# MATERIAL SAFETY DATA SHEET

MMD-060-100-004

**SECTION I: PRODUCT AND SUPPLIER IDENTITY** 

MANUFACTURER: MONOGRAM METALS, INC. ADDRESS: 60800 LEYSHON DRIVE

BYESVILLE, OHIO 43723

EMERGENCY PHONE: 508-998-9132

PRODUCT NAME: HOT DIP GALVANIZED STEEL

CAS NO: 65997-19-5

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### SECTION II: COMPONENTS AND HAZARD INFORMATION

<u>COMPONENT</u>	CAS	CONCENTRATION	TLV	<u>PEL</u>
	<u>NUMBER</u>	(% BY WEIGHT)		
BASE METAL IRON	7439-89-6	BALANCE	5 mg/m3 (fume)	10 mg/m3 (IRON OXIDE FUME)
				5 mg/m3 (respirable)
				15 mg/m3 (total)
ALLOYING ELEMENTS:				
CARBON	7440-44-0	0.60 max	10 mg/m3	5 mg/m3 (respirable)
				15 mg/m3 (total)
MANGANESE	7439-96-5	1.0 max	5 mg/m3 (dust)	5 mg/m3 (dust & fume)
PHOSPHORUS	7723-14-D	0.04 max	0.1 mg/m3	0.1 mg/m3
SULFUR	7704-34-9	0.05 max	10 mg/m3	5 mg/m3 (respirable)
CHROME*	7440-47-3	0.1 max	0.5 mg/m3	0.5 mg/m3
NICKEL*	7440-02-0	0.1 max	1 mg/m3	1 mg/m3
ZINC COATING	7440-66-6	10.0 max	5 mg/m3 (fume)	5 mg/m3 (respirable)
		(0.4-0.9 oz/ft2)	10 mg/m3 (dust)	5 mg/m3 (fume)
				15 mg/m3 (total)
COATING TREATMENT	-	TRACE	-	-

BALANCE ALSO COMPRISED OF VARIOUS OXIDES AND COMPONENTS OF "TRACE" OR "RESIDUAL" ELEMENTS IN A CRYSTALLINE LATTICE STRUCTURE.

\* LISTED IN NTP ANNUAL REPORT ON CARCINOGENS. STEEL IS NOT LISTED BY NTP, IARC OR OSHA AS A CARCINOGEN.

## **SECTION III:** PHYSICAL DATA

APPEARANCE: METALLIC GRAY SOLID VAPOR PRESSURE - AT 20°C: NOT APPLICABLE ODOR: NO ODOR VAPOR DENSITY (AIR = 1): NOT APPLICABLE SOLUBILITY IN WATER: NOT SOLUBLE

BASE METAL: 2750°F % VOLATILES: NOT APPLICABLE COATING: 800 - 900°F **EVAPORATION RATE:** NOT APPLICABLE SPECIFIC GRAVITY: 7.6 - 8.00 NOT APPLICABLE pH: **BOILING POINT:** NOT APPLICABLE OIL/WATER DIST. COEFFICIENT: NOT APPLICABLE FREEZING POINT: NOT APPLICABLE ODOR THRESHOLD CONC.: NOT APPLICABLE

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# <u>SECTION IV</u>: <u>FIRE AND EXPLOSION HAZARD DATA</u>

STEEL PRODUCTS IN THE SOLID STATE PRESENT NO FIRE OR EXPLOSION HAZARD.

FLASH POINT: NONE

EXTINGUISHING MEDIA: POUR WATER OVER STEEL

SPECIAL FIRE FIGHTING PROCEDURES: N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS: MOLTEN METAL FALLING INTO WATER MAY

RESULT IN AN EXPLOSION

FLAMMABLE LIMITS: LEL-NONE UEL-NONE

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## SECTION V: HEALTH HAZARD INFORMATION

STEEL PRODUCTS UNDER NORMAL CONDITIONS DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HEALTH HAZARD. HOWEVER, OPERATIONS, SUCH AS, BURNING, WELDING, SAWING, BRAZING, GRINDING AND POSSIBLY MACHINING, ETC., WHICH RESULTS IN ELEVATING THE TEMPERATURE OF THE PRODUCT TO OR ABOVE ITS MELTING POINT OR RESULTS IN THE GENERATION OF AIRBORNE PARTICULATES, MAY PRESENT HEALTH HAZARDS. CHEMICALLY TREATED WITH TRACE AMOUNTS OF CHROMIUM.

## EFFECTS OF OVEREXPOSURE AND FIRST AID:

A. INHALATION: ACUTE PULMONARY IRRITATION MAY CAUSE A CONDITION KNOWN AS

METAL FUME FEVER. REMOVE TO FRESH AIR. CONSULT A PHYSICIAN.

CHRONIC - UNKNOWN.

B. INGESTION: NORMALLY DOES NOT OCCUR

C. EYES ACUTE - MAY CAUSE ITCHING AND BURNING SENSATION IF WELDING.

FLUSH WITH WATER AT LEAST FIFTEEN MINUTES. CONSULT A PHYSICIAN IF IRRITATION PERSISTS.

D. SKIN: ACUTE - FLUSH WITH WATER AT LEAST FIFTEEN MINUTES.

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# **SECTION VI: REACTIVITY DATA**

STABLE UNDER NORMAL CONDITIONS OF USE, STORAGE AND TRANSPORT. WILL REACT WITH STRONG ACID TO LIBERATE HYDROGEN. AT TEMPERATURES ABOVE THE MELTING POINT OF THE COATING, MAY LIBERATE ZINC FUMES.

STABILITY: STABLE

HAZARDOUS DECOMPOSITION PRODUCTS: WILL NOT SUPPORT COMBUSTION

ZINC AND ACIDS MAY PRODUCE HYDROGEN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

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#### SECTION VII: SPILL OR LEAK PROCEDURES

GENERALLY, THIS SECTION IS NOT APPLICABLE TO STEEL IN THE SOLID STATE.

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## SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY INFORMATION:

DUST/MIST/FUME RESPIRATOR IF TLV OR PEL IS EXCEEDED LOCAL EXHAUST AS REQUIRED TO STAY BELOW TLV OR

LOCAL EMIMOSI AS REQUIRED TO STAT DELOW

PEL IF CUTTING, BURNING OR WELDING.

PROTECTIVE GLOVES: ABRASIVE RESISTANT

EYE PROTECTION: SAFETY GLASSES OR GOGGLES

OTHER: LONG SLEEVE SHIRT IF SKIN CONTACT IS LIKELY

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SECTION IX: SPECIAL PRECAUTIONS

**NONE** 

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SECTION X: SARA - SECTION 313

ALL WEIGHTS ARE MAXIMUM FIGURES. CONSULT YOUR SPECIFICATION REQUIREMENTS FOR ACTUAL FIGURES.

MANGANESE	7439-96-5	1.0 % BY WEIGHT
CHROME	7440-47-3	0.1 % BY WEIGHT
NICKEL	7440-02-0	0.1 % BY WEIGHT
ZINC	7440-66-6	10 % BY WEIGHT

THIS PRODUCT CONTAINS TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372.

### SECTION XI: OTHER REGULATORY INFORMATION

NO OZONE DEPLETING CHEMICALS ARE USED IN THE PRODUCTION OR MANUFACTURE OF THIS PRODUCT.

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## SECTION XII: PREPARATION INFORMATION

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE, TO THE BEST OF MONOGRAM METAL'S KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE ISSUED. MONOGRAM METALS DOES NOT WARRANT OR GUARANTEE THEIR ACCURACY OR RELIABILITY, AND MONOGRAM METALS SHALL NOT BE LIABILE FOR ANY LOSS OR DAMAGE ARISING OUT OF THE USE THEREOF.

THE INFORMATION AND RECOMMENDATIONS ARE OFFERED FOR THE USER'S CONSIDERATION AND EXAMINATION AND IT IS THE USER'S RESPONSIBILITY TO SATISFY ITSELF THAT THEY ARE SUITABLE AND COMPLETE FOR ITS PARTICULAR USE.

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