



SUMITOMO BAKELITE CO.,LTD.

# SAFETY DATA SHEET

## 1. Product and company identification

**Name of the chemical** SUMIKON® EME-G311A Type C

### Recommended use and Limitations on use

**Recommended use** For Semiconductors.

**Limitations on use** For industrial use only.

### Name, address and telephone of manufacturer, importer or supplier

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### SDS number

P004039

## 2. Hazards identification

### Hazard classification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**Environmental hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements

**Symbols** None.

**Signal word** None.

**Hazard statement** None.

### Precautionary statement

**Prevention** Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

**Response** IF exposed or concerned: Get medical advice/attention.

**Storage** Store in accordance with local/regional/national/international regulation.

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

**Other hazards** None known.

## 3. Composition/information on ingredients

**Substance or mixture** Mixture

<b>Chemical properties</b>	<b>CAS Number</b>	<b>Concentration (%)</b>
Epoxy Resin A	Trade Secret	1 - 5
Epoxy Resin B	Trade Secret	1 - 5
Epoxy Resin C	Trade Secret	0.1 - 1
Phenol Resin A	Trade Secret	1 - 5
Phenol Resin B	Trade Secret	1 - 5
Silica(Amorphous) A	60676-86-0	50 - 60
Silica(Amorphous) B	7631-86-9	25 - 35
Metal Hydroxide	Trade Secret	1 - 5
Carbon Black	1333-86-4	0.1 - 1

**Composition comments** Disclosure of composition information is based on the interpretation of the Regulation of Labeling and Hazard Communication of Hazardous Chemicals.  
The range of Concentration is greater than or equal to the lower limit but less than the upper limit

## 4. First aid measures

### First aid measures for different exposure routes

<b>Inhalation</b>	Move to fresh air.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms and effects** Irritation of eyes and mucous membranes. Dusts may irritate the respiratory tract, skin and eyes.

**Personal protection for first-aid responders** First aid personnel must wear protective gloves/protective clothing/eye protection/face protection.  
IF exposed or concerned: Get medical advice/attention.

**Notes to physician** Symptoms may be delayed.

## 5. Fire-fighting measures

<b>Extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Extinguishing media to avoid</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards during fire fighting</b>	Development of hazardous combustion gases or vapours possible in the event of fire.
<b>Special fire fighting procedures</b>	Move containers from fire area if you can do so without risk.
<b>Protection of fire-fighters</b>	Wear suitable protective equipment. Use personal protective mask and fight fire from upwind, to avoid fumes upon combustion.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accidental release measures

<b>Personal precautions</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

**Spill cleanup methods**

Stop the flow of material, if this is without risk. Collect dust using a vacuum cleaner equipped with HEPA filter.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Avoid the generation of dusts during clean-up. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13.

## 7. Handling and storage

**Handling****Technical measures**

No specific recommendations.

**Local and general ventilation**

Provide appropriate exhaust ventilation at places where dust is formed.

**Precautions**

Minimise dust generation and accumulation.

**Safe handling advice**

Avoid prolonged exposure.  
Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Storage****Technical measures**

No specific recommendations.

**Suitable storage conditions**

Keep container tightly closed. Store in a well-ventilated place. Guard against dust accumulation of this material.  
Store away from incompatible materials (see Section 10 of the SDS). Keep dry and cool below 5°C for quality.

**Incompatible materials**

Strong oxidising agents. For further information, please refer to section 10.

**Safe packaging materials**

Store in original tightly closed container.

## 8. Exposure controls/personal protection

**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. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

**Occupational exposure limits****Taiwan. OELs. (Standards of Permissible Exposure Limits at Workplace)**

Components	Type	Value
Carbon Black (CAS 1333-86-4)	TWA	3.5 mg/m <sup>3</sup>

**Exposure limits****US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Carbon Black (CAS 1333-86-4)	TWA	3 mg/m <sup>3</sup>	Inhalable fraction.
Metal Hydroxide	TWA	1 mg/m <sup>3</sup>	Respirable fraction.

**Biological limit values**

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

**Personal protective equipment****Respiratory protection**

Wear respirator with dust filter.

**Hand protection**

Use protective gloves as required.

**Eye protection**

Wear safety glasses with side shields (or goggles).

**Skin and body protection**

Use personal protective equipment as required.

**Individual protection measures, such as personal protective equipment****Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

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.

**9. Physical and chemical properties****Appearance**

<b>Physical state</b>	Solid.
<b>Form</b>	Tablet. Powder.
<b>Colour</b>	Black.

**Odour** Epoxy.

**Odour threshold** Not available.

**Melting point/freezing point** Not available.

**pH** Not available.

**Boiling point, initial boiling point, and boiling range** Not available.

**Flammability (solid, gas)** Not available.

**Flash point** Not available.

**Decomposition temperature** Not available.

**Auto-ignition temperature** 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.

**Vapour pressure** Not available.

**Vapour density** Not available.

**Density** Not available.

**Solubility(ies)**

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Evaporation rate** Not available.

**Other data**

**Explosive properties** Not explosive.

**Oxidising properties** Not oxidising.

**Specific gravity** 1.8 - 2.2

**10. Stability and reactivity**

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Stability** Stable under recommended storage conditions.

**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**Conditions to avoid** Contact with incompatible materials. Keep away from heat, moisture and sunlight for quality.

**Incompatible materials** Strong acids, alkalies and oxidizing agents.

**Hazardous decomposition products** Toxic gas.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Dust or powder may irritate the skin.
<b>Eye contact</b>	Dust may irritate the eyes.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms** Irritation of eyes and mucous membranes. Dusts may irritate the respiratory tract, skin and eyes

### Information on toxicological effects

**Acute toxicity** Not known.

Components	Species	Test results
Carbon Black (CAS 1333-86-4)		
<b><u>Acute</u></b>		
<b>Oral</b>		
LD50	Rat	> 8000 mg/kg
Metal Hydroxide		
<b><u>Acute</u></b>		
<b>Oral</b>		
LD50	Rat	> 5000 mg/kg
Silica(Amorphous) A (CAS 60676-86-0)		
<b><u>Acute</u></b>		
<b>Oral</b>		
LD50	Rat	> 22500 mg/kg
Silica(Amorphous) B (CAS 7631-86-9)		
<b><u>Acute</u></b>		
<b>Oral</b>		
LD50	Rat	>= 22500 mg/kg

**Routes of exposure** Inhalation. Skin contact. Eye contact.

### Respiratory or skin sensitisation

**Respiratory sensitisation** Not available.

**Skin sensitisation** This product is not expected to cause skin sensitisation.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Risk of cancer cannot be excluded with prolonged exposure.

### ACGIH Carcinogens

Metal Hydroxide (CAS Trade Secret) A4 Not classifiable as a human carcinogen.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon Black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.
Silica(Amorphous) A (CAS 60676-86-0)	3 Not classifiable as to carcinogenicity to humans.
Silica(Amorphous) B (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.

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

**Specific target organ toxicity  
- single exposure** Not available.

**Specific target organ toxicity  
- repeated exposure** Not available.

**Aspiration hazard** Not available.

**Chronic toxicity or long-term  
toxicity** Prolonged inhalation may be harmful.  
Prolonged exposure may cause chronic effects.

## 12. Ecological information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulation</b>	Not available.
<b>Mobility in soil</b>	No data available for this product.
<b>Other hazardous effects</b>	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

<b>Disposal considerations</b>	
<b>Residual waste</b>	Dispose in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>Local disposal regulations</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

## 14. Transport information

<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.
<b>Specific precautions</b>	Keep cool below 5°C. Keep containers tightly closed. And avoid leaks, spills or collapse of cargo to avoid damage to containers.

## 15. Regulatory information

<b>Applicable regulations</b>	This safety data sheet was prepared in accordance with the Rules on Hazardous Communication of Dangerous Materials and Toxic Materials. All components are on the Taiwan's existing chemicals inventory list.	
<b>Taiwan Hazard - Toxic Materials: Classification</b>		
	Silica(Amorphous) A (CAS 60676-86-0)	Other designated chemical
	Silica(Amorphous) B (CAS 7631-86-9)	Other designated chemical
<b>Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste</b>		
	Not listed.	
<b>Standards on Workplace Atmosphere of Dangerous and Hazardous Materials</b>		
	Carbon Black (CAS 1333-86-4)	Listed.
<b>GHS Classification List: GHS implementation phase 1, 2 and 3 (CLA No. 0980145063, 0990146707, and 1020146801)</b>		
	Carbon Black (CAS 1333-86-4)	CARBON BLACK (Priority Management Chemicals: Priority 2)

## 16. Other information

### References

- NLM: Hazardous Substances Data Base  
HSDDB® - Hazardous Substances Data Bank
- ACGIH (2015)
- EPA: AQUIRE database
- IARC (vol. 1~106)
- Taiwan. Dangerous Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)
- Taiwan. OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)
- Taiwan. Toxic Chemical Substances (TCS) (List of Toxic Chemical Substances announced by the Environmental Protection Administration)
- Taiwan. CNS15030 Z1051: Classification and Labeling of Chemicals
- UN. Globally Harmonized System of Classification and Labelling of Chemicals (GHS) ST/SG/AC.10/30/Rev.4
- Japan. GHS Classifications of Regulated Chemicals (NITE)

### Disclaimer

SUMITOMO BAKELITE CO., LTD. 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.

### Issue date

19-03-2013

### Revision date

12-07-2017