

MATERIAL SAFETY DATA SHEET

ALLOYS: 2605, 210, 220, 226, 230, 240, 260, 268, 272, 280,	MSDS No. 007	Revision Date March 26, 2001
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OUTOKUMPU AMERICAN BRASS
70 SAYRE STREET
P.O. BOX 981
BUFFALO, NEW YORK 14240

IMPORTANT: Read this MSDS before handling or disposing of this product and pass this information on to employees or users of this product. Where modification of any kind is made to this product prior to resale, the modifying party or the reselling party must generate their own MSDS for their customers.

SECTION 1.

GENERAL

Grade	2605 (CARTRIDGE BRASS)	260 (CARTRIDGE BRASS)
Name	210 (GILDING METAL 210)	220 (COMMERCIAL BRONZE 220)
	226 (COMMERCIAL BRONZE 226)	230 (RED BRASS 230)
	240 (LOW BRASS 240)	268 (YELLOW BRASS 268)
	272 (YELLOW BRASS 272)	280 (YELLOW BRASS 272)

Number	2605 (CARTRIDGE BRASS 70-30)	260 (CARTRIDGE BRASS 70-30)
Names	210 (GILDING METAL 95-5)	220 (COMMERCIAL BRONZE 90-10)
	226 (COMMERCIAL BRONZE 90-10)	230 (RED BRASS 85-15)
	240 (LOW BRASS 80-20)	268 (YELLOW BRASS 66-34)
	272 (YELLOW BRASS 63 1/2)	280 (YELLOW BRASS 63 1/2)

Chemical Family
COPPER-ZINC ALLOY

Telephone Numbers

Emergency

716/879-6700 Company

Generic Name
BINARY BRASS

DOT Hazardous Materials
Proper Shipping Name

CAS No. NONE

NONE

UN/NA ID No. N/A

DOT Hazard Class
N/AP

SECTION 2.

SUMMARY OF HAZARDS

METAL MACHINING OR GRINDING OPERATIONS MAY PRODUCE FINE PARTICULATE OR DUST; HEATING, MELTING, WELDING, OR BRAZING MAY PRODUCE METAL FUMES AND PARTICULATES. INHALATION OF EXCESSIVE FUME OR DUST CONCENTRATIONS MAY RESULT IN RESPIRATORY TRACT IRRITATION AND/OR METAL FUME FEVER.

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SECTION 3. FIRE AND EXPLOSION

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Flash Point (method) N/AP Autoignition Temperature (method) N/AP

Flammable limits (% volume in air)
Upper N/AP Lower N/AP

Fire and Explosion Hazards DUST HAZARD EXISTS UNDER FAVORING CONDITIONS OF SMALL PARTICLE SIZE. DISPERSION IN AIR AND STRONG IGNITION SOURCE MAY RESULT IN AN EXPLOSION.

Extinguishing Media DRY CHEMICAL; USE DRY POWDER FOR METAL FIRES. GENTLY SPOON MEDIA ONTO FIRE. DO NOT DISTURB PARTICLES.

Special Firefighting Procedures DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION INCLUDING PRESSURE-DEMAND, SELF-CONTAINED BREATHING APPARATUS.

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SECTION 4. HEALTH HAZARDS

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Summary of Acute Hazards RESPIRATORY TRACT IRRITATION, METAL FUME FEVER, EYE IRRITATION

ROUTE OF EXPOSURE SIGNS AND SYMPTOMS PRIMARY ROUTE

Inhalation INHALATION OF EXCESSIVE FUME OR DUST CONCENTRATIONS [X]
MAY RESULT IN RESPIRATORY TRACT IRRITATION AND METAL FUME FEVER.
SYMPTOMS OF METAL FUME FEVER MAY LAST 24 TO 48 HOURS AND MAY INCLUDE A SWEET OR METALLIC TASTE IN THE MOUTH, DRYNESS AND IRRITATION OF THE THROAT, COUGH, SHORTNESS OF BREATH, CHEST PAIN, NAUSEA, VOMITING, WEAKNESS, FATIGUE, MUSCLE AND JOINT PAIN, CHILLS, SWEATING AND FEVER.

Eye Contact MECHANICAL IRRITATION MAY RESULT FROM AN ACCUMULATION [X]
OF DUST PARTICLES IN THE EYE.

Skin Absorption NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF AN []
ADVERSE EFFECT ARE EXPECTED TO OCCUR.

Skin Irritation NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF AN []
ADVERSE EFFECT ARE EXPECTED TO OCCUR.

Ingestion IF SWALLOWED IN LARGE QUANTITIES, THIS MATERIAL []
COULD HAVE A TOXIC EFFECT.

Symptoms of Chronic Hazards and Special Health Effects SEE SUPPLEMENTAL INFORMATION SECTION

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SECTION 5. PROTECTIVE EQUIPMENT AND OTHER CONTROL MEASURES

Respiratory IF EXPOSURE EXCEEDS THE PEL/TLV, USE NIOSH APPROVED RESPIRATORY PROTECTION EQUIPMENT AS SPECIFIED IN THE NIOSH/OSHA OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

Eye USE SAFETY GLASSES WITH SIDE SHIELDS OR GOGGLES TO PREVENT INJURY FROM FLYING PARTICLES OR HIGH DUST CONCENTRATIONS. USE GOGGLES OR SHIELD WITH APPROPRIATE LIGHT FILTRATION DURING WELDING OR CUTTING OPERATIONS.

Skin WHERE USE CAN RESULT IN SKIN CONTACT WITH PARTICULATE, PRACTICE GOOD PERSONAL HYGIENE. WASH HANDS AND OTHER EXPOSED AREAS WITH A MILD SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

Engineering Controls USE ADEQUATE VENTILATION TO KEEP FUME OR DUST CONCENTRATION BELOW THE OCCUPATIONAL EXPOSURE LIMITS SHOWN IN SECTION VI. (REFER TO ANSI Z49.1, "SAFETY IN WELDING AND CUTTING" AND "OSHA REGULATION" CFR 1910.252.)

Other Hygienic and Work Practices WHERE APPLICABLE, USE PROTECTIVE GLOVES TO PROTECT AGAINST HEAT OR SHARP METAL EDGES.

SECTION 6. OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE/UNITS	TIME
COPPER FUME	OSHA	1988	TWA	0.1 MG/M3	8 HRS
COPPER DUSTS AND MISTS	OSHA	1988	TWA	1 MG/M3	8 HRS
ZINC OXIDE FUME	OSHA	1988	TWA	5 MG/M3	8 HRS
ZINC OXIDE FUME	OSHA	1989	STEL	10 MG/M3	15 MIN
COPPER FUME	ACGIH	1988	TWA	0.2 MG/M3	8 HRS
COPPER DUSTS & MISTS, AS CU	ACGIH	1988	TWA	1 MG/M3	8 HRS
ZINC OXIDE FUME	ACGIH	1988	TWA	5 MG/M3	8 HRS
ZINC OXIDE FUME	ACGIH	1988	STEL	10 MG/M3	15 MIN
ZINC OXIDE DUST	ACGIH	1988	TWA	10 MG/M3	8 HRS

SECTION 7. EMERGENCY AND FIRST AID

Inhalation IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. IF IRRITATION PERSISTS, OR IF OTHER SIGNS OR SYMPTOMS DEVELOP, SEEK MEDICAL ATTENTION.

Eye Contact MECHANICAL INJURY ONLY. TREAT AS MECHANICAL INJURY ONLY. TREAT AS INERT FOREIGN BODY.

Skin Contact NOT EXPECTED TO PRESENT A SIGNIFICANT SKIN CONTACT HAZARD UNDER ANTICIPATED CONDITIONS OF NORMAL USE.

Ingestion NOT EXPECTED TO PRESENT A SIGNIFICANT INGESTION HAZARD UNDER ANTICIPATED CONDITIONS OF NORMAL USE.

Emergency Medical Treatment METAL FUME FEVER MAY BE TREATED SYMPTOMATICALLY.

SECTION 8. SPILL AND DISPOSAL

Precautions if Material is Spilled or Released: NO NOTABLE ENVIRONMENTAL HAZARD IS ANTICIPATED FROM THE "RELEASE" OF THIS MATERIAL IN BULK SOLID FORM ON LAND. THIS MATERIAL SHOULD BE RECOVERED FROM AQUATIC ENVIRONMENTS. IF FINELY DIVIDED MATERIAL IS SPILLED IN EXCESS OF EPA OR STATE REPORTABLE QUANTITIES, THE APPROPRIATE AUTHORITIES SHOULD BE CONTACTED. FOR AIR EMISSIONS CONSULT YOUR LOCAL AUTHORITY.

Waste Disposal Methods: MAXIMIZE PRODUCT RECOVERY FOR REUSE OR RECYCLING. CONDITIONS OF USE MAY CAUSE THIS MATERIAL TO BECOME A SOLID "HAZARDOUS WASTE" AS DEFINED BY STATE OR FEDERAL LAWS. SOLID WASTE "LEACHATE" TESTING MAY INDICATE THE NEED FOR PROPERLY PERMITTED DISPOSAL OF SUCH WASTES IN COMPLIANCE WITH ALL APPLICABLE LAWS. CONDITIONS OF USE MAY ALSO GENERATE LIQUID WASTES WITH METAL CONCENTRATIONS IN EXCESS OF THOSE PERMITTED THROUGH PRE-TREATMENT OR DIRECT DISCHARGE NPDES REQUIREMENTS. APPROPRIATE ANALYSES SHOULD BE CONDUCTED TO ENSURE COMPLIANCE WITH EXISTING WASTEWATER PERMITS.

SECTION 9. COMPONENTS

Component Name	CAS No.	Carcinogen##	Composition Amount
COPPER	7440-50-8	N/AP	60% TO 95%
ZINC	7440-66-6	N/AP	REMAINDER

Listed by: 1 = NTP 2 = IARC 3 = OSHA 4 = Other
Compositions are typical values, not specifications

SECTION 10.

PHYSICAL AND CHEMICAL DATA

Boiling points N/AP	Viscosity Units N/AP	Temp. Method	Dry Point N/AP
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Freezing Point N/AP	Vapor Pressure N/AP	Sol. in Water N/AP	Volatile Char. SOLIDS NOT VOLATILE
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Specific Gravity Water at 39F = 1 8.45 TO 8.86	Vapor Sp. Gr. (Air=1 at STP) N/AP	pH N/AP
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Hazardous Polymerization NO	Stability STABLE
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Other Chemical Reactivity N/AP

Other Physical and Chemical Properties MELTING/FREEZING RANGE 1650. F - 1950. F DEGREES
ODORLESS METALLIC MATERIAL

Conditions to Avoid EXPOSURE DURING STORAGE TO STRONG ACIDS, BASES OR OXIDIZING AGENTS.

Materials to Avoid MERCURY, AMMONIA AND ACETYLENE

Hazardous Decomposition Products METAL FUMES MAY BE GENERATED UNDER EXTREME HEAT

SECTION 11. ADDITIONAL PRECAUTIONS

Handling, Storage and Decontamination Procedures: GOOD HOUSEKEEPING MUST BE PRACTICED DURING STORAGE, TRANSFER, HANDLING AND USE TO AVOID EXCESSIVE DUST ACCUMULATION. APPLY RECOMMENDATIONS OF NFPA 491 FOR COPPER ALLOYS.

General Comments: USE GOOD PERSONAL HYGIENE. WASH HANDS WITH MILD SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR BEFORE LEAVING WORK. SALTS OF METAL COMPONENTS HAVE DEMONSTRATED MUTAGENIC POTENTIAL IN SEVERAL BIOASSAYS, BUT THE HEALTH SIGNIFICANCE OF THESE RESULTS IS UNKNOWN.

NOTE EQ = Equal AP = Approximately N/P = No Applicable Information Found
LT = Less Than UK = Unknown
GT = Greater Than TR = Trace N/AP = Not Applicable
N/DA = No Data Available

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SECTION 12. SUPPLEMENTAL INFORMATION

THE COPPER AND THE ZINC IN THIS MATERIAL MAKES IT 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. THIS NOTICE MUST NOT BE DETACHED FROM THIS MATERIAL SAFETY DATA SHEET AND ANY COPYING OR REDISTRIBUTION OF THIS DATA SHEET MUST INCLUDE THIS NOTICE.

THOSE RARE INDIVIDUALS (ONE PERSON IN 200,000 POPULATION) SUFFERING FROM THE GENETIC DISORDER KNOWN AS WILSON'S DISEASE DO NOT ELIMINATE COPPER FROM THE SYSTEM IN A NORMAL FASHION AND SHOULD MINIMIZE INGESTION AND INHALATION OF COPPER CONTAINING MATERIALS.