



Revision Number: 003.0

Issue date: 06/03/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BONDERITE S-FN 109 CONDUCTIVE COATING ACHESON known as ELECTRODAG109
Product type: Conductive coating
Restriction of Use: None identified
Company address: Henkel Electronic Materials LLC
 14000 Jamboree Road
 Irvine, CA 92606

IDH number: 1224793

Region: United States

Contact information:
 Telephone: +1 (888) 943-6535
 MEDICAL EMERGENCY Phone: Poison Control Center
 1-877-671-4608 (toll free) or 1-303-592-1711
 TRANSPORT EMERGENCY Phone: CHEMTREC
 1-800-424-9300 (toll free) or 1-703-527-3887
 Internet: www.henkel.com/electronics

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER: HIGHLY FLAMMABLE LIQUID AND VAPOR.
 CAUSES SKIN IRRITATION.
 CAUSES SERIOUS EYE IRRITATION.
 HARMFUL IF INHALED.
 MAY CAUSE DROWSINESS OR DIZZINESS.
 MAY CAUSE CANCER.

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE LIQUID	2
ACUTE TOXICITY INHALATION	4
SKIN IRRITATION	2
EYE IRRITATION	2A
CARCINOGENICITY	1A
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3

PICTOGRAM(S)



Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, hot surfaces - no smoking. Keep container tightly closed. No release into water. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves, eye protection, and face protection. Use personal protective equipment as required.

Response: If on skin (or hair): Take off immediately all contaminated clothing. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical attention. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take

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off contaminated clothing. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish.

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

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Methyl isobutyl ketone	108-10-1	60 - 100
Graphite	7782-42-5	10 - 30
Carbon black	1333-86-4	5 - 10
Quartz (SiO ₂)	14808-60-7	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If symptoms persist, seek medical advice.

Skin contact: Immediately flush with large quantities of water for at least 15 minutes. Remove contaminated clothing. GET MEDICAL ATTENTION.

Eye contact: Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

Ingestion: Immediate medical treatment necessary. DO NOT induce vomiting unless directed to do so by medical personnel. If vomiting occurs, prevent aspiration by keeping the patient's head below the knees.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide. Avoid using a direct stream of water.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Unusual fire or explosion hazards: DANGEROUS when exposed to heat or flame. This material can be ignited by flame or spark under all normal atmospheric conditions.

Hazardous combustion products: Oxides of carbon. Irritating and toxic gases or fumes may be released during a fire.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Block any potential routes to water systems. Remove all sources of ignition.

Clean-up methods:

Soak up with inert absorbent. Store in a closed container until ready for disposal.

7. HANDLING AND STORAGE

Handling:

Use only in well-ventilated areas. Avoid breathing vapors or mists of this product. Wear suitable protective clothing, safety glasses and gloves. Remove all sources of ignition. Do not pressurize, cut, heat or weld containers. Empty product containers may contain product residue. Do not reuse empty containers. Ground and bond all equipment as required (when transferring products). Open bung slowly to relieve any internal pressure.

Storage:

For safe storage, store between 5 °C (41°F) and 30 °C (86°F) Keep container closed. Store in a cool, dry, well-ventilated area. Storage within given temperature limit Outside temperature limits, the properties of the product will change. Store in original container until ready to use. Keep out of reach of children and away from food and drink. Protect from direct sunlight.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Methyl isobutyl ketone	20 ppm TWA 75 ppm STEL	100 ppm (410 mg/m3) PEL	None	None
Graphite	2 mg/m3 TWA Respirable fraction.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust. 15 MPPCF TWA	None	None
Carbon black	3 mg/m3 TWA Inhalable fraction.	3.5 mg/m3 PEL	None	None
Quartz (SiO ₂)	0.025 mg/m3 TWA Respirable fraction.	2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable. 0.3 mg/m3 TWA Total dust.	None	None

Engineering controls:

Use explosion-proof mechanical ventilation and local exhaust to control contaminants to within their occupational exposure limits during the use of this product.

Respiratory protection:

If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

Eye/face protection:

Wear safety glasses; chemical goggles (if splashing is possible).

Skin protection:

Chemical resistant, impermeable gloves. The use of butyl rubber gloves is recommended. Use of impervious apron and boots are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Black
Odor:	Ketone
Odor threshold:	Not available.
pH:	Not applicable
Vapor pressure:	15 mbar (20 °C (68°F))
Boiling point/range:	117 °C (242.6 °F)
Melting point/ range:	-85 °C (-121°F)

Specific gravity:	1.03
Vapor density:	3.5
Flash point:	16 °C (60.8 °F) Tagliabue closed cup
Flammable/Explosive limits - lower:	1.2 %
Flammable/Explosive limits - upper:	8 %
Autoignition temperature:	460 °C (860°F)
Evaporation rate:	Not determined
Solubility in water:	Slightly soluble
Partition coefficient (n-octanol/water):	Not determined
VOC content:	618 g/l
Viscosity:	1,800 cp
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Oxides of carbon. Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.
Incompatible materials:	Oxidizers. This product may react with strong reducing agents.
Reactivity:	Not available.
Conditions to avoid:	High temperatures. Avoid strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation:	This product is irritating to the respiratory system. High vapor concentrations may cause central nervous system depression (headache, nausea, dizziness).
Skin contact:	Irritating to skin. Prolonged or repeated contact may worsen irritation. A component in this product may be absorbed through the skin, especially if skin is damaged.
Eye contact:	This product may be severely irritating to the eyes.
Ingestion:	Harmful if swallowed. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury. This product may cause nervous system damage if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Methyl isobutyl ketone	Oral LD50 (RAT) = 2,080 mg/kg Dermal LD50 (RABBIT) = > 16,000 mg/kg Inhalation LC50 (RAT, 4 h) = 8.2 mg/l	Irritant, Central nervous system
Graphite	None	Lung
Carbon black	Oral LD50 (RAT) = > 8,000 mg/kg	Respiratory, Some evidence of carcinogenicity
Quartz (SiO2)	None	Immune system, Lung, Some evidence of carcinogenicity

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Methyl isobutyl ketone	No	Group 2B	No
Graphite	No	No	No
Carbon black	No	Group 2B	No
Quartz (SiO2)	Known To Be Human Carcinogen.	Group 1	No

12. ECOLOGICAL INFORMATION

Ecological information: None identified.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: If discarded, this product is considered a RCRA ignitable waste, D001.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Methyl isobutyl ketone
Hazard class or division: 3
Identification number: UN 1245
Packing group: II
DOT Hazardous Substance(s): Methyl isobutyl ketone

International Air Transportation (ICAO/IATA)

Proper shipping name: Methyl isobutyl ketone
Hazard class or division: 3
Identification number: UN 1245
Packing group: II

Water Transportation (IMO/IMDG)

Proper shipping name: METHYL ISOBUTYL KETONE
Hazard class or division: 3
Identification number: UN 1245
Packing group: II

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis

CERCLA/SARA Section 311/312: Immediate Health, Delayed Health, Fire

CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Methyl isobutyl ketone (CAS# 108-10-1).

CERCLA Reportable quantity: Methyl isobutyl ketone (CAS# 108-10-1) 5,000 lbs. (2,270 kg)

California Proposition 65: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

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