

MATERIAL SAFETY DATA SHEET

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DURAFIX Solder for Aluminum, Diecast, Zinc Alloys, Pot Metal and White Metal

Trade Name: DURAFIX UK LIMITED	REF. Weeks ID No. 204
Composition: LIMITED	
Manufacturer: Durafix UK Limited	
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Please retain this sheet for your files. Durafix UK Limited maintains a Material Safety Data Sheet (MSDS) for each Durafix in compliance with Federal OSHA Hazard Communication Standard (29 CFR 1910.1200) & various right-to-know laws.

The information and recommendations contained within this publication have been compiled from sources believed to be reliable and to represent the best information available to Durafix UK Limited at the time of issue. It is our policy to include an MSDS with initial orders for each product. This submission is to become a matter of record and need not accompany subsequent shipments for the same product to the same customer. The information contained on this sheet is intended solely for employee health and safety education and not for contract specification purposes. No warranty, guarantee, or representation is made by Durafix UK Limited, nor does Durafix UK Limited assume any responsibility in connection therewith; nor can it be assumed that all acceptable safety measures or other safety measures may not be required under particular or exceptional conditions or circumstances. Should you need additional information, contact us.

I - MATERIAL IDENTIFICATION /COMPONENTS

*(Hazardous components 1% or greater; Carcinogens 0.1% or greater)

Component	CAS No.	OSHA PEL TLV	ACGIH TLV	OTHER	% (optional)
Zinc (Zn)	7440-66-6	5mg/m ₃ (oxide fume)	5 mg/m ₃ (oxide fume)	Steel of 10.0 mg/m ₃	
Aluminum (Al)	7429-90-5	10 mg/m ₃			
Copper (Cu)	7440-50-8	2 mg/m ₃			
Magnesium (Mg)	7439-95-4	negligible	see %		

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II - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: 2400°F / 1314°C
Vapor Pressure (mm Hg.): N/A
Specific Gravity: 6.68
Solubility In Water 0 (solid)
N/A

Melting Point: 728°F / 387°C
Vapor Density (AIR=1): N/A
Evaporation Rate (butyl Acetate =1):

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Appearance and Odour: Silver-white-bluish metal; odourless / various shapes and sizes.

III – FIRE AND EXPLOSION HAZARD DATA

Flash point & Methods Used:	Auto Ignition Temperature:	Flammability Limits	LEL	UEL
N/A		N/A (in air, % by volume):	N/A	N/A

Extinguisher

Media:

CO2 or dry chemical extinguisher.
DO NOT USE WATER ON MOLTEN METAL.
Large fires may be flooded with water from a distance.

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Copper (Cu)	7440-50-8	2 mg/m ³		
Magnesium (Mg)	7439-95-4	negligible	> see %	

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Appearance and Odor: Silver-white-bluish metal; odorless / various shapes and sizes.

III – FIRE AND EXPLOSION HAZARD DATA

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N/A		N/A (in air, % by volume):	N/A	N/A

Special Fire Fighting Procedures: Use NIOSH/MSHA -approved self-contained breathing apparatus and full protective clothing if involved in fire.

Unusual Fire and Explosion Hazards: Finely Divided dust may form explosive mixture with air. NEVER DROP WATER OR LIQUIDS INTO MOLTEN SOLDER. Do not plunge damp or wet solder bars/pieces into molten solder. Flame will trace fine zinc dust. Product of combustion is ZnO.

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IV – REACTIVITY HAZARD DATA

Stability: STABLE **Conditions to avoid:** NONE

Incompatibility (materials to avoid): Strong Acids, Strong Alkalis NONE - HAZARDOUS POLYMERIZATION WILL NOT OCCUR

Hazardous Decomposition Products: NONE HAZARDOUS POLYMERIZATION WILL NOT OCCUR

V - HEALTH HAZARD DATA

PRIMARY Inhalation: Fumes Solid metal - not edible; highly ROUTES OF ENTRY: Ingestion:Skin Absorption: unlikely N/A

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

Flu-like symptoms (nausea, constipation, headache, dizziness) - self-limiting, usually disappear within 24 hours

VI – EMERGENCY AND FIRST AID PROCEDURES:

INGESTION: Drink large quantities of water - induce vomiting.
Call a physician at once; advise of chemical composition (section II).

SKIN: Wash thoroughly with water to remove all residue. If a rash develops, call a physician.

INHALATION: Terminate exposure and remove to fresh air. Call physician, advise of chemical composition (section II).

EYES: Flush with water for at least 15 minutes to remove irritant. Consult a physician.

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VII – EMERGENCY AND FIRST AID PROCEEDURES:

(Zn) Zinc: Excessive inhalation of zinc oxide fumes may produce symptoms known as “zinc shakes”

which are flu-like and usually cease when the individual is removed from the source.

(Cu) Copper: Excessive inhalation of fumes from many metals can produce an acute reaction known

as “metal fume fever.” Symptoms consist of chills and fever which come on a few hours

after large exposures. Long-term effects of metal fume fever have not been noted.

PHYSIOLOGICAL EFFECTS: Industrial exposure to copper fumes, dusts or mists

results in metal fume fever with atrophic changes in nasal mucous membranes.

Chronic poisoning results in Wilson’s disease, characterized by a hepatic cirrhosis,

brain damage, demyelination, renal disease and copper deposition in the cornea.

(Al) Aluminum: Inhalation of finely divided powder has been reported as a cause of pulmonary fibrosis.

May be implicated in Alzheimers disease.

NOTE: IT IS UNLIKELY THAT NORMAL EXPOSURE (USING APPROPRIATE PROTECTIVE EQUIPMENT) TO THIS SOLDER WOULD RESULT IN ILLNESS.

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Section VIII -CONTROL AND PROTECTIVE MEASURES

Respiratory Protection: Use NIOSH-approved breathing apparatus to prevent exposure to dusts and fumes.

Eye Protection: Wear approved safety glasses or welding goggles, appropriate to your procedure.

Ventilation: Local Exhaust: YES Mechanical: YES Special: Conform with your regulatory statutes. Protective gloves are recommended, especially for high temperature applications to prevent burns. Other: Standard protective equipment used in soldering and / or other applicable operations.

Comply with all local, state, federal regulations.

GOOD HOUSEKEEPING PROCEDURES SHOULD BE MAINTAINED. PERSONNEL SHOULD WASH THOROUGHLY BEFORE SMOKING OR EATING FOOD AND DRINK SHOULD NOT BE CONSUMED OR TOBACCO PRODUCTS USED. NO COSMETICS SHOULD BE APPLIED IN AREAS WHERE EXPOSURES EXIST.

Section IX – PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES

Steps to be taken if material is spilled or released: SOLDER IS SOLID/RECYCLABLE. Vacuuming is recommended for accumulated metal dust from saw/grind operations.

Waste Disposal Method: DISPOSE OF ACCORDING TO FEDERAL, STATE, LOCAL AND OSHA REGULATIONS.

Precautions to be taken in handling and storage: DRY STORAGE; AMBIENT TEMPERATURE

Other Precaution / Special Handling: Wet or moist ingot(s) WILL present an explosion hazard when submerged in molten solder. AVOID FIRE RISKS.

Always preheat ingot before charging into furnace.

*0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

NFPA RATING: Health: 1 Flammability: 0 Reactivity: 0 Special: 0

HMIS RATING: Health: 1 Flammability: 0 Reactivity: 0 Special: 0

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