MATERIAL SAFETY DATA SHEET

HEALTH 1 * = Chronic Health Hazard 2 = MODERATE
FLAMMABILITY 0 0 = INSIGNIFICANT 3 = HIGH
PHYSICAL HAZARD 0 1 = SLIGHT 4 = EXTREME
TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: Not Regulated

HAZARD CLASS / PKG GRP: Not regulated REF: Not Applicable IDENTIFICATION NUMBER: None LABEL: None Required

HMIS HAZARD RATINGS

SECTION 1 - PRODUCT / COMPANY IDENTIFICATION

OSHA - Meets 29 CFR 1910.1200 Standards

IDENTITY (AS USED ON LABEL AND LIST) Cast Iron Weld Metal	34-6622-02 Rev. B	Page 1 of 2
MANUFACTURER'S NAME	EMERGENCY TELEPHONE NUMBER	
Thermoweld	Infotrac (800) 535-5053 Outside USA	A (352) 323-3500
ADDRESS (NUMBER, STREET, P.O. BOX)	TELEPHONE NUMBER FOR INFORMA	TION
4102 South 74th East Ave.	(800) 558-1373	
(CITY, STATE AND ZIP CODE)	DATE PREPARED: March 4, 2011	
Tulsa, OK 74145	SUPERSEDES: February 12, 200	08

SECTION 2 - HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

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HAZARDOUS COMPONENTS	CAS#	%	OSHA PEL		ACGII	H TWA	SARA	RQ
(SPECIFIC CHEMICAL IDENTITY; COMMON NAME(S))	CAS#	(OPTIONAL)	PPM	MG/M3	PPM	MG/M3	TITLE III	LBS
Cuprous oxide (a)	1317-39-1	60 - 90		1			Yes	
Copper (a,b)	7440-50-8	7 - 13	1.0			1.0	Yes	5000
Aluminum (fume or dust) (a)	7429-90-5	7 - 13	15			10	Yes	
Calcium fluoride	7789-75-5	1 - 5	not es	tablished				
Tin	7440-31-5	1 - 5	2			2		
Iron oxide, black (c)	1317-61-9	1 - 5	·	10	·	·	·	
Calcium Silicon	Mixture	1 - 5	not es	tablished				

- (a) A "Yes" in the SARA TITLE III column in Section 2 indicates a toxic chemical subject to annual reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.
- (b) The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) has notification requirements for releases or spills to the environment of the Reportable Quantity (RQ for this mixture > 24000 lbs) or greater amounts, if < 4 μ diameter, according to 40 CFR 302.
- (c) The exposure limits of this product, when allowed to enter the environment as dust particulate, are covered under the rules of 29 CFR 1910.1000, Table Z 3, "All inert or nuisance dusts, whether mineral, inorganic or organic."

SECTION 3 - HEALTH HAZARD DATA

ROUTES OF ENTRY - SIGNS AND SYMPTOMS OF EXPOSURE	EMERGENCY AND FIRST AID PROCEDURES		
INHALATION: Breathing airborne particles or dust from mixing, spraying, sanding, grinding, etc. may cause irritation to respiratory tract. Contains substances which are considered nuisance dusts which require a NIOSH approved respirator when airborne particulate exceeds maximum allowable limit.	Remove affected person to fresh air; if symptoms persist seek medical attention.		
SKIN: None expected, however, prolonged contact may cause irritation.	Remove contaminated clothing; wash affected area with soap and water launder contaminated clothing before reuse; if irritation persists, seek medical attention.		
EYES: Contact with eyes may cause irritation.	Remove contact lenses. Flush eyes with clear running water for 15 minutes while holding eyelids open; if irritation persists, seek medical attention.		
INGESTION: May cause gastric distress, stomach pains, vomiting and diarrhea.	Give two glasses of water for dilution; induce vomiting as directed by medical personnel; never give anything by mouth to an unconscious person; seek medical attention.		
CARCINOGENICITY NTP?	No IARC MONOGRAPHS? No OSHA REGULATED? No		

ARCINOGENICITY

NTP?
No
IARC MONOGRAPHS?
No
OSHA REGULATED?
No
California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986 - there are no reportable chemicals present known to the state to cause cancer or reproductive toxicity.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Preexisting skin, eye, or respiratory disorders may become aggravated through prolonged exposure.

MATERIAL SAFETY DATA SHEET Page 2 of 2 IDENTITY (AS USED ON LABEL AND LIST) Cast Iron Weld Metal Date: March 4, 2011 34-6622-02 Rev. B SECTION 4 - FIRE FIGHTING MEASURES FLASH POINT (METHOD USED) NFPA RATING FLAMMABLE LIMITS Not applicable None LEL: Not applicable UEL: Not applicable EXTINGUISHING MEDIA Use dry sand, graphite, dolomite, sodium chloride, water spray or chemical foam SPECIAL FIRE FIGHTING PROCEDURES Firefighters must wear full facepiece self - contained breathing apparatus in positive pressure mode. UNUSUAL FIRE AND EXPLOSION HAZARDS: Thermoweld copper base welding/joining materials are exothermic mixtures, which when reacted, produce hot molten materials with temperatures in excess of 4000° F and a localized release of smoke. The materials are not explosive, ignition temperatures are in excess of 850° F for starting material and 1750° F for base material. They are not shock sensitive, nor are they subject to spontaneous ignition. Should the material be accidentally ignited, the immediate and direct application of large volumes of water will effectively retard the spread of fire and control it. Large amounts of dense, dusty smoke will be liberated during an accidental fire. SECTION 5 - ACCIDENTAL RELEASE MEASURES STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Confine and segregate product for reuse; place material into approved containers for disposal; for spills in excess of allowable limits (RQ) notify the National Response Center (800) 424 - 8802; refer to CERCLA 40 CFR 302 for detailed instructions; refer to SARA Title III, Section 313, 40 CFR 372 for reporting requirements. Do not discharge into lakes, ponds, streams or public waters. SECTION 6 - HANDLING AND STORAGE PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Storage of Thermoweld Exothermic materials should be in a clean dry area and restricted to access by authorized personnel only. Do not subject to rough handling or physical damage, nor excessive vibration. Store in accordance with "This Side Up" labels. Protect from weather and moisture. DO NOT USE PRODUCTS THAT HAVE BEEN EXPOSED TO MOISTURE. Before using Thermoweld Exothermic Process, personnel should be trained by a Thermoweld representative. Read and understand the instruction sheet packaged with the mold, and observe all general and safety instructions. SECTION 7 - EXPOSURE CONTROLS / PERSONAL PROTECTION RESPIRATORY PROTECTION (SPECIFY TYPE): NIOSH approved respirator designed to remove airborne particulate present in excess of maximum allowable concentrations due to secondary operations such as mixing, spraying, sanding, buffing, etc. Refer to 29 CFR 1910.134 or European Standard EN 149 for regulations. VENTILATION LOCAL EXHAUST: Recommended SPECIAL: None MECHANICAL (GENERAL): Yes OTHER: None PROTECTIVE GLOVES: Neoprene or rubber gloves. EYE PROTECTION: Protective eyeglasses or chemical safety goggles. OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Safety eyebath nearby WORK / HYGIENIC PRACTICES: Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general. SECTION 8 - PHYSICAL / CHEMICAL PROPERTIES **BOILING POINT** SPECIFIC GRAVITY (WATER = 1) Approximately 6.0 Not applicable VAPOR PRESSURE (MM Hg) рΗ Not applicable Not applicable VAPOR DENSITY (AIR = 1) EVAPORATION RATE (WATER = 1) Not applicable Not applicable SOLUBILITY IN WATER % VOLATILE (BY WEIGHT) Insoluble None APPEARANCE AND ODOR Gray / silver granules, characteristic odor SECTION 9 - STABILITY AND REACTIVITY CONDITIONS TO AVOID: Avoid generating airborne dust STABILITY UNSTABLE: STABLE: INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong acids HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Decomposition will not occur if handled and stored properly. In case of fire, smoke, oxides of carbon; fumes of copper and aluminum. Small amounts of fluoride fume or hydrofluoric acid fume may be released under ignition. CONDITIONS TO AVOID: None HAZARDOUS POLYMERIZATION MAY OCCUR: WILL NOT OCCUR: SECTION 10 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with Local, State, and Federal Regulations. Do not flush to sanitary sewer or waterway. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations. Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals.

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendoe or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.