



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier Nickel Chromium Product

Other means of identification
SDS number 034

Manufacturer/Importer/Supplier/Distributor information
Manufacturer

Company name Materion Advanced Materials Group
Address 42 Mt. Ebo Road South
Brewster, NY 10509
United States

Telephone 1+845.279.0900
Website materion.com
E-mail Not available.

Emergency phone number Chemtrec 1+703.527.3887

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

| | |
|---|---|
| Sensitization, respiratory | Category 1 |
| Sensitization, skin | Category 1 |
| Germ cell mutagenicity | Category 2 |
| Carcinogenicity | Category 2 |
| Specific target organ toxicity, single exposure | Category 2 |
| Specific target organ toxicity, single exposure | Category 3 respiratory tract irritation |
| Specific target organ toxicity, repeated exposure | Category 1 |

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of causing genetic defects. Suspected of causing cancer. May cause damage to organs. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life.

Precautionary statement
Prevention Obtain special instructions before use. 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. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

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| 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: Call a poison center/doctor. 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 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. |
| Hazard(s) not otherwise classified (HNOC) | None known. |
| Supplemental information | 100% of the mixture consists of component(s) of unknown acute oral toxicity. 100% of the mixture consists of component(s) of unknown acute dermal toxicity. 50% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 50% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment. |

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---------------|--------------------------|------------|-----------|
| Nickel | | 7440-02-0 | 50 - 99.9 |
| Chromium | | 7440-47-3 | 10 - 50 |

4. First-aid measures

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| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. |
| 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. If ingestion of a large amount does occur, call a poison control center immediately. |
| Most important symptoms/effects, acute and delayed | May cause respiratory irritation. Difficulty in breathing. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects. |
| 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 exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse. |

5. Fire-fighting measures

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| Suitable extinguishing media | Dry sand. DRY sand, sodium chloride powder, graphite powder or Met-L-X powder. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO ₂). |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

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| 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 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 | Prevent product from entering drains. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers. |
| Environmental precautions | Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

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| 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. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. 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 Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|--------------------------|------|---------------------|
| Chromium (CAS 7440-47-3) | PEL | 1 mg/m ³ |
| Nickel (CAS 7440-02-0) | PEL | 1 mg/m ³ |

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|--------------------------|------|-----------------------|---------------------|
| Chromium (CAS 7440-47-3) | TWA | 0.5 mg/m ³ | Inhalable fraction. |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|--------------------------|------|-------------------------|
| Chromium (CAS 7440-47-3) | TWA | 0.5 mg/m ³ |
| Nickel (CAS 7440-02-0) | TWA | 0.015 mg/m ³ |

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

| Components | Type | Value |
|--------------------------|------|-----------------------|
| Chromium (CAS 7440-47-3) | PEL | 0.5 mg/m ³ |
| Nickel (CAS 7440-02-0) | PEL | 0.5 mg/m ³ |

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. General ventilation normally adequate.

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 Wear appropriate chemical resistant gloves.

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| Other | Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. |
| Respiratory protection | Wear positive pressure self-contained breathing apparatus (SCBA). |
| 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. Contaminated work clothing should not be allowed out of the workplace. |

9. Physical and chemical properties

Appearance

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| Physical state | Solid. |
| Form | Solid. |
| Color | Not available. |
| Odor | Not available. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | 2651 °F (1455 °C) estimated |
| Initial boiling point and boiling range | 4787.6 °F (2642 °C) estimated |
| Flash point | Not available. |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 0.43 hPa estimated |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Density | 8.31 g/cm ³ estimated |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |
| Specific gravity | 8.31 estimated |

10. Stability and reactivity

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

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|---|---|
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Strong acids. Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

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|---------------------|---|
| Inhalation | May cause irritation to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful. |
| Skin contact | May cause an allergic skin reaction. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

Symptoms related to the physical, chemical and toxicological characteristics May cause respiratory irritation. Difficulty in breathing. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

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|--|--|
| Acute toxicity | Not known. |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. |

Respiratory or skin sensitization

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|----------------------------------|--|
| Respiratory sensitization | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin sensitization | May cause an allergic skin reaction. |

Germ cell mutagenicity Suspected of causing genetic defects.

Carcinogenicity Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

| | |
|--------------------------|---|
| Chromium (CAS 7440-47-3) | 3 Not classifiable as to carcinogenicity to humans. |
| Nickel (CAS 7440-02-0) | 2B Possibly carcinogenic to humans. |

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

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

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause damage to organs. 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 Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life.

| Product | Species | Test Results |
|-------------------------|-----------|----------------------------------|
| Nickel Chromium Product | | |
| Aquatic | | |
| Fish | LC50 Fish | 89.8818 mg/l, 96 hours estimated |

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

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|--------------------------------------|---|
| 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

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| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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

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|----------------------------|-----------------------------------|
| DOT | Not regulated as dangerous goods. |
| IATA | Not regulated as dangerous goods. |
| IMDG | Not regulated as dangerous goods. |
| General information | IMDG Regulated Marine Pollutant. |

15. Regulatory information

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| 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) | |
| Chromium (CAS 7440-47-3) | Listed. |
| Nickel (CAS 7440-02-0) | Listed. |
| SARA 304 Emergency release notification | Not regulated. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052) | Not regulated. |

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No (Exempt)

SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|----------------------|-------------------|-----------------|
| Chromium | 7440-47-3 | 10 - 50 |
| Nickel | 7440-02-0 | 50 - 99.9 |

Other federal regulations

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

Chromium (CAS 7440-47-3)

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 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

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))

Chromium (CAS 7440-47-3)

Nickel (CAS 7440-02-0)

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

Issue date 05-28-2015

Revision date 02-21-2019

Version # 06

Disclaimer Materion Advanced Materials Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.