



# SAFETY DATA SHEET

## SPECIALTY ELECTRONIC MATERIALS UK LIMITED

Safety Data Sheet according to Regulation (EC) No 1907/2006 - Annex II

**Product name: MOLYKOTE® 3451 Chemical Resistant Bearing Grease**

**Revision Date: 18.09.2023**

**Version: 3.0**

**Date of last issue: 28.10.2022**

**Print Date: 21.09.2023**

SPECIALTY ELECTRONIC MATERIALS UK LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

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### 1.1 Product identifier

**Product name: MOLYKOTE® 3451 Chemical Resistant Bearing Grease**

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses:** Lubricants and lubricant additives

### 1.3 Details of the supplier of the safety data sheet

#### COMPANY IDENTIFICATION

SPECIALTY ELECTRONIC MATERIALS UK  
LIMITED  
KINGS COURT, LONDON ROAD  
STEVENAGE  
England  
SG1 2NG  
UNITED KINGDOM

**Customer Information Number:**

00800-3876-6838

SDSQuestion-EU@dupont.com

### 1.4 EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** +(44)-870-8200418

**Local Emergency Contact:** +(44)-870-8200418

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## SECTION 2: HAZARDS IDENTIFICATION

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### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008:**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

## 2.2 Label elements

### Labelling according to Regulation (EC) No 1272/2008:

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

### Precautionary statements

P370 + P261 In case of fire: Avoid breathing fume.

## 2.3 Other hazards

Endocrine disrupting properties (human health):

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine disrupting properties (environment):

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

PBT and vPvB assessment:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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**Chemical nature:** Fluorosilicone grease

### 3.2 Mixtures

This product is a mixture.

This product does not contain, in concentrations equal to or greater than those laid down by the Regulation (EC) No 1907/2006 - Annex II, any substances presenting a health or environmental hazard nor any substances for which there are Community workplace exposure limits in place.

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## SECTION 4: FIRST AID MEASURES

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### 4.1 Description of first aid measures

#### General advice:

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

**Skin contact:** Wash off with plenty of water.

**Eye contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Ingestion:** No emergency medical treatment necessary.

**4.2 Most important symptoms and effects, both acute and delayed:**

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## **SECTION 5: FIREFIGHTING MEASURES**

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### **5.1 Extinguishing media**

**Suitable extinguishing media:** Water spray Alcohol-resistant foam Carbon dioxide (CO<sub>2</sub>) Dry chemical

**Unsuitable extinguishing media:** None known.

### **5.2 Special hazards arising from the substance or mixture**

**Hazardous combustion products:** Silicon oxides Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Fluorine compounds Carbon oxides

**Unusual Fire and Explosion Hazards:** Exposure to combustion products may be a hazard to health. Toxic vapours are evolved.

### **5.3 Advice for firefighters**

**Fire Fighting Procedures:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment. Wear neoprene gloves to prevent contact with hydrofluoric acid.

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## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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**6.1 Personal precautions, protective equipment and emergency procedures:** Follow safe handling advice and personal protective equipment recommendations.

**6.2 Environmental precautions:** Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and materials for containment and cleaning up:** Wipe up or scrape up and contain for salvage or disposal. Local or national regulations may apply to releases and disposal of this material,

as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

**6.4 Reference to other sections:**

See sections: 7, 8, 11, 12 and 13.

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## **SECTION 7: HANDLING AND STORAGE**

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**7.1 Precautions for safe handling:** Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep in properly labelled containers. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.  
Unsuitable materials for containers: None known.

**7.3 Specific end use(s):** Information on specific end use(s) of this product may be provided in a technical data sheet/annex to the SDS (if available).

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## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**8.1 Control parameters**

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

**8.2 Exposure controls**

**Engineering measures:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

**Individual protection measures**

**Eye/face protection:** Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

**Skin protection**

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally

be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Wear clean, body-covering clothing.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

Use the following CE approved air-purifying respirator: Organic vapor cartridge, type A (boiling point >65 °C, meeting standard EN 14387).

#### **Environmental exposure controls**

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

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## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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### **9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	solid (20 °C, ) <b>Form</b> Grease
<b>Colour</b>	white
<b>Odour</b>	slight <b>Odour Threshold</b> No data available
<b>Melting point/freezing point</b>	Melting point/range: No data available
<b>Boiling point or initial boiling point and boiling range</b>	Boiling point/boiling range: Not applicable
<b>Flammability</b>	<b>Gases/Solids</b> Not classified as a flammability hazard <b>Liquids</b> No data available

**Lower explosion limit and upper explosion limit / flammability limit**

**Lower explosion limit / Lower flammability limit**  
No data available

**Upper explosion limit / Upper flammability limit**  
No data available

**Flash point**

270 °C  
Method: (Seta closed cup)

**Auto-ignition temperature**

No data available

**Decomposition temperature**

**Thermal decomposition**  
No data available

**pH**

Not applicable

**Viscosity**

**Viscosity, kinematic**  
Not applicable

**Viscosity, dynamic**  
Not applicable

**Solubility(ies)**

**Water solubility**  
No data available

**Partition coefficient: n-octanol/water**

No data available

**Vapour pressure**

Not applicable

**Density and / or relative density**

**Relative density**  
1.4

**Relative vapour density**

No data available

**Particle characteristics**

**Particle size**  
No data available

## 9.2 Other information

**Oxidizing properties**

The substance or mixture is not classified as oxidizing.

**Self-heating substances**

Method: 1100 U - CHARACTERISTICS-TYPICAL VALUES - SELF HEATING - 1 = YES, 2 = NO  
The substance or mixture is not classified as self heating.

**Substances and mixtures,**

The substance or mixture does not emit flammable gases

<b>which in contact with water, emit flammable gases</b>	in contact with water.
<b>Evaporation rate</b>	Not applicable
<b>Molecular weight</b>	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## SECTION 10: STABILITY AND REACTIVITY

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**10.1 Reactivity:** Not classified as a reactivity hazard.

**10.2 Chemical stability:** Stable under normal conditions.

**10.3 Possibility of hazardous reactions:** Can react with strong oxidizing agents.

**10.4 Conditions to avoid:** None known.

**10.5 Incompatible materials:** Oxidizing agents

**10.6 Hazardous decomposition products:** 1,1,1,3,3,3-Hexafluoro-2-propanone. Hydrogen Fluoride. Formaldehyde. Hexafluoroethane. Carbon monoxide. 3,3,3-Trifluoropropionaldehyde. Carbonic difluoride.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

##### **Acute toxicity (Acute oral toxicity)**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):

LD50, Rat, > 5,000 mg/kg Estimated.

##### **Acute toxicity (Acute dermal toxicity)**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):  
LD50, Rabbit, > 2,000 mg/kg Estimated.

**Acute toxicity (Acute inhalation toxicity)**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Vapors are unlikely due to physical properties.

As product: The LC50 has not been determined.

**Skin corrosion/irritation**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Brief contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

May cause slight eye irritation.

Corneal injury is unlikely.

**Respiratory or skin sensitisation**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

For skin sensitization:

Contains component(s) which did not cause allergic skin sensitization in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Germ cell mutagenicity**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

No relevant data found.

**Carcinogenicity**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.



No relevant data found.

**Reproductive toxicity**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Toxicity to reproduction assessment :

No relevant data found.

Assessment Teratogenicity:

No relevant data found.

**STOT - single exposure**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**STOT - repeated exposure**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Based on information for component(s):

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Aspiration Hazard**

Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

Based on physical properties, not likely to be an aspiration hazard.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Further information**

No data available

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**SECTION 12: ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

#### **12.1 Toxicity**

No data available.

#### **12.2 Persistence and degradability**

No data available.

#### **12.3 Bioaccumulative potential**

No data available.

#### **12.4 Mobility in soil**

No data available.

#### **12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### **12.6 Endocrine disrupting properties**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### **12.7 Other adverse effects**

No data available.

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## **SECTION 13: DISPOSAL CONSIDERATIONS**

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#### **13.1 Waste treatment methods**

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

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## SECTION 14: TRANSPORT INFORMATION

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### Classification for ROAD and Rail transport (ADR/RID):

- |                                   |   |
|-----------------------------------|---|
| 14.1 UN number or ID number       | Not applicable  |
| 14.2 UN proper shipping name      | Not regulated for transport                                       |
| 14.3 Transport hazard class(es)   | Not applicable  |
| 14.4 Packing group                | Not applicable  |
| 14.5 Environmental hazards        | Not considered environmentally hazardous based on available data. |
| 14.6 Special precautions for user | No data available.  |

### Classification for SEA transport (IMO-IMDG):

- |  |  |
|--|--|
| 14.1 UN number or ID number                                  | Not applicable   |
| 14.2 UN proper shipping name                                 | Not regulated for transport  |
| 14.3 Transport hazard class(es)                              | Not applicable   |
| 14.4 Packing group   | Not applicable   |
| 14.5 Environmental hazards                                   | Not considered as marine pollutant based on available data.        |
| 14.6 Special precautions for user                            | No data available.   |
| 14.7 Maritime transport in bulk according to IMO instruments | Consult IMO regulations before transporting ocean bulk instruments |

### Classification for AIR transport (IATA/ICAO):

- |                                   |                             |
|-----------------------------------|-----------------------------|
| 14.1 UN number or ID number       | Not applicable              |
| 14.2 UN proper shipping name      | Not regulated for transport |
| 14.3 Transport hazard class(es)   | Not applicable              |
| 14.4 Packing group                | Not applicable              |
| 14.5 Environmental hazards        | Not applicable              |
| 14.6 Special precautions for user | No data available.          |

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## **SECTION 15: REGULATORY INFORMATION**

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### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **REACH Regulation (EC) No 1907/2006**

This product contains only components that have been either registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct. Polymers are exempted from registration under REACH. All relevant starting materials and additives have been either registered, or are exempt from registration according to Regulation (EC) No. 1907/2006 (REACH).

#### **Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.**

Listed in Regulation: Not applicable

### **15.2 Chemical safety assessment**

No Chemical Safety Assessment has been carried out for this substance/mixture.

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## **SECTION 16: OTHER INFORMATION**

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### **Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008**

This product is not classified as dangerous according to EC criteria.

#### **Revision**

Identification Number: 1674013 / A670 / Issue Date: 18.09.2023 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

#### **Full text of other abbreviations**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of

Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

SPECIALTY ELECTRONIC MATERIALS UK LIMITED urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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