Section 1 - Identification
Product Identifier: Strontium Ferrite, Magnetized
Other Identification: Grade 8, solid ceramic, custom design, mounted in Circulator, an electronic device
Specified Use: Installed inside industrial equipment, not accessible except by use of tools
Restriction on Use: Use only within Ovation 35162, Radio Frequency Generator, industrial equipment
Company Name: Advanced Energy Industries, Inc.
1625 Sharp Point Drive
Fort Collins, Colorado 80525 USA
Website: www.advanced-energy.com
Emergency Contact: 1-800-446-9167
USA Telephone: 1-970-221-0108
Technical Support: TechSupport@aei.com

Section 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: Not available

Precautionary statements
Prevention: Not available
Response: Not available
Storage: Not available
Disposal: Not available

Hazard(s) not otherwise classified (HNOC): Magnetized material

Supplemental information
This product is not a hazardous substance, not classified as hazardous according to OSHA CFR 1910.1200 (HazCom 2012). No adverse human health effects have been observed upon exposure to magnetized materials.

Section 3 - Composition / Information on Ingredients
Strontium Ferrite Formula = SrFe12O19
CAS Number 12023-91-5 EC Number 234-685-4
Magnetized material

Section 4 - First-Aid Measures
Inhalation: None, no vapor, no dust
Skin Contact: Wash exposed skin with soap and water
Eye Contact: None, no vapor, no dust
Ingestion: Rinse mouth with water if licked
Most important symptoms/effects, acute and delayed: Not available
Section 5 - Fire-Fighting Measures

Suitable extinguishing media: Use water, alcohol-resistant foam, dry chemical, or carbon dioxide
Unsuitable extinguishing media: None known
Specific hazards arising from the chemical: Strontium oxides, Iron oxides
Special protective equipment and precautions for firefighters: Wear self-contained breathing apparatus for firefighting if necessary
Fire-fighting equipment/instructions: If fire occurs in equipment, treat as an electrical fire
Specific methods: None established

Section 6 - Accidental Release Measures

Personal precautions, protective equipment & emergency procedures: Solid substance, if broken, avoid handling, sharp shards
Methods and materials for containment and cleaning up: Sweep up and shovel, keep in suitable, closed containers
Environmental precautions: None during use, see section 13 Disposal considerations.

Section 7 - Handling and Storage

Precautions for safe handling: Brittle material, avoid dropping
Conditions for safe storage, including any incompatibilities: Keep in a dry place

Section 8 - Exposure Controls / Personal Protection

Occupational exposure limits: Contains no substances with occupational exposure limit values
Biological limit values: No biological exposure limits noted for the ingredient(s).
Exposure guidelines: No exposure hazard known
Appropriate engineering controls: General industrial hygiene practice

Individual protection measures, such as personal protective equipment
Eye/face protection: Not required
Skin / hand protection: Handle with gloves, unless broken, sweep up sharp shards
Respiratory protection: Not required
Thermal hazards: None

Section 9 - Physical and Chemical Properties

Appearance
Physical state: Solid
Color: Black
Odor: None
Odor threshold: Data not available
pH: Data not available
Melting point/freezing point: > 450 °C (> 842 °F)
Initial boiling point and boiling range: Data not available
Flash point: Not applicable
Evaporation rate: Data not available
Flammability (solid, gas): Data not available

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Upper/lower flammability or explosive limits
Flammability limit - lower (%): Data not available
Flammability limit - upper (%): Data not available
Explosive limit - lower (%): Data not available
Explosive limit - upper (%): Data not available
Vapor pressure: Data not available
Solubility (water): Negligible in water. Partially soluble in toluene and xylene.
Partition coefficient (n-octanol/water): Data not available
Auto-ignition temperature: > 400 °C (> 752 °F) at 1,013 kPa (760 mmHg)
Decomposition temperature: Data not available
Viscosity: Data not available

Other information
Explosive properties: Data not available
Oxidizing properties: Data not available

Section 10 - Stability and Reactivity
Reactivity: Data not available
Chemical stability: Stable under normal storage conditions
Possibility of hazardous reactions: Data not available
Conditions to avoid: None known
Incompatible materials: Strong oxidizers
Hazardous decomposition product: Data not available

Section 11 - Toxicological Information
Symptoms related to the physical, chemical and toxicological characteristics: Data not available

Acute toxicity
LD50 Oral - rat - female - > 2,000 mg/kg
(OECD Test Guideline 423): Data not available
LD50 Dermal - rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402): Data not available

Skin corrosion/irritation
Skin - rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - rabbit
Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization
Buehler Test - guinea pig
Result: Does not cause skin sensitization.
(OECD Test Guideline 406)

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SAFETY DATA SHEET

Strontium Ferrite
Magnetized Material
Ovation 35162 Circulator

Issue Date: March 19, 2018

Germ cell mutagenicity: mouse, lymphocyte, result negative
Carcinogenicity: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen
Reproductive toxicity: Data not available
Specific target organ toxicity - single exposure: Data not available
Specific target organ toxicity - repeated exposure: Data not available
Aspiration hazard: Data not available
Additional Information: RTECS data not available

Section 12 - Ecological Information
Ecotoxicity: Data not available
Persistence and degradability: Data not available
Bioaccumulative potential: Data not available
Mobility in soil: Data not available
Other adverse effects: Ferrous alloy leachate may be hazardous to ground water, avoid landfill disposal

Section 13 - Disposal Considerations
Disposal instructions
Used or unused waste material is not hazardous as defined by US EPA RCRA Regulations (40 CFR Part 261)
Used and unused material may be recycled according to federal, state and local regulations, using licensed disposal company

Section 14 - Transport Information
DOT:
US Regulations do not consider magnetized material a hazardous material or dangerous goods
US Domestic shippers should consult US Air Carriers policies and procedures prior to offering shipment for transportation

IATA:
Dangerous Goods ?: Yes, magnetic field strength tested, met criteria to allow air transport, mark as Dangerous Goods
UN Number: UN 2807
UN Shipping Name: Magnetized Material
Transport Hazard Class: 9
Packing group: 953
Environmental hazards: No
Magnet material weight: 2 magnets, 2.8 pounds (1.27 kg) total per circulator / per Ovation 35162

Magnetized Material Testing - per IATA Dangerous Goods Regulations:
Magnetic strength tested using calibrated Air Shipment Milligauss Meter per IATA DGR, Packing Group 953, Method 1

<table>
<thead>
<tr>
<th>Material tested in shipping box, magnets in circulator, installed in:</th>
<th>Magnetic Field Strength measured at 7 ft, 2.1 meters distance</th>
<th>Magnetic Field Strength measured at 15 ft, 4.6 meters distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ovation 35162 RF Generator</td>
<td>0.014 Gauss, maximum, all orientations</td>
<td>0.0016 Gauss, maximum, all orientations</td>
</tr>
<tr>
<td>Circulator alone, spare part</td>
<td>0.015 Gauss, maximum, all orientations</td>
<td>0.0017 Gauss, maximum, all orientations</td>
</tr>
</tbody>
</table>

Test Result: above limit of 2 degree compass deflection = 0.002 Gauss at 2.1 meters, below limit of 2 degree compass deflection = 0.00525 Gauss at 4.6 meters,

| IATA Dangerous Goods Regulations Test Conclusions: | Acceptable for air transport, mark as Class 9 dangerous goods |

Note: Test results have same conclusion, with circulator magnets in Ovation 35162 Radio Frequency Generator or as spare part.

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IMDG: Not regulated as dangerous goods

ADR: Not regulated as dangerous goods

Further information:
Hazard Class 9: Articles and substances which during air transport, present a danger not covered by other classes
Transportation Note: Magnetized materials are only considered dangerous goods when offered for transportation by air. Magnetized materials are determined hazardous goods after magnetic strength testing indicates it may produce a non-operating gauss interference reading and have the potential to cause compass deflection in aircraft equipped with non-electrical navigation equipment.

Section 15 - Regulatory Information
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA 311/312: No SARA Hazards
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313
SARA 304: Emergency release notification not required

Massachusetts Right To Know: No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know: strontium ferrite, CAS No. 12023-91-5
New Jersey Right To Know: strontium ferrite, CAS No. 12023-91-5

Section 16 - Other Information
Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

HMIS Rating:
Health hazard: 0
Flammability: 0
Physical Hazard: 0
Personal Protection: 0

NFPA Rating:
Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0
Flammability: 0
Physical Hazard 0

NFPA Rating:
Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

SDS Preparation:
Advanced Energy Industries, Inc.
Environmental Compliance
Fort Collins, Colorado, USA

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