



SAFETY DATA SHEET

SPECIALTY ELECTRONIC MATERIALS UK LIMITED

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

Product name: SOLDERON™ BP SN 6000 PRIMARY

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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.

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

1.1 Product identifier

Product name: SOLDERON™ BP SN 6000 PRIMARY

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

Identified uses: For industrial use: use in metal plating in circuit boards, connectors and metal finishing

Uses advised against: We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

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

Manufacturer DuPont Specialty Products GmbH & Co. KG

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

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Skin irritation - Category 2 - H315

Eye irritation - Category 2 - H319

Skin sensitisation - Category 1 - H317

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:**Hazard pictograms****Signal word: WARNING****Hazard statements**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

Precautionary statements

P261 Avoid breathing mist or vapours.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ eye protection/ face protection.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Supplemental information The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 4.93 %**Contains** 1,2-Ethanediamine, polymer with methyloxirane and oxirane; Benzenesulfonic acid, 2,5-dihydroxy-, monopotassium salt

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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

This product is a mixture.

Identification number	Component	Classification according to Regulation (EU) 1272/2008 (CLP)	specific concentration limit/ M-Factors/ Acute toxicity estimate	%
CASRN 26316-40-5 EC-No. 500-047-1 Index-No. - REACH No -	1,2-Ethanediamine, polymer with methyloxirane and oxirane	Eye Irrit. 2 - H319 Skin Sens. 1B - H317	Oral ATE: > 5,000 mg/kg Dermal ATE: > 5,000 mg/kg	>= 1.0 - < 10.0 %
CASRN 75-75-2 EC-No. 200-898-6 Index-No. 607-145-00-4 REACH No 01-2119491166-34	methanesulphonic acid	Met. Corr. 1 - H290 Acute Tox. 4 - H302 Acute Tox. 4 - H312 Skin Corr. 1B - H314 Eye Dam. 1 - H318	Oral ATE: 649 mg/kg Dermal ATE: 1,100 mg/kg	>= 1.0 - < 3.0 %
CASRN 21799-87-1 EC-No. 244-584-7 Index-No. - REACH No 01-2120770473-52	Benzenesulfonic acid, 2,5-dihydroxy-, monopotassium salt	Acute Tox. 4 - H302 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 Aquatic Chronic 3 - H412	Oral ATE: 500 mg/kg	>= 0.25 - < 1.0 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). 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: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

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: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Not readily combustible. Select extinguishing agent appropriate to other materials involved.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Hazardous combustion by-products may include but are not limited to carbon dioxide and carbon monoxide.

Unusual Fire and Explosion Hazards: No specific measures necessary.

5.3 Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Wear suitable protective clothing. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions: Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

6.3 Methods and materials for containment and cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste. See Section 13, Disposal Considerations, for additional information.

6.4 Reference to other sections: References to other sections, if applicable, have been provided in the previous sub-sections.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Use only in well-ventilated areas. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Keep container tightly closed.

7.2 Conditions for safe storage, including any incompatibilities: Store in original container. Storage area should be: cool dry well ventilated out of direct sunlight away from incompatible materials
No special precautions necessary.

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).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

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

Derived No Effect Level

methanesulphonic acid

Workers

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	19.44 mg/kg bw/day	6.76 mg/m ³	n.a.	2.89 mg/m ³

Consumers

<i>Acute systemic effects</i>	<i>Acute local effects</i>	<i>Long-term systemic effects</i>	<i>Long-term local</i>
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						<i>effects</i>			
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	8.33 mg/kg bw/day	1.44 mg/m ³	n.a.	8.33 mg/kg bw/day	1.73 mg/m ³

Predicted No Effect Concentration

methanesulphonic acid

Compartment	PNEC
Fresh water	0.012 mg/l
Marine water	0.0012 mg/l
Intermittent use/release	0.12 mg/l
Sewage treatment plant	100 mg/l
Fresh water sediment	0.0444 mg/kg
Marine sediment	0.00444 mg/kg
Soil	0.00183 mg/kg

8.2 Exposure controls

Engineering controls: 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. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Avoid gloves made of: Polyvinyl alcohol ("PVA"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, 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: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

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: Particulate filter, type P2 (meeting standard EN 143).

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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	clear
Odour	Faint
Melting point/freezing point	Melting point/range: Similar to water Freezing point: Similar to water
Boiling point or initial boiling point and boiling range	Boiling point/boiling range: Similar to water
Flammability	Gases/Solids Not applicable to liquids Liquids No data available
Lower explosion limit and upper explosion limit / flammability limit	Lower explosion limit / Lower flammability limit Not applicable Upper explosion limit / Upper flammability limit Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Thermal decomposition

	Temperatures greater than recommended storage temperature.
pH	< 3
Viscosity	Viscosity, kinematic similar to water
Solubility(ies)	Water solubility completely soluble
Partition coefficient: n-octanol/water	This product is a mixture. See Section 12 for individual component data.
Vapour pressure	ca. 31.7 hPa (25 °C)
Density and / or relative density	Relative density 1.018 (20 °C,)
Relative vapour density	Heavier than air
Particle characteristics	Not applicable

9.2 Other information

Explosives	Not explosive
Oxidizing properties	No
Evaporation rate	Slower than ether
Molecular weight	No data available for mixture

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

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: Not classified as a reactivity hazard.

10.2 Chemical stability: Stable under normal conditions.

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

Product will not undergo hazardous polymerization.

10.4 Conditions to avoid: Extremes of temperature and direct sunlight.

10.5 Incompatible materials: Strong oxidizing agents

10.6 Hazardous decomposition products: No decomposition if stored and applied as directed.

SECTION 11: TOXICOLOGICAL INFORMATION

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.

Acute toxicity estimate, > 2,000 mg/kg Calculation method

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.

Acute toxicity estimate, > 2,000 mg/kg Calculation method

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.

Product test data not available. Refer to component data.

Skin corrosion/irritation

Skin irritation, Category 2

H315: Causes skin irritation.

Classification procedure: Calculation method

Product test data not available. Refer to component data.

Serious eye damage/eye irritation

Eye irritation, Category 2

H319: Causes serious eye irritation.

Classification procedure: Calculation method

Product test data not available. Refer to component data.

Respiratory or skin sensitisation

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

Classification procedure: Calculation method

Product test data not available. Refer to component data.

Germ cell mutagenicity

Not classified

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

Product test data not available. Refer to component data.

Carcinogenicity

Not classified

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

Not considered carcinogenic by NTP, IARC, and OSHA

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 :

Product test data not available. Refer to component data.

Assessment Teratogenicity:

Product test data not available. Refer to component data.

STOT - single exposure

Not classified

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

Product test data not available. Refer to component data.

STOT - repeated exposure

Not classified

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

Product test data not available. Refer to component data.

Aspiration Hazard

Not classified

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

Product test data not available. Refer to component data.

COMPONENTS INFLUENCING TOXICOLOGY:

1,2-Ethanediamine, polymer with methyloxirane and oxirane

Acute toxicity (Acute oral toxicity)

LD50, Rat, > 5,000 mg/kg

Acute toxicity (Acute dermal toxicity)

LD50, Rabbit, > 5,000 mg/kg

Acute toxicity (Acute inhalation toxicity)

The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

May cause slight eye irritation.

Respiratory or skin sensitisation

Has demonstrated the potential for contact allergy in mice.

Germ cell mutagenicity

In vitro genetic toxicity studies were negative.

Reproductive toxicity

Toxicity to reproduction assessment :

In animal studies, did not interfere with reproduction.

Assessment Teratogenicity:

Did not cause birth defects or any other fetal effects in laboratory animals.

STOT - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

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

Aspiration Hazard

No aspiration toxicity classification

methanesulphonic acid

Acute toxicity (Acute oral toxicity)

LD50, Rat, 649 mg/kg

Acute toxicity (Acute dermal toxicity)

LD50, Rabbit, > 1,000 - 2,000 mg/kg OECD Test Guideline 402

Acute toxicity estimate, 1,100 mg/kg Acute toxicity estimate according to Regulation (EC) No. 1272/2008

Acute toxicity (Acute inhalation toxicity)

The LC50 has not been determined. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.

Skin corrosion/irritation

Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Serious eye damage/eye irritation

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Respiratory or skin sensitisation

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Germ cell mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Carcinogenicity

No relevant data found.

Reproductive toxicity

Toxicity to reproduction assessment :

In animal studies, did not interfere with reproduction.

Assessment Teratogenicity:

Did not cause birth defects or any other fetal effects in laboratory animals.

STOT - single exposure

Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

STOT - repeated exposure

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

Aspiration Hazard

Based on available information, aspiration hazard could not be determined.

Benzenesulfonic acid, 2,5-dihydroxy-, monopotassium salt**Acute toxicity (Acute oral toxicity)**

LD50, Rat, estimated > 300 - 2,000 mg/kg

Acute toxicity estimate, 500 mg/kg Acute toxicity estimate according to Regulation (EC) No. 1272/2008

Acute toxicity (Acute dermal toxicity)

The dermal LD50 has not been determined.

Acute toxicity (Acute inhalation toxicity)

The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

May cause moderate eye irritation.

Respiratory or skin sensitisation

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Germ cell mutagenicity

No relevant data found.

Carcinogenicity

No relevant data found.

Reproductive toxicity

Toxicity to reproduction assessment :

No relevant data found.

Assessment Teratogenicity:

No relevant data found.

STOT - single exposure

Available data are inadequate to determine single exposure specific target organ toxicity.

STOT - repeated exposure

No relevant data found.

Aspiration Hazard

Based on available information, aspiration hazard could not be determined.

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

SECTION 12: ECOLOGICAL INFORMATION

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

12.1 Toxicity

1,2-Ethanediamine, polymer with methyloxirane and oxirane

Acute toxicity to fish

LC50, Pimephales promelas (fathead minnow), 96 Hour, 25,600 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 103 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

Based on data from similar materials

EC50, Desmodesmus subspicatus (green algae), 72 Hour, 150.67 mg/l, Directive 67/548/EEC, Annex V, C.3.

Based on data from similar materials

NOEC, Desmodesmus subspicatus (green algae), 72 Hour, 4.25 mg/l, Directive 67/548/EEC, Annex V, C.3.

Toxicity to bacteria

NOEC, Bacteria, static test, 3 Hour, > 10,000 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), 21 d, 10 mg/l

methanesulphonic acid**Acute toxicity to fish**

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 73 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, 70 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth rate, 5.8 mg/l, OECD Test Guideline 201 or Equivalent

EC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, 12 - 24 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, Bacteria (active sludge), 3 Hour, 560 mg/l, ISO 8192

EC50, activated sludge, 30 min, > 1,000 mg/l, OECD Test Guideline 209

Chronic toxicity to fish

NOEC, Oncorhynchus mykiss (rainbow trout), static test, 4 d, 56 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), static test, 2 d, mortality, 120 mg/l

Benzenesulfonic acid, 2,5-dihydroxy-, monopotassium salt**Acute toxicity to fish**

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), Static, 72 hrs, Growth rate inhibition, 3.22 mg/l

NOEC, Pseudokirchneriella subcapitata (green algae), Static, 72 hrs, Growth rate inhibition, 0.288 mg/l

12.2 Persistence and degradability**1,2-Ethanediamine, polymer with methyloxirane and oxirane**

Biodegradability: Not readily biodegradable.

Biodegradation: 2 %

Exposure time: 28 d

Method: Directive 67/548/EEC Annex V, C.4.D.

methanesulphonic acid

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 90 - 100 %

Exposure time: 28 d

Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 0.67 mg/mg

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitization: OH radicals

Atmospheric half-life: 39 d

Method: Estimated.

Benzenesulfonic acid, 2,5-dihydroxy-, monopotassium salt

Biodegradability: Material is expected to be readily biodegradable.

10-day Window: Not applicable

Biodegradation: 91 %

Exposure time: 28 d

Method: OECD Test Guideline 301C

12.3 Bioaccumulative potential**1,2-Ethanediamine, polymer with methyloxirane and oxirane**

Bioaccumulation: Bioaccumulation is unlikely. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 1.2 at 25 °C Calculated.

methanesulphonic acid

Partition coefficient: n-octanol/water(log Pow): -2.38 at 25 °C

Benzenesulfonic acid, 2,5-dihydroxy-, monopotassium salt

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -3.91 estimated

Bioconcentration factor (BCF): 3.16

12.4 Mobility in soil

1,2-Ethanediamine, polymer with methyloxirane and oxirane

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 10 - 47 Estimated.

methanesulphonic acid

Potential for mobility in soil is very high (Koc between 0 and 50).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient (Koc): 1 Estimated.

Benzenesulfonic acid, 2,5-dihydroxy-, monopotassium salt

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 16.85 Estimated.

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.

1,2-Ethanediamine, polymer with methyloxirane and oxirane

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

methanesulphonic acid

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Benzenesulfonic acid, 2,5-dihydroxy-, monopotassium salt

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

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

1,2-Ethanediamine, polymer with methyloxirane and oxirane

No relevant data found.

methanesulphonic acid

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Benzenesulfonic acid, 2,5-dihydroxy-, monopotassium salt

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose in accordance with all local, state (provincial), and federal regulations.

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.

Treatment and disposal methods of used packaging: Empty containers may contain hazardous residues. This material and its container must be disposed of in a safe way. Do not remove label until container is thoroughly cleaned.

Contaminated packaging: Dispose of as unused product. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied.

SECTION 14: TRANSPORT INFORMATION

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 |

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.

SECTION 15: REGULATORY INFORMATION

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). 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). 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.

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

Further information

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

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

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.

H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

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

Skin Irrit. - 2 - H315 - Calculation method

Eye Irrit. - 2 - H319 - Calculation method

Skin Sens. - 1 - H317 - Calculation method

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

Legend

Acute Tox.	Acute toxicity
Aquatic Chronic	Long-term (chronic) aquatic hazard
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Met. Corr.	Corrosive to metals
Skin Corr.	Skin corrosion
Skin Sens.	Skin sensitisation

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; TECI - 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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