



SAFETY DATA SHEET

MATERION

Section 1: Identification of the hazardous chemical and of the supplier

Product identifier K94100 with Aluminum

Other means of identification
SDS number R07

Recommended use of the chemical and restrictions on use
Recommended use Manufacture of computer, electronic and optical products, electrical equipment
Scientific research and development
Other: Manufacture of medical and defense equipment

Recommended restrictions Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Consumer uses: Private households (= general public = consumers)

Details of principal suppliers

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

Section 2: Hazard identification

Physical hazards Not classified.

Health hazards Skin sensitization Category 1
Carcinogenicity Category 2
Specific target organ toxicity - single exposure Category 3 respiratory tract irritation
Specific target organ toxicity - repeated exposure Category 1

Environmental hazards Not classified.

Label elements



Signal word Danger

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

Precautionary statement
Prevention Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Contaminated work clothing shall not be allowed out of the workplace. Use personal protective equipment as required.

Response If you feel unwell, seek medical advice (show the label where possible). Call a POISON CENTER or doctor/physician if you feel unwell.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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

Other hazards which do not result in classification None known.

Section 3: Composition and information of the ingredients of the hazardous chemical

Mixtures

Hazardous components			
Chemical name	Common name and synonyms	CAS number	%
Nickel		7440-02-0	41
Aluminum		7429-90-5	0.2 - 1
Non-hazardous components			
Chemical name	Common name and synonyms	CAS number	%
Iron		7439-89-6	59

Section 4: First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
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	May cause an allergic skin reaction.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible).

Section 5: Fire-fighting measures

Suitable extinguishing media	Water Spray or Fog. Powder. Dry sand.
Unsuitable extinguishing media	Carbon dioxide (CO2).
Specific hazards arising from the chemical	No unusual fire or explosion hazards noted.
Special protective equipment and precautions for firefighters	Wear suitable protective equipment.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
HAZCHEM code	None.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the SDS.

Section 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. Avoid breathing dust/fume/gas/mist/vapors/spray. 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 away from incompatible materials (see Section 10 of the SDS).

Section 8: Exposure controls and personal protection

Occupational exposure limits

Malaysia. OELs. (Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations)

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	5 mg/m3	Pyrophoric powder.
		5 mg/m3	Welding fume.
		10 mg/m3	Dust.
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3	Inhalable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	1 mg/m3	Respirable fraction.
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3	Inhalable fraction.

Biological limit values

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

Appropriate engineering controls

Good general ventilation 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.

Individual protection measures, such as personal protective equipment

Eye/face protection

If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection

Suitable gloves can be recommended by the glove supplier. Wear gloves to prevent metal cuts and skin abrasions during handling.

Other

Use personal protective equipment as required.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. In case of inadequate ventilation, use respiratory protection.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

Section 9: Physical and chemical properties

Appearance

Physical state

Solid.

Form

Solid.

Color

Silver Grey.

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

Explosive limit - lower (%)

Not applicable.

Explosive limit - lower (%) temperature

Not applicable.

Explosive limit - upper (%)

Not applicable.

Explosive limit - upper (%) temperature	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	Varies.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

Section 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	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong acids.
Hazardous decomposition products	No hazardous decomposition products are known.

Section 11: Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
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	May cause an allergic skin reaction.
--	--------------------------------------

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
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	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Nickel (CAS 7440-02-0) 2B Possibly carcinogenic to humans.

US NTP Report on Carcinogens: Anticipated carcinogen

Nickel (CAS 7440-02-0) Reasonably Anticipated to be a Human Carcinogen.

US NTP Report on Carcinogens: Known carcinogen

Nickel (CAS 7440-02-0)

Known To Be Human Carcinogen.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged exposure may cause chronic effects.

Section 12: Ecological information

Ecotoxicity None known.

Product		Species	Test Results
K94100 with Aluminum			
Aquatic			
<i>Acute</i>			
Fish	LC50	Fish	0.1463 mg/l, 4 days estimated
Components		Species	Test Results
Nickel (CAS 7440-02-0)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	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	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.

Section 13: Disposal information

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.
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.

Section 14: Transportation information

ADR

UN number	UN3178
UN proper shipping name	FLAMMABLE SOLID, INORGANIC, N.O.S.
Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
Hazard No. (ADR)	40
Tunnel restriction code	E
Packing group	III
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

UN number	UN3178
UN proper shipping name	FLAMMABLE SOLID, INORGANIC, N.O.S.
Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
Packing group	III
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

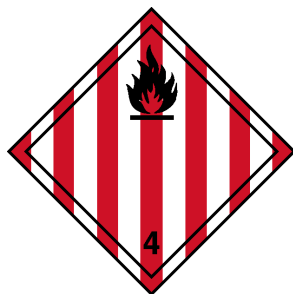
IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

ADR; RID

HAZCHEM code None.

Section 15: Regulatory information**Safety, health and environmental regulations specific for the product in question**

Active Ingredients of Pesticide Product (Pesticide Act 1974, First Schedule, as amended through October 1, 2004)

Not regulated.

CWC (Chemical Weapons Convention) Act 2005, Schedules 1-3, as amended through CWC Regulations 2007, October 5, 2007)

Not regulated.

Ozone Depleting Substances (ODS) (Environmental Quality (Prohibition on the Use of CFC and Other Gases as Propellants and Blowing Agents) Order 1993, Dec. 31, 1993)

Not regulated.

Poisons List (Poisons Act 1952, First Schedule)

Iron (CAS 7439-89-6) C

Prohibited Use of Substances [Occupational Safety and Health (Prohibition of Use of Substance) Order 1999]

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

Section 16: Other information

Issue date	11-26-2019
Revision date	09-27-2021
Version #	02
List of abbreviations	Not available.
References	Not available.
Disclaimer	<p>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.</p>
Further information	<p>Transportation Emergency Call Chemtrec at: International: 703.741.5970 Spain: 900.868.538 Switzerland: 0800.564.402 Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059</p>
Other information	Revised information in Section 16.