 AL 2 1/2	G 965 20	701 1 7/8	A211	AW219	C720 6	E145 1/2	Q253
B 901 10	C 105 AL 3	G 966	701 1/2STR	A212	AW220	C720 8	E145 1/4	Q254
B 901 20	C 105 AL 3 1/2	G 967	701 1/4	A-213	AW224	C720L 2-1/2	E145 3/4	Q255
B 901 2C 10	C 105 AL 3/4	G 968	701 10 5/8	A217	AW226	C720L-1	E145 3/8	Q256
B 902 10	C 105 AL 4	G 969A	701 12 5/8	A218	AW228	C720L-1 1/2	E145 5/16	S201L 10
B 902 20	C 106 1	G 969A P	701 1-STR	A243 1	B1200 10	C720L-1 1/4	E145 5/8	S201L 12
B 903 10	C 106 1 1/2	G 972 1/2	701 2	A570	B1200 10AL	C720L-2	E145 7/8	S201L 14
B 903 20	C 106 1 1/4	G 972 3/4	701 2 1/2	A597	B1200 20	C720L-3	E146 1/2	S201L 16
B 903HS 10	C 106 1/2	G 972 HB 1/2	701 2 1/4	A716 1	B1200HS 10	C720L-3/4	E146 1/4	S201L 18
B 903HS 20	C 106 2	G 972 L 1/2	701 2 1/8	A716 1 1/2	B1200HS 10AL	C720L-4	E146 3/8	S201L 20
B 904 10	C 106 3/4	G 973 1 1/2	701 2 3/4	A716 1 1/4	B1200HS 20	C720L-6	E146 5/16	S201L 6
B 904 20	C 106 3/8	G 973 2 1/4	701 2 3/8	A716 1 1/8	B1200P 10	C725 1	E146 5/8	S201L 8
B 905 10	C 109 2 1/2	G 974 1	701 2 5/8	A716 1 3/4	B1200P 20	C725 1/2	E147 1/2	S201R 10
B 905 20	C 109 3	G 974 1 1/2	701 2 7/8	A716 1 3/8	B1200S 10	C725 10	E147 1/4	S201R 12
B 905 20 GR	C 109 3 1/2	G 974 1 1/4	701 3	A716 1 5/8	B1200S 20	C725 1-1/2	E147 3/4	S201R 14
B 905 2A 10	C 109 4	G 974 1/2	701 3 1/2	A716 1 7/8	B1202HS 10	C725 1-1/4	E147 3/8	S201R 16
B 905 2A 20	C 109R 1	G 974 3/4	701 3 1/4	A716 1/2	B1202HS 20	C725 2	E147 5/16	S201R 18
B 905 2B 20	C 109R 1 1/2	G 975 10	701 3 3/4	A716 1/4	B1400 10	C725 20	E147 5/8	S201R 20
B 905 2C 10	C 109R 1 1/4	G 975 20	701 3 3/8	A716 2	B1400 20	C725 2-1/2	E147 7/8	S201R 6
B 905 AL 10	C 109R 1/2	G 975 M 10	701 3 5/8	A716 2 1/2	B1400HS 10	C725 3	E148 1/2	S201R 8
B 905 M 10	C 109R 2	G 975 M 20	701 3 7/8	A716 2 1/8	B1400HS 20	C725 3/4	E148 1/4	S204
B 905 M 20	C 109R 3/4	G 976	701 3/4	A716 2 3/8	B1400P 10	C725 4	E148 3/8	S205
B 905HS 10	C 144 1	G 977	701 3/8	A716 2 5/8	B1400P 20	C725 5	E148 5/16	S217
B 905HS 20	C 144 1 1/2	G 978	701 3-1/8	A716 2 7/8	B1400S 10	C725 6	E148 5/8	S218
B 905HS M 10	C 144 1 1/4	G 978 A	701 4	A716 3	B1400S 20	C725 8	E149 1/4 1	S222
B 906 10	C 144 1/2	G 978 C	701 4 1/2	A716 3 1/8	B209	C727 1	E149 1/4 3/4	S226
B 906 20	C 144 2	G 978 D	701 4 1/4	A716 3/4	B210	C727 1/2	E149 3/8 1 1/4	S236
B 906 AL 10	C 144 2 1/2	G 978 L	701 4 1/8	A716 3/8	B802	C727 1-1/2	E149 5/16 1 1/4	S247
B 907 10	C 144 3	G 979 1/2	701 4 3/4	A716 4 1/8	B804	C727 1-1/4	E150S 1/2 1 1/2	S248
B 907 20	C 144 3/4	G 979 3/4	701 4 3/8	A716 5 1/8	B822	C727 2	E150S 1/2 2	S250 12
B 907 AL 10	C 144 4	G2005	701 4 5/8	A716 5/8	C 710 14	C727 2-1/2	E150S 1/2X3	S250 18
B 907HS 10	C109 1	G2006	701 4 7/8	A716 6-1/8	C 729 14	C727 2-1/2NFPA	E150S 3/8 1 1/2	S250 24
B 907HS 20	C109 1 1/2	G2007	701 5	A716 7/8	C 729 16	C727 2NFPA	E150S 3/8 2	S250 6
B 909 10	C109 1 1/4	G2008	701 5 1/2	A802	C 749N 1 1/8	C727 3	E150S 3/8 2 1/2	S250S 12
B 909 20	C109 1/2	G978 AL	701 5 1/4	A804	C1200HS 10	C727 3/4	E150S 3/8X3	S250S 18
B 909HS 10	C109 2	H 119 A	701 5 1/8	A805	C1202 20	C727 3-1/2	E151 3/8 4	S250S 24
B 910 1/2	C109 3/4	H 119 B	701 5 3/4	A809 1	C209	C727 3NFPA	E151 3/8 6	S250S 6

B 910 1/4	D 255	H 119 C	701 5 3/8	A809 3/4	C210	C727 4	E210	S251 18
B 910 3/8	D 256 5	H 119 D	701 5 5/8	A822	C302 10	C727 4NFPA	E802	S251 24
B 910 5/16	D 990 10	H 120	701 5 7/8	A853	C302 20	C727 5	E804	S251 30
B 911 1/2	D 990 20	H 122 1/2	701 5/8	A853L	C475 1/2	C727 5 NFPA	EF147 1/2	S256 18
B 911 1/2 SN1	E 160 1/2 12	H 122 1/4	701 6	A854	C475 3/4	C727 6	EF147 1/4	S541 3/8
B 911 1/4	E 160 1/2 18	H 122 3/8	701 6 1/2	A854L	C475 3/8	C727 6 NFPA	EF147 3/8	S720 1
B 911 3/8	E 160 1/2 6	H 550	701 6 1/4	A889	C475 5/8	C727 8	ES145 1/2	S720 1-1/2
B 911 3/8 SN1	E 160 1/2 9	J 800 10	701 6 1/8	A890	C475 7/8	C727F 1	ES145 3/8	S720 1-1/4
B 911 3/8 SN2	E 177	J 800 12	701 6 3/4	A891	C708U 1	C727F 1/2	ET727 1	S720 2
B 911 5/16	E 231 1/2	J 800 14	701 6 3/8	A892	C708U 1 1/2	C727F 1-1/2	ET727 1/2	S720 2-1/2
B 911 D 1/2	E 231 3/8	J 800 16	701 6 5/8	A893	C708U 1 1/4	C727F 1-1/4	ET727 1-1/2	S720 3
B 911 D 3/8	E 232 1/2	J 800 18	701 6 7/8	AB 242	C708U 1/2	C727F 2	ET727 1-1/4	S720 3/4
B 912 1/2	E 232 3/8	J 800 20	701 7	AB 844	C708U 2	C727F 2-1/2	ET727 2	S720 4
B 912 1/4	E 233 1/2 10	J 800 22	701 7 1/2	AB102 1/2	C708U 2-1/2	C727F 3	ET727 2-1/2	S720 5
B 912 3/8	E 233 1/2 6	J 800 24	701 7 1/4	AB102 1/4	C708U 3	C727F 3/4	ET727 3	S720 6
B 912 5/16	E 233 3/8 10	J 800 26	701 7 1/8	AB102 3/4	C708U 3/4	C727F 4	ET727 3/4	TS 272
B 914 1/2	E 233 3/8 6	J 800 28	701 7 3/4	AB102 3/8	C708U 3-1/2	C729 10	ET727 4	TS273
B 914 1/4	E 760 2	J 800 30	701 7 5/8	AB102 5/8	C708U 4	C729 3	ETL710 1	U 564 1/2
B 914 3/4	E 760 3	J 800 32	701 7 7/8	AB102 7/8	C708U 5	C729 4	ETL710 1/2	U 564 3/4
B 914 3/8	E 761	J 800 34	701 7/8	AB201	C708U 6	C729 5	ETL710 1-1/2	U 564 3/8
B 914 5/8	E 763	J 800 36	701 8	AB202	C710 1	C729 8	ETL710 1-1/4	U501
B 915	E 764	J 800 38	701 8 1/2	AB203	C710 1/2	C749N	ETL710 2	U502
B 916	E 765	J 800 40	701 8 1/4	AB204	C710 10	C749N 5/8	ETL710 2-1/2	U504
B 917	E 767	J 800 42	701 8 1/8	AB205	C710 1-1/2	C749N 7/8	ETL710 3	U505
B 918	E 768	J 800 44	701 8 3/8	AB206	C710 1-1/4	C775L 1/2	ETL710 3/4	U510
B 919	E 781	J 800 46	701 8 5/8	AB207	C710 16	C775L 3/8	ETL710 3-1/2	U514
B 920	E 782	J 800 48	702 1	AB213	C710 18	C775L-3/4	ETL710 4	U514A
B 921	F 715	J 800 50	702 1 1/2	AB214	C710 2	C775L-5/8	EZ209	U515
B 922	F 716 3	J 800 52	702 1 1/2 AL	AB216	C710 20	C775L-7/8	H115 1	U515B
B 923	F 735	J 800 54	702 1 1/4	AB219	C710 2-1/2	C777 1/2	H115 1 1/2	U520
B 924	F 736	J 800 56	702 1 1/4 AL	AB220	C710 24	C777 3/8	H115 2	U522
B 924FL	F 737	J 800 58	702 1 AL	AB225	C710 3	C778 1/2	H115 2 1/2	U543
B 924SQ	F 739 18	J 800 60	702 1/2	AB227	C710 3/4	C778 3/8	H115 3	U560 1/2
B 925	F720 12	J 800 62	702 1/2 AL	AB239 1	C710 3-1/2	C790 10A	H115 3/4	U560 1/4
B 925FL	F720 18	J 800 64	702 10	AB239 2	C710 4	C790 11B	H115 4	U560 3/8
B 925SQ	F720 24	J 800 68	702 2 1/2	AB239 3	C710 5	C790 13C	H115 6	U560 5/8
B 926	F720 6	J 800 72	702 2 AL	AB240	C710 6	C790 1A	H119 1	U562
B 927	F720 9	J 800 8	702 2-1/2AL	AB241 1/2	C710 8	C790 2A	H119 1/2	U563
B 928	F721 18	J 844	702 2-STR	AB241 1/4	C710-7	C790 3A	H119 1/2X5/8	U564 5/8
B 929	F721 24	J 850	702 3	AB241 3/4	C710F 1/2	C790 4A	H119 1/4	U568 1
B 930	F721 36	J 851	702 3 1/2	AB241 3/8	C710F 1-1/2	C790 5A	H119 1/4X3/8	U568 2
B 932	G 1007	J 852	702 3 1/2AL	AB241 5/16	C710F 2 1/2	C790 6A	H119 3/4	U568 3
B 933	G 1012	J 855	702 3 AL	AB241 5/8	C710F-1	C790 7A	H119 3/8	U568 4
B 934	G 1012 D	J 860 12	702 3/4	AB241L 1/2	C710F-1 1/4	C790 8A	H119 3/8X1/2	U568 5
B 935	G 1017	J 860 6	702 3/4 AL	AB241L 1/4	C710F-2	C790 9A	H119 5/16	U568 6
B 936	G 1020	J 860 9	702 3/8	AB241L 3/8	C710F-3	C790-12B	H119 5/8	U568 7
B 937	G 1021	J 861 10	702 4	AB241L 5/16	C710F-3 1/2	C790-14C	H119 5/8X3/4	U568 8
B 938	G 1032	J 861 12	702 4 1/2	AB241L 5/8	C710F-3/4	C790-15C	H119 7/8	U569
B 939	G 1033	J 861 14	702 4 AL	AB245	C710F-4	C790-16C	H1200 10	U571

MATERIAL SAFETY DATA SHEET

B 940 1	G 1038	J 861 15	702 5	AB252 1	C710F-5	C790-17C	H1200 20	U572
B 940 2	G 1038 A	J 861 16	702 5 AL	AB252 2	C710F-6	C790-18C	H1200HS 10	U576 1/2
B 940 3	G 1038 B	J 861 18	702 6	AB252 3	C711 1	C804	H1200HS 20	U576 3/8
B 941	G 1038 C	J 861 24	702 6 AL	AB252 4	C711 1/2	CL710 1	H802	U577
B 942	G 1038 CA	J 863 12	702 8	AB253	C711 10	CL710 1/2	H804	U579 1/2
B 943	G 1038 CX	J 863 15	703 1	AB254 L	C711 1-1/2	CL710 1-1/2	H805	U579 3/8
B 944	G 1038 E	J 863 18	703 1 1/2	AB254 R	C711 1-1/4	CL710 1-1/4	HL-115-1	U716 1
B 945	G 1500 X	J 863 6	703 1 1/4	AB255	C711 2	CL710 2	HL-115-1 1/2	U716 1 1/2
B 946	G 1501 T	J 863 9	703 1/2	AB257	C711 2-1/2	CL710 2-1/2	HL-115-1 1/4	U716 1 1/4
B 947	G 1502 L	J 864	703 2	AB260 L	C711 3	CL710 3	HL-115-1/2	U716 1 1/8
B 948	G 1503 S	J 865	703 3/4	AB260 R	C711 3/4	CL710 3/4	HL-115-2 1/2	U716 1 3/8
B 956	G 1870 X	J 866	811 1-STR	AB261	C711 3-1/2	CL710 3/8	HL-115-5	U716 1 5/8
B 960	G 1871 T	J 867 1	811 2-STR	AB263	C711 4	CL710 4	KCPC050	U716 1/2
B 961	G 1872 L	J 867 2	A 716 4	AB265	C711 5	CM100 1/2	KCPC075	U716 1/4
B 962	G 1873 S	J 867 3	A 716 6	AB274	C711 6	CM100 1/4	KCPC100	U716 2
B 966	G 2000	J 868	A1200 10	AB284 L	C711 8	CM100 3/8	KCPC125	U716 2 1/8
B 967	G 2001	J 869	A1200 10AL	AB284 R	C711F 1	CM100B 1/2	KCPC150	U716 2-3/8
B 995 10	G 2002	J 870 1	A1200 20	AB288 1/2	C711F 1/2	CZ209	KCPC200	U716 3/4
B 995 20	G 2003	J 870 2	A1200HS 10	AB288 1/4	C711F 1-1/2	E120 1/2	KCPC250	U716 3/8
B 995 M 10	G 2004	J 870 3	A1200HS 10AL	AB288 3/8	C711F 1-1/4	E120 3/8	KCPC300	U716 5/8
B914 1/2 P	G 3001 T	J800 76	A1200HS 20	AB288 5/8	C711F 2	E1200HS 10	KCPC350	U716 7/8
B914 3/8 P	G 3002 L	J800 84	A1200KO 10	AB299	C711F 2-1/2	E1200HS 20	KCPC400	UC100 1/2
C 105 1	G 3003 S	452-TB	A1200P 10	AB803	C711F 3	E122 1/2	M775L 3/8	UC100 1/4
C 105 1 1/2	G 950 20	512-U	A1200S 10	AB803EG	C711F 3/4	E122 3/8	M777 1/2	UC100 3/8
C 105 1 1/4	G 953 10	540 3/4	A1200S 20	AB815	C711F 3-1/2	E130 1/2	M777 3/8	US562
C 105 1/2	G 953 20	540 3/8	A1202 10	AB885	C711F 4	E130 3/8	M778 3/8	US563
C 105 2	G 955 10	540 5/8	A1202 10AL	AB887	C711F 5	E131 1/2	N 219	X201
C 105 2 1/2	G 955 20	540 7/8	A1202 20	AB888	C711F 6	E131 3/8	N205	X204
C 105 3	G 956 10	542	A1202 20AL	AN211	C720 1	E142 1/2 1 1/2	P716 1	X207
C 105 3 1/2	G 956 20	700 1 1/2-STR	A1202HS 10	AN270 1	C720 1/2	E142 1/2 1 1/4	P716 1 1/2	X208
C 105 3/4	G 957	700 1 1/4-STR	A1202HS 20	AN270 2	C720 10	E142 1/2 15/16	P716 1 1/4	X289
C 105 3/8	G 958	700 1/2-STR	A1400 10	AN270 3	C720 1-1/2	E142 1/2 2	P716 1/2	X299

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