



# SAFETY DATA SHEET

## DUPONT ELECTRONIC MATERIALS INTERNATIONAL, LLC

**Product name:** SOLDERON™ BP ACID

**Issue Date:** 05/22/2024

**Print Date:** 05/28/2024

DUPONT ELECTRONIC MATERIALS INTERNATIONAL, LLC 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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## 1. IDENTIFICATION

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**Product name:** SOLDERON™ BP ACID

### **Recommended use of the chemical and restrictions on use**

**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.

### **COMPANY IDENTIFICATION**

DUPONT ELECTRONIC MATERIALS  
INTERNATIONAL, LLC  
455 FOREST STREET  
MARLBOROUGH MA 01752  
UNITED STATES

**Customer Information Number:**

833-338-7668  
SDSQuestion-NA@dupont.com

### **EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact:** 1-800-424-9300

**Local Emergency Contact:** 800-424-9300

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## 2. HAZARDS IDENTIFICATION

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### **Hazard classification**

GHS classification in accordance with 29 CFR 1910.1200

Corrosive to metals - Category 1

Acute toxicity - Category 4 - Oral

Acute toxicity - Category 4 - Dermal

Skin corrosion - Category 1B

Serious eye damage - Category 1

Specific target organ toxicity - single exposure - Category 3

Short-term (acute) aquatic hazard - Category 3

### **Label elements**

**Hazard pictograms**



Signal word: **DANGER!**

**Hazards**

May be corrosive to metals.  
Harmful if swallowed or in contact with skin.  
Causes severe skin burns and eye damage.  
May cause respiratory irritation.  
Harmful to aquatic life.

**Precautionary statements**

**Prevention**

Keep only in original container.  
Avoid breathing mist or vapours.  
Wash skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Avoid release to the environment.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response**

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
Wash contaminated clothing before reuse.  
Absorb spillage to prevent material damage.

**Storage**

Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Store in corrosive resistant container with a resistant inner liner.

**Disposal**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

No data available

**Further information**

The values listed below represent the percentages of ingredients of unknown toxicity.  
The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 70 %

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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**Chemical nature:** Aqueous solution of organic compounds  
This product is a mixture.

Component	CASRN	Concentration
Methane sulfonic acid	75-75-2	65.0 - 75.0 %
Water	7732-18-5	25.0 - 35.0 %

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### 4. FIRST AID MEASURES

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#### 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 not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**Skin contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Seek medical attention if symptoms occur or 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 immediately available.

**Eye contact:** Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

**Ingestion:** Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

##### 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.

##### Indication of any immediate medical attention and special treatment needed

**Notes to physician:** Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to

irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

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## **5. FIREFIGHTING MEASURES**

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**Suitable extinguishing media:** Use water spray, foam, dry chemical or carbon dioxide.

**Unsuitable extinguishing media:** None known.

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

**Hazardous combustion products:** Carbon dioxide. Carbon monoxide. Sulfur oxides.

**Unusual Fire and Explosion Hazards:** This product may give rise to hazardous vapors in a fire.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry.

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

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## **6. ACCIDENTAL RELEASE MEASURES**

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**Personal precautions, protective equipment and emergency procedures:** Wear suitable protective clothing. Wear respiratory protection.

**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.

**Methods and materials for containment and cleaning up:** Cover with absorbent or contain. Collect and dispose.

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## **7. HANDLING AND STORAGE**

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**Precautions for safe handling:** Use local exhaust ventilation. Avoid contact with eyes, skin and clothing. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Avoid breathing vapor. Keep container tightly closed.

**Conditions for safe storage:** Store in original container. Storage area should be: cool dry well ventilated out of direct sunlight away from incompatible materials  
Practice good personal hygiene to prevent accidental exposure.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

Component	Regulation	Type of listing	Value
Methane sulfonic acid	Dow IHG	TWA	1 mg/m <sup>3</sup>
	Dow IHG	STEL	2 mg/m <sup>3</sup>

### 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. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use chemical goggles.

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Viton. Avoid gloves made of: Polyvinyl alcohol ("PVA"). 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 emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators: Acid gas cartridge with particulate pre-filter.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Physical state	liquid
Color	clear
Odor	Odorless
Odor Threshold	No data available
pH	-1.19
Melting point/range	20 °C ( 68 °F) at1,013 hPa
Freezing point	20 °C ( 68 °F) at1,013 hPa
Boiling point (760 mmHg)	114.3 °C ( 237.7 °F) <i>ASTM D1120</i>

<b>Flash point</b>	> 137 °C (> 279 °F) <i>Cleveland Open Cup ASTM D92</i>
<b>Evaporation Rate (Butyl Acetate = 1)</b>	Slower than ether
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Lower explosion limit</b>	Not applicable
<b>Upper explosion limit</b>	Not applicable
<b>Vapor Pressure</b>	ca.0.00428 mmHg at 25 °C (77 °F)
<b>Relative Vapor Density (air = 1)</b>	Heavier than air.
<b>Relative Density (water = 1)</b>	1.35 g/ml
<b>Water solubility</b>	Miscible
<b>Partition coefficient: n-octanol/water</b>	This product is a mixture. See Section 12 for individual component data.
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	Temperatures greater than recommended storage temperature.
<b>Kinematic Viscosity</b>	similar to water
<b>Explosive properties</b>	Not explosive
<b>Oxidizing properties</b>	No
<b>Molecular weight</b>	No data available for mixture
<b>Volatile Organic Compounds</b>	0 g/L

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

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## 10. STABILITY AND REACTIVITY

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

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

**Possibility of hazardous reactions:** No dangerous reaction known under conditions of normal use. Product will not undergo hazardous polymerization.

**Conditions to avoid:** high temperatures. contact with incompatible materials

**Incompatible materials:** Cyanides sulfides Metals Bases Strong oxidizing agents

**Hazardous decomposition products:** Carbon monoxide carbon dioxide oxides of sulfur acidic fumes

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## 11. TOXICOLOGICAL INFORMATION

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

**Acute toxicity**

**Acute oral toxicity**

Product test data not available. Refer to component data.

**Acute dermal toxicity**

Product test data not available. Refer to component data.

**Acute inhalation toxicity**

Product test data not available. Refer to component data.

**Skin corrosion/irritation**

Product test data not available. Refer to component data.

**Serious eye damage/eye irritation**

Product test data not available. Refer to component data.

**Sensitization**

Product test data not available. Refer to component data.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Product test data not available. Refer to component data.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Product test data not available. Refer to component data.

**Carcinogenicity**

Product test data not available. Refer to component data.

**Teratogenicity**

Product test data not available. Refer to component data.

**Reproductive toxicity**

Product test data not available. Refer to component data.

**Mutagenicity**

Product test data not available. Refer to component data.

**Aspiration Hazard**

Product test data not available. Refer to component data.

**Additional information**

No toxicity data are available for this material.

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Methane sulfonic acid**

**Acute oral toxicity**

LD50, Rat, 649 mg/kg OECD Test Guideline 401

**Acute dermal toxicity**

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

**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.

**Sensitization**

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

**Specific Target Organ Systemic Toxicity (Single Exposure)**

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

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

**Teratogenicity**

Did not cause birth defects in laboratory animals.

**Reproductive toxicity**

In animal studies, did not interfere with reproduction.

**Mutagenicity**

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

**Carcinogenicity**

Not considered carcinogenic by NTP, IARC, and OSHA

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## **12. ECOLOGICAL INFORMATION**

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

**General Information**

There is no data available for this product.

**Toxicity**

**Methane sulfonic acid**

**Acute toxicity to fish**

LC50, *Oncorhynchus mykiss* (rainbow trout), 73 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), 70 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

EC50, *Pseudokirchneriella subcapitata* (green algae), > 12 - < 24 mg/l, OECD Test Guideline 201



**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

**Persistence and degradability**

**Methane sulfonic acid**

**Biodegradability:** Readily biodegradable.

**Method:** OECD Test Guideline 301

**Theoretical Oxygen Demand:** 0.67 mg/mg

**Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitization:** OH radicals

**Atmospheric half-life:** 39 d

**Method:** Estimated.

**Bioaccumulative potential**

**Methane sulfonic acid**

**Bioaccumulation:** Bioaccumulation is unlikely.

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

**Mobility in soil**

**Methane sulfonic 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.

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## **13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** Dispose in accordance with all local, state (provincial), and federal regulations. Under RCRA, it is the responsibility of the product's user to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

**Treatment and disposal methods of used packaging:** Empty containers retain product residues. Follow label warnings even after container is emptied. Improper disposal or reuse of this container may be dangerous and illegal. Refer to applicable federal, state and local regulations.

**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.

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**14. TRANSPORT INFORMATION**

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**DOT**

<b>Proper shipping name</b>	Corrosive liquid, acidic, organic, n.o.s.(Methane sulfonic acid)
<b>UN number</b>	UN 3265
<b>Class</b>	8
<b>Packing group</b>	II

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

<b>Proper shipping name</b>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(Methane sulfonic acid)
<b>UN number</b>	UN 3265
<b>Class</b>	8
<b>Packing group</b>	II
<b>Marine pollutant</b>	No
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

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

<b>Proper shipping name</b>	Corrosive liquid, acidic, organic, n.o.s.(Methane sulfonic acid)
<b>UN number</b>	UN 3265
<b>Class</b>	8
<b>Packing group</b>	II

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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**15. REGULATORY INFORMATION**

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**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

Corrosive to metals  
Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation  
Specific target organ toxicity (single or repeated exposure)

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**

This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

**Pennsylvania Right To Know**

The following chemicals are listed because of the additional requirements of Pennsylvania law:

**Components**

Methane sulfonic acid  
Water

**CASRN**

75-75-2  
7732-18-5

**California Prop. 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**United States TSCA Inventory (TSCA)**

All components of this product are in compliance with the Active inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

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**16. OTHER INFORMATION**

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**Hazard Rating System**

**NFPA**

Health	Flammability	Instability
3	1	1

**Revision**

Identification Number: 11085082 / 1304 / Issue Date: 05/22/2024 / Version: 7.0

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

**Legend**

Dow IHG	Dow Industrial Hygiene Guideline
STEL	Short Term Exposure Limit (STEL):
TWA	Time Weighted Average (TWA):

**Full text of other abbreviations**

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; 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.

DUPONT ELECTRONIC MATERIALS INTERNATIONAL, LLC 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.

US