



1. Identification

Product identifier Amorphous Alloy LM-601Modified

Other means of identification

SDS number M35

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Materion Brush Inc.
Address 6070 Parkland Boulevard
Mayfield Heights, OH 44124
United States

Telephone 1.800.862.4118

Website www.materion.com

E-mail ehs@materion.com

Contact person Theodore Knudson

Emergency phone number 1.800.862.4118

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Sensitization, skin Category 1
Carcinogenicity Category 1
Specific target organ toxicity, repeated exposure Category 1 (Respiratory system)

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May cause an allergic skin reaction. May cause cancer by inhalation. Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not breathe dust/fume. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

Response If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a poison center/doctor. Wash contaminated clothing before reuse.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Supplemental information

Exposure to the elements listed in Section 3 by inhalation, ingestion, and skin contact can occur when melting, casting, gross handling, pickling, chemical cleaning, heat treating, abrasive cutting, welding, grinding, sanding, polishing, milling, crushing, or otherwise heating or abrading the surface of this material in a manner which generates particulate.

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 | % |
|---------------|--------------------------|------------|---------|
| Zirconium | | 7440-67-7 | 55 - 71 |
| Copper | | 7440-50-8 | 25 - 35 |
| Aluminum | | 7429-90-5 | 2 - 5 |
| Nickel | | 7440-02-0 | 2 - 5 |
| Beryllium | | 7440-41-7 | 0 - 0.1 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

If symptoms develop move victim to fresh air. For breathing difficulties, oxygen may be necessary. Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help.

Skin contact

Take off contaminated clothing and wash before reuse. Thoroughly wash skin cuts or wounds to remove all particulate debris from the wound. Seek medical attention for wounds that cannot be thoroughly cleansed. Treat skin cuts and wounds with standard first aid practices such as cleansing, disinfecting and covering to prevent wound infection and contamination before continuing work. Obtain medical help for persistent irritation. Material accidentally implanted or lodged under the skin must be removed.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if symptoms persist.

Ingestion

If swallowed, seek medical advice immediately and show this container or label. Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

May cause allergic skin reaction. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Treatment of Chronic Beryllium Disease: There is no known treatment which will cure chronic beryllium disease. Prednisone or other corticosteroids are the most specific treatment currently available. They are directed at suppressing the immunological reaction and can be effective in diminishing signs and symptoms of chronic beryllium disease. In cases where steroid therapy has had only partial or minimal effectiveness, other immunosuppressive agents, such as cyclophosphamide, cyclosporine, or methotrexate, have been used. In view of the potential side effects of all the immunosuppressive medications, including steroids such as prednisone, they should be used only under the direct care of a physician. Other treatment, such as oxygen, inhaled steroids or bronchodilators, may be prescribed by some physicians and can be effective in selected cases. In general, treatment is reserved for cases with significant symptoms and/or significant loss of lung function. The decision about when and with what medication to treat is a judgment situation for individual physicians.

In their 2014 official statement on the Diagnosis and Management of Beryllium Sensitivity and Chronic Beryllium Disease, the American Thoracic Society states that "it seems prudent for workers with BeS to avoid all future occupational exposure to beryllium."

General information

If exposed or concerned: get medical attention/advice. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. As supplied, there is no immediate medical risk with beryllium products in article form. First aid measures provided are related to particulate containing beryllium.

5. Fire-fighting measures

| | |
|--|--|
| Suitable extinguishing media | The product is non-combustible. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | Do not use water to extinguish fires around operations involving molten metal due to the potential for steam explosions. |
| Specific hazards arising from the chemical | Not applicable. |
| Special protective equipment and precautions for firefighters | Firefighters should wear full protective clothing including self contained breathing apparatus. Wear suitable protective equipment. |
| Fire fighting equipment/instructions | Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. |
| Specific methods | Pressure-demand self-contained breathing apparatus must be worn by firefighters or any other persons potentially exposed to the particulate released during or after a fire. |

6. Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | <p>Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Stop the flow of material, if this is without risk. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers.</p> <p>Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.</p> <p>Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use.</p> |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| | |
|---|--|
| Precautions for safe handling | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Store locked up. Store in original tightly closed container. Store in a well-ventilated place. |

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

| Components | Type | Value |
|---------------------------|------|--------------|
| Beryllium (CAS 7440-41-7) | TWA | 0.0002 mg/m3 |

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/m3 | Respirable fraction. |

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

| Components | Type | Value | Form |
|------------------------|------|-----------|----------------|
| Copper (CAS 7440-50-8) | PEL | 15 mg/m3 | Total dust. |
| | | 1 mg/m3 | Dust and mist. |
| | | 0.1 mg/m3 | Fume. |
| Nickel (CAS 7440-02-0) | PEL | 1 mg/m3 | |

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

| Components | Type | Value | Form |
|--------------------------|------|----------|----------------------|
| Aluminum (CAS 7429-90-5) | TWA | 5 mg/m3 | Respirable fraction. |
| | | 15 mg/m3 | 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/m3 | Respirable fraction. |
| Beryllium (CAS 7440-41-7) | TWA | 0.00005 mg/m3 (as beryllium) | Inhalable fraction. |
| Copper (CAS 7440-50-8) | TWA | 1 mg/m3 | Dust and mist. |
| | | 0.2 mg/m3 | Fume. |
| Nickel (CAS 7440-02-0) | TWA | 1.5 mg/m3 | Inhalable fraction. |
| Zirconium (CAS 7440-67-7) | STEL | 10 mg/m3 | |
| | TWA | 5 mg/m3 | |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value | Form |
|---------------------------|------|-------------|------------------------------------|
| Aluminum (CAS 7429-90-5) | TWA | 5 mg/m3 | Respirable. |
| | | 5 mg/m3 | Welding fume or pyrophoric powder. |
| | | 10 mg/m3 | Total |
| Copper (CAS 7440-50-8) | TWA | 1 mg/m3 | Dust and mist. |
| | | 0.1 mg/m3 | Fume. |
| Nickel (CAS 7440-02-0) | TWA | 0.015 mg/m3 | |
| Zirconium (CAS 7440-67-7) | STEL | 10 mg/m3 | |
| | TWA | 5 mg/m3 | |

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

| Components | Type | Value | Form |
|---------------------------|---------|----------------------------|----------------------|
| Aluminum (CAS 7429-90-5) | PEL | 5 mg/m3 | Welding fume. |
| | | 5 mg/m3 | Respirable fraction. |
| | | 5 mg/m3 | Pyrophoric powder. |
| | | 10 mg/m3 | Total dust. |
| Beryllium (CAS 7440-41-7) | Ceiling | 0.025 mg/m3 (as beryllium) | |
| | PEL | 0.0002 (as beryllium) | |
| | STEL | 0.002 mg/m3 | |
| | TWA | 0.0001 mg/m3 | |
| Copper (CAS 7440-50-8) | PEL | 1 mg/m3 | Dust and mist. |
| | | 0.1 mg/m3 | Fume. |

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

| Components | Type | Value | Form |
|------------------------|------|-----------|------|
| Nickel (CAS 7440-02-0) | PEL | 0.5 mg/m3 | |

Biological limit values

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

Exposure guidelines

On July 14, 2020, the Occupational Safety and Health Administration (OSHA) issued the final Beryllium Standard for General Industry (29 CFR 1910.1024) which includes a Permissible Exposure Limit (PEL) of 0.2 µg/m3 as an 8-hour TWA. The Preamble to the OSHA Beryllium Standards in 29 CFR Parts 1910, 1915 and 1926 states: "OSHA concludes that exposure to beryllium constitutes a significant risk of material impairment to health and that the final rule will substantially lower that risk. The Agency considers the level of risk remaining at the new TWA PEL to still be significant. However, OSHA did not adopt a lower TWA PEL because the Agency could not demonstrate technological feasibility of a lower TWA PEL. The Agency has adopted the STEL and ancillary provisions of the rule to further reduce the remaining significant risk."

Based on joint research conducted with the National Institute for Occupational Safety and Health (NIOSH), Materion adopted an 8 element Beryllium Worker Protection Model (BWPM) which includes the use of a recommended exposure guideline (REG) for airborne beryllium of 0.2 µg/m3 as a time-weighted average (TWA) limit for an 8-hour work day. Subsequent NIOSH studies have shown that the BWPM has reduced but not eliminated the risk of beryllium sensitization and chronic beryllium disease (CBD) in workers. Therefore, Materion recommends that beryllium users not only comply with the OSHA Beryllium Standard and carefully apply all elements of the BWPM, but reduce airborne exposures to the lowest feasible level. Information on the BWPM can be found at www.berylliumsafety.com or by contacting Materion at +1 800.862.4118.

The American Conference of Governmental Industrial Hygienists (ACGIH®) is a scientific body that has developed guidelines for all listed substances. In its development documents, the ACGIH® states that "Threshold Limit Values and Biological Exposure Indices represent conditions under which ACGIH® believes that nearly all workers may be repeatedly exposed without adverse health effects. They are not fine lines between safe and dangerous exposures, nor are they a relative index of toxicology."

Specific genetic factors have been identified and shown to increase an individual's susceptibility to CBD. Medical testing is available to detect those genetic factors in individuals.

Appropriate engineering controls

VENTILATION: 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.

Whenever possible, the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne particulate. Where utilized, exhaust inlets to the ventilation system must be positioned as close as possible to the source of airborne generation. Avoid disruption of the airflow in the area of a local exhaust inlet by equipment such as a man-cooling fan. Check ventilation equipment regularly to ensure it is functioning properly. Provide training on the use and operation of ventilation to all users. Use qualified professionals to design and install ventilation systems.

WET METHODS: Machining operations are usually performed under a liquid lubricant/coolant flood which assists in reducing airborne particulate. However, the cycling through of machine coolant containing finely divided particulate in suspension can result in the concentration building to a point where the particulate may become airborne during use. Certain processes such as sanding and grinding may require complete hooded containment and local exhaust ventilation. Prevent coolant from splashing onto floor areas, external structures or operators' clothing. Utilize a coolant filtering system to remove particulate from the coolant.

WORK PRACTICES: Develop work practices and procedures that prevent particulate from coming in contact with worker skin, hair, or personal clothing. If work practices and/or procedures are ineffective in controlling airborne exposure or visual particulate from deposition on skin, hair, or clothing, provide appropriate cleaning/washing facilities. Procedures should be written that clearly communicate the facility's requirements for protective clothing and personal hygiene. These clothing and personal hygiene requirements help keep particulate from being spread to non-production areas or from being taken home by the worker. Never use compressed air to clean work clothing or other surfaces.

Fabrication processes may leave a residue of particulate on the surface of parts, products or equipment that could result in employee exposure during subsequent material handling activities. As necessary, clean loose particulate from parts between processing steps. As a standard hygiene practice, wash hands before eating or smoking.

HOUSEKEEPING: Use vacuum and wet cleaning methods for particulate removal from surfaces. Be certain to de-energize electrical systems, as necessary, before beginning wet cleaning. Use vacuum cleaners with high efficiency particulate air (HEPA). Do not use compressed air, brooms, or conventional vacuum cleaners to remove particulate from surfaces as this activity can result in elevated exposures to airborne particulate. Follow the manufacturer's instructions when performing maintenance on HEPA filtered vacuums used to clean hazardous materials.

Individual protection measures, such as personal protective equipment

Eye/face protection

If contact is likely, safety glasses with side shields are recommended. Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cuts and skin abrasions during handling.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities. Skin contact with this material may cause, in some sensitive individuals, an allergic dermal response. Particulate that becomes lodged under the skin has the potential to induce sensitization and skin lesions.

Respiratory protection Wear positive pressure self-contained breathing apparatus (SCBA). When airborne exposures exceed or have the potential to exceed the occupational exposure limits, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Various shapes.

Color Metallic.

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) None known.

Upper/lower flammability or explosive limits

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 applicable.

Auto-ignition temperature Not applicable.

Decomposition temperature Not applicable.

Viscosity Not applicable.

Other information

Density 7.29 g/cm³ estimated

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

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. |
| 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 | May cause damage to organs (respiratory system) through prolonged or repeated exposure. |
| Skin contact | Not likely, due to the form of the product. |
| Eye contact | Not likely, due to the form of the product. |
| Ingestion | Expected to be a low ingestion hazard. |

| | |
|---|-----------------------|
| Symptoms related to the physical, chemical and toxicological characteristics | Respiratory disorder. |
|---|-----------------------|

Information on toxicological effects

| | |
|-----------------------|---|
| Acute toxicity | No specific hazard known. May cause transient irritation. |
|-----------------------|---|

| | |
|----------------------------------|---|
| 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 | Not a skin sensitizer. |
|---------------------------|------------------------|

| | |
|-------------------------------|-----------------|
| Germ cell mutagenicity | Not classified. |
|-------------------------------|-----------------|

| | |
|------------------------|-------------------|
| Carcinogenicity | May cause cancer. |
|------------------------|-------------------|

IARC Monographs. Overall Evaluation of Carcinogenicity

| | |
|---------------------------|-------------------------------------|
| Beryllium (CAS 7440-41-7) | 1 Carcinogenic to humans. |
| Nickel (CAS 7440-02-0) | 2B Possibly carcinogenic to humans. |

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

| | |
|---------------------------|--------|
| Beryllium (CAS 7440-41-7) | Cancer |
|---------------------------|--------|

US. National Toxicology Program (NTP) Report on Carcinogens

| | |
|---------------------------|---|
| Beryllium (CAS 7440-41-7) | Known To Be Human Carcinogen. |
| Nickel (CAS 7440-02-0) | Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen. |

| | |
|------------------------------|-----------------|
| Reproductive toxicity | Not classified. |
|------------------------------|-----------------|

| | |
|---|-----------------|
| Specific target organ toxicity - single exposure | Not classified. |
|---|-----------------|

| | |
|---|---|
| Specific target organ toxicity - repeated exposure | May cause damage to organs (respiratory system) through prolonged or repeated exposure by inhalation. |
|---|---|

| | |
|--------------------------|---------------------------|
| Aspiration hazard | Not an aspiration hazard. |
|--------------------------|---------------------------|

| | |
|------------------------|--|
| Chronic effects | May cause damage to organs through prolonged or repeated exposure. |
|------------------------|--|

| | |
|----------------------------|--------------------------|
| Further information | Symptoms may be delayed. |
|----------------------------|--------------------------|

12. Ecological information

Ecotoxicity

| Product | | Species | Test Results |
|--------------------------------|------|---|--------------------------------|
| Amorphous Alloy LM-601Modified | | | |
| Aquatic | | | |
| <i>Acute</i> | | | |
| Fish | LC50 | Fish | 0.209 mg/l, 96 hours estimated |
| Components | | Species | Test Results |
| Copper (CAS 7440-50-8) | | | |
| Aquatic | | | |
| <i>Acute</i> | | | |
| Crustacea | EC50 | Blue crab (<i>Callinectes sapidus</i>) | 0.0031 mg/l |
| Fish | LC50 | Fathead minnow (<i>Pimephales promelas</i>) | 0.0219 - 0.0446 mg/l, 96 hours |
| Nickel (CAS 7440-02-0) | | | |
| Aquatic | | | |
| <i>Acute</i> | | | |
| Fish | LC50 | Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>) | 0.06 mg/l, 4 days |

* Estimates for product may be based on additional component data not shown.

| | |
|--------------------------------------|--|
| Persistence and degradability | No data is available on the degradability of this product. |
| Bioaccumulative potential | Not available. |
| Mobility in soil | Not available. |
| Other adverse effects | Not available. |

13. Disposal considerations

| | |
|--|--|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| 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 | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

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 a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. |
|-------------------------------|--|

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Beryllium (CAS 7440-41-7) Listed.
Copper (CAS 7440-50-8) Listed.
Nickel (CAS 7440-02-0) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Beryllium (CAS 7440-41-7) Cancer
lung effects (CBD and acute beryllium disease)
beryllium sensitization
respiratory tract irritation

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Respiratory or skin sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|---------------|------------|----------|
| Aluminum | 7429-90-5 | 2 - 5 |
| Beryllium | 7440-41-7 | 0 - 0.1 |
| Copper | 7440-50-8 | 25 - 35 |
| Nickel | 7440-02-0 | 2 - 5 |

Other federal regulations

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

Beryllium (CAS 7440-41-7)
Nickel (CAS 7440-02-0)

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

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

California Proposition 65



WARNING: This product can expose you to chemicals including Nickel, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Beryllium (CAS 7440-41-7) Listed: October 1, 1987
Nickel (CAS 7440-02-0) Listed: October 1, 1989

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

(a)

Aluminum (CAS 7429-90-5)
Beryllium (CAS 7440-41-7)
Copper (CAS 7440-50-8)
Nickel (CAS 7440-02-0)

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

Issue date 05-31-2015

Revision date 03-18-2021

Material name: Amorphous Alloy LM-601Modified

1358 Version #: 06 Revision date: 03-18-2021 Issue date: 05-31-2015

SDS US

10 / 11

Version #

06

Further information

Transportation Emergency

Call Chemtrec at:

US: 800.424.9300

International: 703.741.5970

Spain: 900.868.538

Switzerland: 0800.564.402

Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059

South Korea Toll-free Number – 080-880-0468

Other information

Revised information in Section 8.

Disclaimer

This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.