



A Milacron Company

Dear Customer:

Enclosed is the **REVISED** Material Safety Data Sheet for our product:

D-M-E –GRAPHITE BUSHINGS

The products we distribute are not normally hazardous in their natural state. However, steel does contain elements deemed by OSHA to be hazardous when released by manufacturing, such as brazing, burning, grinding, sawing or welding, etc. Failure to control dust and fumes can result in chronic health problems.

We believe the information, supplied by the Manufacturer, on the enclosed MSDS to be accurate; however, D-M-E makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability for the information so presented.

Should you require additional information, please call or write the Manufacturer listed on the MSDS.

Sincerely yours,

D-M-E Company
Director of Operations
Ken Jasina

Revised: May 2005

MATERIAL SAFETY DATA SHEET

DATE ISSUED-NOVEMBER 1, 2003

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BRONZE PLATED ON STEEL PRODUCTS

MOLD BUSHINGS	METRIC L-GIBS
EJECTOR BUSHINGS	VEE-GIBBS
SHOULDER BUSHINGS	METRIC VEE-GIBBS
GUIDE BAR BUSHINGS	SIDE PLATES
GUIDE PIN BUSHINGS	METRIC SIDE PLATES
STRIPPER GUIDE BUSHINGS	WEAR PLATES
RUNNING FIT BUSHINGS	METRIC WEAR PLATES

L-GIBS

SUPPLIER: LAMINA INC

3650 SOUTH DERENZY ROAD
BELLAIRE, MI 49615

24 - Hour Emergency 231-533-8646

Product and MSDS Information: 231-533-8646

SECTION 2. HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Steel, bronze products under normal circumstances do not present an inhalation, skin contact, or ingestion hazard and are considered environmentally safe.

Processes such as burning, cutting, welding, brazing, grinding etc. that elevate the temperature of

The product or produce dust may create elevated concentrations of contaminants.

HAZARDOUS COMPONENTS	CAS No.	OSHA PEL mg/m(3)	% WT.	ACGIH TLV mg/m(3)
IRON	7439-89-6	10	98	5
CARBON	7440-44-0	15-Dust	<1	10
MANGANESE	7439-96-5	5	<1	5
PHOSPHORUS	7723-14-0	0.1	<1	0.1
SULFUR	7704-34-9	15	<1	10
COPPER	7440-50-9	0.1-Fume 1-Dust, mist	<1	0.2-Fume 1-Dust
TIN	7440-31-5	2	<1	2

SECTION 3. PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT

BRONZE, ABOUT 4500 DEGREES F, 2,482 DEGREES C

STEEL, ABOUT 5000 DEGREES F, 2,760 DEGREES C

SPECIFIC GRAVITY (H-2-0 =1)

BRONZE, 8.8

STEEL, 7.8

VAPOR PRESSURE(mm hG): N/A

VAPOR DENSITY (AIR =1): N/A

SOLUBILITY IN WATER: INSOLUABLE (LESS THAN 1%)

MELTING POINT

BRONZE, ABOUT 1800 DEGREES F, 982 DEGREES C

STEEL, 2750 DEGREES F, 1510 DEGREES C

SOLUABILITY IN WATER: NOT SOLUBLE

APPEARANCE AND ODOR:

GREY CRYSTALLINE METAL PART OR PRODUCT WITH BRONZE COATED SURFACES

SECTION 4. FIRE AND EXPLOSION DATA

FLASH POINT:N/A FLAMMABLE LIMITS:N/A LEL:N/A UEL:N/A
STEEL AND BRONZE PRODUCTS ARE NOT FLAMMABLE AND DO NOT CONTRIBUTE TO THE COMBUSTION OF OTHER MATERIALS, USE FIRE FIGHTING TECHNIQUES OR AGENTS APPLICABLE TO SURROUNDING MATERIALS.
SPECIAL FIRE FIGHTING PROCEDURES
N/A EXCEPT FOR DUST FROM MACHINING PRODUCT, PREVENT FORMATION OF A DUST CLOUD (MAY BE EXPLOSIVE). DO NOT USE HALOGENATED AGENTS.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
N/A EXCEPT FOR DUST FROM MACHINING PRODUCT. DUST CAN BE AN EXPLOSION HAZARD, ESPECIALLY WHEN HEATED, AND WHEN EXPOSED TO ACETYLENE OR MAGNESIUM METAL.

SECTION 5. REACTIVITY DATA

STABILITY: CONSIDERED STABLE UNDER CONDITIONS OF USE, STORAGE AND TRANSPORTATION.
INCOMPATIBILITY: (MATERIALS TO AVOID) PRODUCT-ACETYLENE GAS AND STRONG ACIDS. DUST FROM MACHINING PRODUCT-MAGNESIUM METAL, ORGANIC ACIDS, STRONG OXODIZING AGENTS, WATER.
HAZARDOUS DECOMPOSITION OR BY PRODUCTS: METAL FUME, COPPER OXIDE, TIN OXIDE.
HAZARDOUS DECOMPOSITION WILL NOT OCCUR.

SECTION 6. HEALTH HAZARD DATA

ROUTES OF ENTRY: INHALATION SKIN INGESTION

HEALTH HAZARDS

PRODUCT	NO	YES	YES
MACHINING DUST	YES	YES	YES

CARCINOGENICITY: N/A NPT? N/A MONOGRAPHS? N/A

SIGNS AND SYMPTOMS OF EXPOSURE: N/A EXCEPT FOR DUST FROM MACHING PRODUCT.DUST MAY IRRITATE EYES. EXCESSIVE INHALATION OF DUST IS IRRITATING AND MAY BE DAMAGING TO RESPIRATORY PASSAGES AND OR LUNGS. CHRONIC EFFECTS INCLUDE IRRITATION OF SKIN, NOSE, THROAT AND LUNGS, METALLIC TASTE, NAUSEA, PNEUMOCONIOS, METAL FUME FEVER, SKIN AND HAIR DISCOLORATION.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: IN THE EVENT OF EXCESSIVE EXPOSURE TO DUST OR FUME, REMOVE EMPLOYEE TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER ARTIFICIALRESPIRATION OR OXYGEN. OBTAIN IMMEDIATE MEDICAL ASSISTANCE.

SKIN: ABRASIONS AND CUTS SHOULD BE WASHED AND CLOSED BY A CLEAN COMPRESS AND BE IMMEDIATLY MEDICALLY TREATED. BURNS SHOULD BE IMMEDIATLY MEDICALLY TREATED. SHOULD SKIN IRRITATION OCCUR WASH AFFECTED AREA WITH MILD SOAP AND RINSE WITH CLEAN, WARM WATER.

EYES: DEPENDING UPON THE TYPE AND NATURE OF EXPOSURE, RELIEF MAY BE OBTAINED BY FRESH AIR OR BY RINSING THE EYES WITH FRESH WATER. OBTAIN MEDICAL ASSISTANCE.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSRE: PERSONS WITH A PREDISPOSITON TO RESPIRATORY DISORDERS (i.e., ASTHMA, EMPHYSEMA, etc.) MAY BE ADVERSELY AFFECTED BY PARTICULATES OR RESPIRATORY IRRITANTS GENERATED DURING THE MANUFACURING PROCESS.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: BE ALERT TO SHARP EDGES SLIPPERY SURFACES WHEN HANDLING, AND UNSECURED LIFTS. STEPS SHOULD BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED: STEEL PRODUCTS ARE STABLE BUT MASSIVE AND CAN EASILY DESTROY OBJECTS IN THEIR PATH. IF PRODUCT IS SPILLED IT SHOULD BE DETERMINED IF ANY UTILITIES, (POWER, WATER, OR GAS), PERSONS, OR VEHICLES ARE INVOLVED. DUST FROM MACHINING PRODUCT SHOULD BE PICKED UP FOR LATER DISPOSAL.
RECYCLE OR DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL ENVIROMENTAL REGULATIONS.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: NO SPEICAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE WITH ADEQUATE VENTILATION. WHEN CONTROLS ARE NOT SUFFICIENT TO REDUCE THE EXPOSURE BELOW THE APPLICABLE EXPOSURE LIMIT THEN USE MIOSH APPROVED RESPIRATORY PROTECTION WITHIN THE LIMITS OF THE RESPIRATOR.

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION, SAFETY GLASSES, and SIDE SHIELDS, GOGGLES, HELMET, FACE SHIELD AS APPROPRIATE TO OPERATION.

SKIN PROTECTION: APPROPRIATE PRECAUTIONS SHOULD BE TAKEN, WEAR PROTECTIVE GLOVES, CLOTHING TO PROTECT FROM OILY SURFACES, SHARP EDGES.

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