OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

Regd Office: Unit no 12, 1st Floor,
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Oxford
Range of
Laboratory Chemicals

MATERIAL SAFETY DATA SHEET

DEVARDA'S ALLOY POWDER

(Extra Pure)

MSDS CAS: 8049-11-4

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name: DEVARDA'S ALLOY POWDER
CAS#: 8049-11-4
Synonym: Not applicable.
Chemical Name: Not applicable.
Chemical Formula: Not applicable.

Brand: OXFORD

Details Of The Supplier Of The Safety Data Sheet :

Company identification: OXFORD LAB FINE CHEM LLP
Unit. No. 12, 1st Floor, Neminath Industrial Estate No. 6,
Navghar, Vasai (East). Palghar - 401 210.
Mumbai, Maharashtra, INDIA.
Tel: 91-250-2390989
Tel/Fax: 91-250-2390032

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS NO.	% by Weight
Copper	7440-50-8	50
Aluminum	7429-90-5	45
Zinc	7440-66-6	5

Toxicological Data on Ingredients: Copper LD50: Not available. LC50: Not available. Aluminum: DUST (LC50): Acute: 3 ppm 4 hour(s) [Human/30 min]. Zinc LD50: Not available. LC50: Not available.

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Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant), of eye contact (irritant). Severe over-exposure can result in death.

Potential Chronic Health Effects:
Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of eye contact (irritant). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:
No known effect on eye contact, rinse with water for a few minutes.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact: Not available.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:
Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Serious Ingestion: Not available.

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Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: The lowest known value is 460°C (860°F) (Zinc).

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

Fire Hazards in Presence of Various Substances: Highly flammable in presence of moisture.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
Flammable solid. Moisture reactive material.
SMALL FIRE: Obtain advice on use of water. Use DRY chemical powder.
LARGE FIRE: Use water spray or fog. Do not use water jet. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards:
Material in powder form, capable of creating a dust explosion.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:
Flammable solid. Stop leak if without risk. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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Section 7: Handling and Storage

Precautions:

Keep locked up Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment if ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids.

Storage:

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Copper TWA: 1 (mg/m3) from ACGIH [1990] Aluminum TWA: 10 (ppm) Zinc TWA: 10 (mg/m3) from OSHA Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor	**: Not available.**
Taste	**: Not available.**
Molecular Weight	**: Not available.**

Section 9: Physical and Chemical Properties (Continued)

Color	**: Grey**
pH (1% soln/water)	**: Not applicable.**
Boiling Point	**: 1700°C (3092°F)**
Melting Point	**: 1083°C (1981.4°F) based on data for: Copper. Weighted average: 859.67°C (1579.4°F)**
Critical Temperature	**: Not applicable.**
Specific Gravity	**: 5.8 (Water = 1)**
Vapor Pressure	**: Not applicable.**
Vapor Density	**: Not applicable.**
Volatility	**: Not available.**
Odor Threshold	**: Not available.**
Water/Oil Dist. Coeff.	**: The product is insoluble in water and oil.**
Ionicity (in Water)	**: Not available.**
Dispersion Properties	**: Very slightly dispersed in n-octanol. Is not dispersed in cold water, hot water, Methanol, diethyl ether, and acetone.**
Solubility	**: Insoluble in cold water, hot water, methanol, diethyl ether, n-octanol, acetone.**

Section 10: Stability and Reactivity Data

Stability: **The product is stable.**

Instability Temperature: **Not available.**

Conditions of Instability: **Not available.**

Incompatibility with various substances:
Highly reactive with acids. Reactive with oxidizing agents. Slightly reactive to reactive with moisture.

Corrosivity: **Not considered to be corrosive for metals and glass.**

Special Remarks on Reactivity: **Air sensitive. (Aluminum)**

Special Remarks on Corrosivity: **Not available.**

Polymerization: **No.**

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Section 11: Toxicological Information

Routes of Entry: **Inhalation. Ingestion.**

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute toxicity of the dust (LC50): 3.3 mg/m3 4 hour(s) [Human/30 min]. (Aluminum).

Chronic Effects on Humans: **The substance is toxic to lungs, mucous membranes.**

Other Toxic Effects on Humans:
Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals: **Not available.**

Special Remarks on Chronic Effects on Humans:
Human: passes through the placenta, excreted in maternal milk. (Copper).

Special Remarks on other Toxic Effects on Humans:
Material is irritating to mucous membranes and upper respiratory tract. (Aluminum).

Section 12: Ecological Information

Ecotoxicity: **Not available.**

BOD5 and COD: **The BOD5 is 290000 ppm [1 day(s)].**

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation:
The products of degradation are as toxic as the original product.

Special Remarks on the Products of Biodegradation:
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source ia s potential dust explosion hazard. (Zinc).

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Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

Land transport (ADR-RID)

Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.
UN N°: 3089
H.I. nr: 40
ADR - Class: 4.1
Labelling - Transport: 4.1: Flammable solids, self-reactive substances and desensitized explosives.
ADR - Group: II

Sea transport (IMDG) [English only]

Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.
UN N°: 3089
IMO-IMDG - Class or division: 4.1 : Flammable solids, self-reactive substances and desensitized explosives.
IMO-IMDG - Packing group: II

Air transport (ICAO-IATA) [English only]

Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.
UN N°: 3089
IATA - Class or division: 4.1: Flammable solids, self-reactive substances and desensitized explosives.
IATA - Packing group: II

Section 15: Other Regulatory Information

Federal and State Regulations:
Pennsylvania RTK: Copper; Aluminum; Zinc Massachusetts RTK: Copper; Aluminum; Zinc TSCA 8(b) inventory: Devarda's alloy SARA 313 toxic chemical notification and release reporting: Zinc CERCLA: Hazardous substances.: Copper; Zinc;

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:
WHMIS (Canada): CLASS B-4: Flammable solid. CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
DSCL (EEC): R36- Irritating to eyes.

HMIS (U.S.A.):
Health Hazard: 3
Fire Hazard: 1
Reactivity: 1
Personal Protection: E

National Fire Protection Association (U.S.A.):
Health: 3
Flammability: 1
Reactivity: 1
Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

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