

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/26/2009

Reviewed on 05/26/2009

1 Identification of substance:**Product details:****Product name:** Zinc Copper composite**Stock number:** 44013**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company
 Johnson Matthey Catalog Company, Inc.
 30 Bond Street
 Ward Hill, MA 01835-8099
 Emergency Phone: (978) 521-6300
 CHEMTREC: (800) 424-9300
 Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:**Chemical characterization:****Description: (CAS#)**

Zinc Copper composite (CAS# 53801-63-1); 100%

3 Hazards identification**Hazard description:**

F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.

Classification system**HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

| | |
|------------|---|
| HEALTH | 2 |
| FIRE | 2 |
| REACTIVITY | 1 |

Health (acute effects) = 2

Flammability = 2

Reactivity = 1

GHS label elements

Warning

2.7/2 - Flammable solid.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/ equipment.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

In case of fire: Use for extinction: CO2, powder or water spray.

4 First aid measures**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.**5 Fire fighting measures****Suitable extinguishing agents** Special powder for metal fires. Do not use water.**For safety reasons unsuitable extinguishing agents** Water

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Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Information for safe handling:**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Storage**Requirements to be met by storerooms and receptacles:** Store in a cool location.**Information about storage in one common storage facility:**

Do not store together with acids.

Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:**Copper**

| | mg/m ³ |
|---------------------|-----------------------------------|
| ACGIH TLV | 1 (dust, mist); 0.2 (fume) |
| Austria MAK | 1 |
| | 0.1 (fume) |
| Belgium TWA | 0.2 (fume); 1 (dust) |
| Denmark TWA | 0.1 |
| Finland TWA | 0.2 (fume); 1 (dust) |
| France VME | 0.2 (fume); 1 (dust) |
| | 1; 2-STEL (dust) |
| Germany MAK | 0.1 (fume); 1 (dust) |
| Hungary TWA | 0.2; 0.4-STEL (dust) |
| Netherlands MAC-TGG | 1 (dust) |
| Norway TWA | 0.05 |
| | 0.1 (fume) |
| Poland TWA | 0.1; 0.3-STEL (fume) |
| | 1; 2-STEL (dust) |
| Russia | 1-STEL (dust) |
| Sweden NGV | 0.2 (resp. dust); 1 (total dust) |
| Switzerland MAK-W | 0.1; 0.2-KZG-W (fume) |
| | 1; 1-KZG-W |
| United Kingdom TWA | 0.2 (fume) |
| | 1; 2-STEL (dusts and mists as Cu) |
| | 1; 3-STEL |

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USA PEL 0.1 (fume, dusts & mists)

Additional information: No data**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:** Impervious gloves**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

| | |
|---------------|----------|
| Form: | Powder |
| Color: | Grey |
| Odor: | Odorless |

Change in condition**Melting point/Melting range:** Not determined**Boiling point/Boiling range:** Not determined**Sublimation temperature / start:** Not determined**Flash point:** Not applicable**Flammability (solid, gaseous)** Highly flammable.**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Explosion limits:****Lower:** Not determined**Upper:** Not determined**Vapor pressure:** Not determined**Density:** Not determined**Solubility in / Miscibility with****Water:** Insoluble**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Acids

Oxidizing agents

Dangerous reactions

Reacts with acids

Reacts with oxidizing agents

Dangerous products of decomposition: Metal oxide fume**11 Toxicological information****Acute toxicity:****Primary irritant effect:****on the skin:** Irritant to skin and mucous membranes.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Subacute to chronic toxicity:**

Copper compounds may be irritating to the skin, eyes and respiratory tract. They may cause metal fume fever, hemolysis of the red blood cells and injury to the liver, lungs, kidneys and pancreas. Ingestion may also cause vomiting, gastric pain, dizziness, anemia, cramps, convulsions, shock, coma and death. Copper solutions may cause sensitization reactions. Zinc fumes may cause metal fume fever. Effects include dry throat, metallic taste, chest pain, dyspnea, rales and dry cough. Several hours later, chills may occur with lassitude, malaise, fatigue, headache, back pain, muscle cramps, blurred vision, nausea, fever, perspiration, vomiting and leukocytosis.

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Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**General notes:**

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations**Product:**

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information**DOT regulations:**

Hazard class: 4.1
Identification number: UN3089
Packing group: III
Proper shipping name (technical name): METAL POWDER, FLAMMABLE, N.O.S.
Label: 4.1

Land transport ADR/RID (cross-border)

ADR/RID class: 4.1 (F3) Flammable solids, self-reactive substances and solid desensitised explosives
Danger code (Kemler): 40
UN-Number: 3089
Packaging group: III
Description of goods: 3089 METAL POWDER, FLAMMABLE, N.O.S. (zinc copper composite)

Maritime transport IMDG:

IMDG Class: 4.1
UN Number: 3089
Packaging group: III
Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 4.1
UN/ID Number: 3089
Packaging group: III
Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.

UN "Model Regulation": UN3089, METAL POWDER, FLAMMABLE, N.O.S., 4.1, III

15 Regulations**Product related hazard informations:****Hazard symbols:**

F Highly flammable

Risk phrases:

11 Highly flammable.

Safety phrases:

7/8 Keep container tightly closed and dry.

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43 In case of fire, use metallic extinguishing powder. Never use water.

National regulations

This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only.

Information about limitation of use:

For use only by technically qualified individuals.

This product contains zinc and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

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