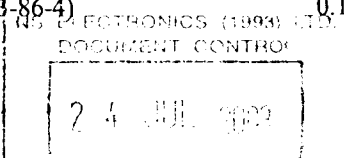


# SAFETY DATA SHEET

PRODUCT NAME : "SUMIKON" EME-G605  
 MSDS NO. : MSDS-EME-927  
 DATE PREPARED : JUN. 9, 2003 according to 2001/58/EC

|  |   |  |
|--|---|--|
| <b>1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION</b>  |   |  |
| PRODUCT NAME : EME-G605<br>CHEMICAL NATURE : EPOXY MOLDING COMPOUND  |   |  |
| MANUFACTURER : SUMITOMO BAKELITE CO., LTD<br>TENNOZ PARK SIDE BLDG., 5-8, HIGASHI-SHINAGAWA 2-CHOME,<br>SHINAGAWA-KU, TOKYO, 140-0002 JAPAN    PHONE : 81-3-5462-4037  |   |  |
| SUPPLIER : SUMITOMO BAKELITE CO., LTD<br>TENNOZ PARK SIDE BLDG., 5-8, HIGASHI-SHINAGAWA 2-CHOME,<br>SHINAGAWA-KU, TOKYO, 140-0002 JAPAN    PHONE : 81-3-5462-4037  |   |  |
| EMERGENCY ASSISTANCE (Please contact any of manufacture's following sales offices)   |   |  |
| NAME & EMERGENCY PHONE NUMBER  | ADDRESS   |  |
| SUMITOMO PLASTICS AMERICA, INC.<br>PHONE : 408-243-8402 (USA)  | 900 LAFAYETTE STREET SUITE#510<br>SANTA CLARA, CA 95050   |  |
| SUMITOMO BAKELITE SINGAPORE PTE.LTD.<br>PHONE : 6755-5550 (SINGAPORE)  | 1 SENOKO SOUTH ROAD SINGAPORE<br>758069                   |  |
| SUMITOMO BAKELITE EUROPE B.V.<br>PHONE 020-691-10-86 (THE NETHERLANDS)   | NEW AMSTERDAM BUILDING<br>HOEKENRODE 2, 1102 BR AMSTERDAM |  |
| CHEMTREC PHONE : 800-424-9300 (USA)<br>24 hours EVERYDAY   |   |  |
| <b>2. COMPOSITION/INFORMATION ON INGREDIENTS</b>   |   |  |
| COMPONENTS   | (CAS NO.)   | BY WEIGHT (%)  |
| Silica Fused   | (60676-86-0)  | 75 - 95  |
| Epoxy Resin  | ( Trade secret )  | 5 - 10   |
| Phenol Resin A   | ( Trade secret )  | 0.5 - 2.5  |
| Phenol Resin B   | ( Trade secret )  | 1 - 5  |
| Carbon Black   | (1333-86-4)   | 0.1 - 0.5  |
| Labeling according to EC directives<br>No symbol and risk phrase are required.   |   |  |
| <b>3. HAZARDS IDENTIFICATION</b>   |   |  |
| --- EMERGENCY OVERVIEW ---<br>Black tablet with slight antiseptic odor.<br>Prolonged exposure may cause skin irritation. Self extinguishing and not ordinarily an emergency problem.<br>Water, foam, carbon dioxide and dry chemicals can be used on fire. |   |  |

NG ELECTRONICS (1993) LTD.  
DOCUMENT CONTROL

24 JUL 2003

CONTROLLED

# SAFETY DATA SHEET

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DATE PREPARED : JUN. 9, 2003 according to 2001/58/EC

## POTENTIAL HEALTH EFFECTS :

EYE : Solid or dusts may cause irritation or corneal injury due to mechanical action.  
SKIN : Prolonged exposure may cause skin irritation. A single, Prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.  
INGESTION : Small amounts swallowed during normal handling operations are not likely to cause injury ; swallowing amounts larger than that may cause injury.  
INHALATION : May cause bronchitis (SiO<sub>2</sub>).

## 4. FIRST AID MEASURES

EYE CONTACT : Flush affected eyes with large amount of water, also under the eyelids for at least 15 minutes. Get medical attention.  
SKIN CONTACT : Wash immediately with plenty of water or shower with soap. If irritation occurs, get medical attention.  
INGESTION : Immediately give plenty of water. Get medical attention.  
INHALATION : Remove to fresh air in case of accidental inhalation of vapors or dusts. Get medical attention.

### NOTE TO PHYSICIANS

: Treat Symptomatically.  
Treatment may vary with condition of victim and specifics of incident.

## 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA : Suitable for water, foam, carbon dioxide or dry chemicals.  
FIRE FIGHTING EQUIPMENT : Wear full bunker gear including a positive pressure self contained breathing apparatus in any closed space.

## 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTION : Use personal protective equipments. Avoid dust formation.  
ENVIRONMENTAL PRECAUTIONS : Do not flush into surface water or sanitary sewer system.  
METHODS FOR CLEANING UP : Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

HANDLING : Avoid contact with eyes and skin, and avoid breathing dust or vapors. Provide appropriate exhaust ventilation at places where dust is formed.  
STORAGE : Keep containers tightly closed in a cool, well-ventilated space.  
Keep dry and cool below 5°C for quality.

# SAFETY DATA SHEET

PRODUCT NAME : "SUMIKON"EME-G605  
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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### EXPOSURE LIMITS :

| COMPONENTS     | EXPOSURE GUIDELINES (mg/m <sup>3</sup> ) |            |
|----------------|--|------------|
|                | ACGIH (TLV-TWA)                          | OSHA (PEL) |
| Silica Fused   | 0.1 (Respirable)                         | 80         |
| Epoxy Resin    | Not listed                               | Not listed |
| Phenol Resin A | Not listed                               | Not listed |
| Phenol Resin B | Not listed                               | Not listed |
| Carbon Black   | 3.5                                      | 3.5        |

### ENGINEERING MEASURES :

Ensure adequate ventilation, especially in confined areas.

### PERSONAL PROTECTIVE EQUIPMENTS :

Respiratory protection - For most conditions, no respiratory protection should be needed ; however, in dusty atmospheres or insufficient ventilation, wear a suitable respiratory equipment or NIOSH // OSHA approved respirator to protect from dust.

Hand protection - Impervious gloves (chemical-resistant gloves).

Eye protection - Safety glasses with side shields.

Skin and body protection - Chemical-resistant apron.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                           |   |
|---------------------------|---|
| APPEARANCE                | : Black tablet with slight antiseptic odor. |
| pH                        | : Not applicable                            |
| BOILING POINT             | : Not applicable                            |
| DECOMPOSITION TEMPERATURE | : (Softening point) 75°C - 95°C             |
| FLASH POINT               | : None                                      |
| AUTOIGNITION TEMPERATURE  | : No information available.                 |
| EXPLOSION PROPERTIES      | : No information available.                 |
| VAPOR PRESSURE            | : Not applicable                            |
| VAPOR DENSITY (AIR=1)     | : Not applicable                            |
| SPECIFIC GRAVITY          | : 1.8 - 2.2                                 |
| SOLUBILITY IN WATER       | : Insoluble in water                        |

## 10. STABILITY AND REACTIVITY

### CHEMICAL STABILITY :

Stable under recommended storage condition.

### CONDITIONS TO AVOID :

Keep away from heat, moisture and sunlight for quality.

### MATERIALS TO AVOID :

Oxidizing agents, acids and alkali.

### HAZARDOUS DECOMPOSITION PRODUCTS :

Carbon dioxide. Thermal decomposition can lead to release of irritating gases and vapors such as methane, ammonia, Phenol, carbon monoxide and hydrocarbon compounds.

# SAFETY DATA SHEET

PRODUCT NAME : "SUMIKON"EME-G605  
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## 11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY : Silica fused: oral-rat LD50 : 3,160 mg/kg  
Epoxy resin: oral-rat LD50 : >5,000 mg/kg  
LOCAL EFFECTS : No information available.  
SENSITIZATION : No information available.  
CHRONIC TOXICITY : Potential carcinogen by IARC;  
Silica fused : Group 3  
Carbon Black : Group 2B

## 12. ECOLOGICAL INFORMATION

MOBILITY : No data is available on product itself.  
ECOTOXICITY : Waste water from subsequent processing should be given appropriate treatment in line with local regulations.

## 13. DISPOSAL INFORMATION

WASTE FROM RESIDUES :  
Can burn in a chemical incinerator equipped with an afterburner and scrubber in compliance with government or local disposal regulations, also contaminated packaging do so.

## 14. TRANSPORT INFORMATION

Not a hazardous material for DOT (Department of transportation) shipping.  
Not dangerous by any mode of international transport.  
UN No.: None assigned.

## 15. REGULATORY INFORMATION

TSCA (TOXIC SUBSTANCES CONTROL ACT) :  
This product can be use sorely for research and development because Phenol Resin B which is an ingredient of this product is not registered on the 8(b) inventory list.

EINECS (EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES) :  
This product complies with the provisions of the European Inventory.

|            |                |   |
|------------|----------------|---|
| EINECS No. | Silica Fused   | 262-373-8                               |
|            | Epoxy Resin    | Monomers are all on the inventory list. |
|            | Phenol Resin A | Monomers are all on the inventory list. |
|            | Phenol Resin B | Monomers are all on the inventory list. |
|            | Carbon Black   | 215-609-9                               |

Labeling according to EC Directives:  
No symbol and risk phrase are required.

# SAFETY DATA SHEET

PRODUCT NAME : "SUMIKON"EME-G605  
MSDS NO. : MSDS-EME-927  
DATE PREPARED : JUN. 9,2003 according to 2001/58/EC

## 16. OTHER INFORMATION

DISCLAIMER : The information present herein was prepared for your reference to be best of knowledge. It is given in good faith but no warranty expressed or implied is made.

DATA PREPARED BY : SUMITOMO BAKELITE CO.,LTD.  
QA DEPARTMENT, UTSUNOMIYA PLANT



Prapai Sangkhum

07/11/2003 11:29

To: Kanchana Khuttaphan/td/nse@nse

cc: Saowanee Khumsa-ank/pur/nse@nse, Sompom Rodsin/pur/nse@nse

Subject: MSDS G605

K. Neng,,

Please find MSDS of compound G605, attached,, and also if you need to support production shall be route to loop approval ..

Thanks ka...

Best regards,

Prapai Sangkhum

Ext. 223

email id: prapaisa@nseb.co.th

— Forwarded by Prapai Sangkhum/pur/nse on 07/11/2003 11:26 —



maturros@sbs.sumibe.co.jp

07/11/2003 09:57

To: SompomRo@nseb.co.th, saowaneekh@nseb.co.th

cc: prapaisa@nseb.co.th, jaran@sbs.sumibe.co.jp

Subject: MSDS G605

Dear all,

Pls see attached MSDS of EME-G605 per yr requested as below.

(See attached file: MSDS G605.pdf)

rgds / ma

Ms. Maturros Wattanagrai

Bakelite Shoji (Thailand) Co., Ltd.

Tel. 66-2-231-3370 Fax. 66-2-231-3372

mailto : maturros@sbs.sumibe.co.jp



MSDS G605.pdf

VERIFIED BY : DCC

**CHEMICAL CONTROL FORM**

แบบฟอร์มควบคุมสารเคมี

SP-PUR-003

SERIAL : 03

**SECTION A : REQUESTER TO FILL UP**

ส่วน A : ผู้ขอใช้เคมีกรอกข้อความ

Requester : ATIVAT

EN : 183583

Date : 31y 11, 23

ผู้ขอ :

หมายเลขประจำตัว :

วันที่ :

Section : TP

Ext. : 263

Refer to PR no. :

ฝ่าย :

หมายเลขโทรศัพท์ :

อ้างอิงเอกสารขอสิ่งซื้อเลขที่ :

**CHEMICAL DATA :**

ข้อมูลของเคมี

Trade name : EME-G605

Generic name : N/A

ชื่อทางการค้า :

ชื่อเฉพาะทางเคมี :

Manufacturer : SUMITOMO

ผู้ผลิต

In case of no generic name can be provided, must identify its hazardous ingredients

ในกรณีที่ไม่สามารถให้ชื่อเฉพาะทางเคมีได้ จะต้องระบุส่วนประกอบที่เป็นอันตรายด้วย

Silico Fused 75-95% , Epoxy Resin 5-10% , Carbon Black 21.05%

**CHEMICAL CLASS :**

ชนิดของเคมี

- Explosive     Dangerous Compressed Gas     Flammable Liquid     Flammable Solid     Corrosive  
 วัตถุระเบิด    ก๊าซอันตรายอัดแรงดัน    ของเหลวไวไฟ    วัตถุไวไฟ    สกัดกร่อน  
 Oxidizing Agent     Toxic or Poisonous     Radioactive     Other regulated material  
 สารให้ออกซิเจน    สารมีพิษหรือเป็นพิษ    สารกัมมันตรังสี    สารเคมีอื่นที่ถูกต้องกำหนดไว้ตามกฎหมาย

**CHEMICAL SOURCE :**

ที่มาของเคมี

- Local     Imported     Direct Chemical (Supported by Vender)  
 ในประเทศ    นำเข้า    สารเคมีที่ไม่ได้สั่งซื้อ (ได้รับจาก Vender)

MATERIAL SAFETY DATA SHEET (MSDS) (supplied in case of new chemical or MSDS revision)

เอกสารรายละเอียดของสารเคมี ( ใช้ในกรณีเคมีตัวใหม่หรือเพื่อปรับปรุง MSDS )

- Yes     No  
 ใช่    ไม่ใช่

**PURPOSE AND CONDITION OF USE :**

จุดประสงค์และเงื่อนไขของการใช้

- New chemical     One time use     Continual use     Currently being used  
 เคมีใหม่    ใช้ครั้งเดียว    ใช้ต่อเนื่อง    ปัจจุบันยังใช้อยู่

Manufacturing

Describe :

ใช้ในการผลิต

รายละเอียด

Testing

Describe :

ใช้ในการทดสอบ

รายละเอียด

Volume of use

Describe :

ปริมาณการใช้

รายละเอียด

Volume of storage

Describe :

ปริมาณการเก็บ

รายละเอียด

Continual use

ใช้ต่อเนื่อง

Mold operation

Currently being used

ปัจจุบันยังใช้อยู่

11 Unit / 1kg (base on 250MT)

50,000 Xpp.

**SAFETY & ENVIRONMENTAL MEASURES :**

การประเมินความปลอดภัยและสภาพแวดล้อม

User : Mold operator.

ผู้ใช้

Storage : Keep dry and cool below 5°C

การเก็บ

Type of container : Original container.

ชนิดของบรรจุภัณฑ์

Disposal : Used chemical please follow up SP-FAC-017

การทำลาย

VERIFIED BY : DCC

SECTION B : CHEMICAL ENGINEER AND SAFETY OFFICER TO FILL UP

ส่วน B : วิศวกรเคมี และเจ้าหน้าที่ความปลอดภัยกรอกข้อความ

SP-PUR-003

SERIAL : 03


CONCLUSION BASED ON ABOVE SAFETY & ENVIRONMENT MEASURES

ข้อสรุปจะขึ้นอยู่กับผลการประเมินความปลอดภัยและสภาพแวดล้อม

- No, not approved .  
ไม่อนุมัติ
- Need more information.  
ต้องการข้อมูลเพิ่มเติม
- Yes , can be purchased or used with safe practice until discontinue of use.  
สามารถสั่งซื้อหรือใช้งานได้โดยปฏิบัติตามกฎความปลอดภัยจนกระทั่งเลิกใช้
- Yes , can be purchased and used with safe practice only for the attached PR.  
สั่งซื้อได้และใช้โดยปฏิบัติตามกฎความปลอดภัยเฉพาะเอกสารขอสั่งซื้อที่แนบมา

Comments \_\_\_\_\_

ข้อคิดเห็น



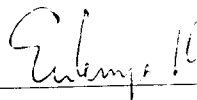
Safety Officer

เจ้าหน้าที่ความปลอดภัย

Jul 23 '03

Date

วันที่



Chemical Engineer

วิศวกรเคมี

Jul 23 '03

Date

วันที่