



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier Copper Aluminum Dovetail

Other means of identification
SDS number R11

Manufacturer/Importer/Supplier/Distributor information
Manufacturer

Company name Materion Technical Materials Inc.
Address 5 Wellington Road
 Lincoln, RI 02865
 United States

Telephone 1.401.333.1700
Website www.materion.com
E-mail Mia.DeCelles@materion.com
Contact person Mia DeCelles

Emergency phone number Chemtrec 1.703.527.3887

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements

Hazard symbol None.
Signal word None.
Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.
Response If exposed or concerned: Get medical advice/attention.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information The product is provided in solid, massive form. Therefore, it does not present the same hazards as it would if it were in powdered form. For further information, please contact the Product Stewardship Department at +1.800.862.4118.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Copper		7440-50-8	60 - 80
Aluminum		7429-90-5	20 - 40

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	This is a non-combustible, non-reactive solid material.
Unsuitable extinguishing media	Not applicable, non-combustible.
Specific hazards arising from the chemical	This product is not flammable.
Special protective equipment and precautions for firefighters	Wear suitable protective equipment.
Fire fighting equipment/instructions	Not a fire hazard.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	This product is not flammable.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	As supplied, this product poses no special release issues.
Methods and materials for containment and cleaning up	No specific clean-up procedure noted.
Environmental precautions	Not relevant, due to the form of the product.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
Copper (CAS 7440-50-8)	PEL	1 mg/m ³	Dust and mist.
		0.1 mg/m ³	Fume.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m ³ 0.2 mg/m ³	Dust and mist. Fume.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	5 mg/m ³ 5 mg/m ³ 10 mg/m ³	Respirable. Welding fume or pyrophoric powder. Total
Copper (CAS 7440-50-8)	TWA	1 mg/m ³	Dust and mist.

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	PEL	5 mg/m ³ 5 mg/m ³ 5 mg/m ³ 10 mg/m ³	Pyrophoric powder. Respirable fraction. Welding fume. Total dust.
Copper (CAS 7440-50-8)	PEL	1 mg/m ³ 0.1 mg/m ³	Dust and mist. Fume.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Control parameters

Follow standard monitoring procedures.

Individual protection measures, such as personal protective equipment**Eye/face protection**

It is a good industrial hygiene practice to minimize eye contact.

Skin protection**Hand protection**

Not normally needed.

Other

No special protective equipment required.

Respiratory protection

No personal respiratory protective equipment normally required.

Thermal hazards

Not applicable.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.

9. Physical and chemical properties**Appearance****Physical state**

Solid.

Form

Solid.

Color

Copper.

Odor

None.

Odor threshold

Not applicable.

pH

Not applicable.

Melting point/freezing point

1220 °F (660 °C) estimated / Not applicable.

Initial boiling point and boiling range

Not applicable.

Flash point

Not applicable.

Evaporation rate

Not applicable.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not applicable.

Flammability limit - upper (%) Not applicable.

Explosive limit - lower (%) Not applicable.

Explosive limit - upper (%) Not applicable.

Vapor pressure Not applicable.

Vapor density Not applicable.

Relative density Not applicable.

Solubility(ies)

Solubility (water) Insoluble.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not applicable.

Decomposition temperature Not applicable.

Viscosity Not applicable

Other information

Density Not applicable.

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

Partition coefficient (oil/water) Not applicable.

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Contact with incompatible materials.

Incompatible materials Strong acids, alkalies and oxidizing agents.

Hazardous decomposition products Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

11. Toxicological information

Information on likely routes of exposure

Inhalation Not likely, due to the form of the product. Inhalation of dusts may cause respiratory irritation.

Skin contact No adverse effects due to skin contact are expected.

Eye contact Not likely, due to the form of the product. Dust in the eyes will cause irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics None known.

Information on toxicological effects

Acute toxicity Not known.

Skin corrosion/irritation Not likely, due to the form of the product.

Serious eye damage/eye irritation Not likely, due to the form of the product.

Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	Not listed.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not regulated.
US. National Toxicology Program (NTP) Report on Carcinogens	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	No known chronic or acute health risks.

12. Ecological information

Ecotoxicity	Contains a substance which causes risk of hazardous effects to the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	No special precautions.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.

15. Regulatory information

US federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Copper (CAS 7440-50-8) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Aluminum	7429-90-5	20 - 40
Copper	7440-50-8	60 - 80

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Aluminum (CAS 7429-90-5)
Copper (CAS 7440-50-8)

16. Other information, including date of preparation or last revision

Issue date 09-05-2017

Version # 01

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