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Honeywell

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# Material Safety Data Sheet

## Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))

**OTHER/GENERIC NAMES:** Phosphosilicate Polymer in Alcohol/Ester Solution.

**PRODUCT USE:** Doping of substrates and/or dielectric material for integrated circuit manufacture.

**MANUFACTURER:** Honeywell International  
Electronic Materials  
3500 Garrett Drive  
Santa Clara, California 95054

**FOR MORE INFORMATION CALL:**  
(Monday-Friday, 8:00am-5:00pm, PST)  
1-408-962-2000

**IN CASE OF EMERGENCY CALL:**  
(24 Hours/Day, 7 Days/Week)  
**Health Emergencies:** 1-800-498-5701  
**Transportation Emergencies:**  
1-800-424-9300 (CHEMTREC - Domestic)  
703-527-3887 (CHEMTREC - International)

**NOTE:** Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NUMBER	WEIGHT %
Isopropanol	67-63-0	20-80
tert-Butyl alcohol	75-65-0	0-50
n-Propyl alcohol	71-23-8	0-50
Ethyl Acetate	141-78-6	3-70
Acetone	67-64-1	0-30
Phosphosilicate polymer	Not Available	2.9-9
Isopropyl acetate	108-21-4	1-5
tert-Butyl acetate	540-88-5	0-5
n-Propyl acetate	109-60-4	0-5
Ethyl alcohol	64-17-5	1-20
Water	7732-18-5	Remainder

#### Component Information/Information on Non-Hazardous Components

This product is considered to be hazardous according to the criteria specified in 29 CFR 1910.1200 (Hazard Communication Standard).

Trace impurities and additional material names not listed above may also appear in Section 15 toward the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

**MSDS Number:** HEM-070  
**Current Issue Date:** July 12, 2006

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## MATERIAL SAFETY DATA SHEET

### Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))

#### 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** This product is a clear, volatile, flammable liquid. Has ester like odor. May be fatal if inhaled, swallowed, or absorbed through the skin. Causes headache, drowsiness or other effects to the central nervous system. The product causes irritation of eyes, skin and mucous membranes. Do not allow product to contact skin, eyes and clothing. Do not breathe vapours. Honeywell International has not investigated the complete physical and toxicological properties of this mixture, so all exposure should be avoided.

#### POTENTIAL HEALTH HAZARDS

**SKIN:** Components of the product may be absorbed into the body through the skin. May be fatal if absorbed through skin. Repeated or extended contact may cause erythema (reddening of the skin) or dermatitis, resulting from a defatting action on tissue.

**EYES:** Vapours may be irritating to eyes. Direct liquid contact causes intense stinging and burning sensations, and can result in inflammation and transient corneal opacity (based on alcohol content). Risk of serious damage to eyes.

**INHALATION:** Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough. Greater exposure can produce headache and incoordination; gross overexposure may result in respiratory depression and adverse (narcotic) effect on the central nervous system.

**INGESTION:** May be fatal if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. Causes digestive tract burns.

**DELAYED EFFECTS:** Prolonged exposure may have adverse effects on the liver and kidneys. Possible risk of harm to the unborn child.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Persons with pre-existing kidney and liver conditions may be more susceptible to adverse effects upon exposure to this product.

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
No component of this product at levels greater than or equal to 0.1% is identified as a carcinogen by ACGIH, IARC, NTP or OSHA.			

#### 4. FIRST AID MEASURES

**SKIN:** Wash off immediately with soap and plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician immediately.

**EYES:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.

## MATERIAL SAFETY DATA SHEET

### **Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))**

**INHALATION:** Move to fresh air in case of accidental inhalation of vapours. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, provided a qualified operator is available. Call a physician immediately.

**INGESTION:** DO NOT induce vomiting. Immediate medical attention is required.

**ADVICE TO PHYSICIAN:** Treat symptomatically. Aspiration may cause pulmonary oedema and pneumonitis.

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#### **5. FIRE FIGHTING MEASURES**

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##### FLAMMABLE PROPERTIES

**FLASH POINT:** -17 to 15°C (1.4 to 59°F)  
**FLASH POINT METHOD:** Tag Closed Cup  
**AUTOIGNITION TEMPERATURE:** Not available  
**UPPER FLAME LIMIT (volume % in air):** Not available  
**LOWER FLAME LIMIT (volume % in air):** Not available  
**FLAME PROPAGATION RATE (solids):** Not available  
**OSHA FLAMMABILITY CLASS:** Class 1A Flammable Liquid

##### **EXTINGUISHING MEDIA:**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

##### **UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Vapours may form explosive mixtures with air. Do not use a solid water stream as it may scatter and spread fire. Use gently applied water spray for fire fighting. Large amounts of water may be useful in diluting spilled materials to the point where they become non-flammable.

Hazardous combustion products may include Hazardous combustion products include carbon monoxide, carbon dioxide (CO<sub>2</sub>), oxides of phosphorus, and oxides of silicon.

##### **SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:**

Fire-fighters should wear self-contained, NIOSH-approved breathing apparatus and full protective clothing. In the event of fire, cool tanks with water spray. After fire, flush area with water to prevent re-ignition. Do not flush into surface water or sanitary sewer system.

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#### **6. ACCIDENTAL RELEASE MEASURES**

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##### **IN CASE OF SPILL OR OTHER RELEASE:**

**Containment Procedures:** Contain spilled material.

**Cleanup Procedures:** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Shovel into suitable container for disposal. Do not use sparking tools. Do not flush into surface water or sanitary sewer system.

**Evacuation Procedures:** Keep unnecessary people away. Isolate area.

**Special Procedures:** Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

## MATERIAL SAFETY DATA SHEET

### **Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))**

#### **7. HANDLING AND STORAGE**

**NORMAL HANDLING:** (Always wear recommended personal protective equipment.)

Use personal protective equipment. Do not allow product to contact skin, eyes and clothing. Do not breathe vapours. Keep away from fire, sparks and heated surfaces. Keep container tightly closed in a dry and well-ventilated place. Do not use sparking tools.

**STORAGE RECOMMENDATIONS:**

Keep in a well-ventilated place. Keep away from direct sunlight. Re-open used containers with caution. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep refrigerated. Store at 0 to 4°C to maintain material shelf-life.

#### **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:**

Provide adequate ventilation. Use product only in closed system. Electrical equipment should meet requirements for Class I Group D (National Electrical Code NFPA 70).

**PERSONAL PROTECTIVE EQUIPMENT**

**SKIN PROTECTION:**

Wear nitrile or butyl-rubber impervious gloves. Use of an impervious apron is recommended. For leak, spills, or other emergency, use full protective equipment.

**EYE PROTECTION:**

For handling in closed ventilation system, wear safety glasses with side-shields. For leak, spill or other emergency, use chemical goggles and face-shield.

**RESPIRATORY PROTECTION:**

Respiratory protection not required under normal use. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**ADDITIONAL RECOMMENDATIONS:**

Provide eyewash stations and quick-drench shower facilities.

# MATERIAL SAFETY DATA SHEET

## Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))

### EXPOSURE GUIDELINES

INGREDIENT NAME	ACGIH TLV	OSHA PEL	NIOSH
Isopropanol (67-63-0)	200 ppm TWA 400 ppm STEL	400 ppm TWA 500 ppm STEL	400 ppm TWA 500 ppm STEL
tert-Butyl alcohol (75-65-0)	100 ppm TWA	100 ppm TWA 150 ppm STEL	100 ppm TWA 150 ppm STEL
n-Propyl alcohol (71-23-8)	200 ppm TWA 400 ppm STEL	200 ppm TWA 250 ppm STEL	200 ppm TWA 250 ppm STEL Potential for dermal absorption
Ethyl Acetate (141-78-6)	400 ppm TWA	400 ppm TWA 1400 mg/m <sup>3</sup> TWA	400 ppm TWA 1400 mg/m <sup>3</sup> TWA
Acetone (67-64-1)	500 ppm TWA 750 ppm STEL	750 ppm TWA 1000 ppm STEL*	250 ppm TWA
Isopropyl acetate (108-21-4)	100 ppm TWA 200 ppm STEL	250 ppm TWA 310 ppm STEL	None
tert-Butyl acetate (540-88-5)	200 ppm TWA	200 ppm TWA	200 ppm TWA
n-Propyl acetate (109-60-4)	200 ppm TWA 250 ppm STEL	200 ppm TWA 250 ppm STEL	200 ppm TWA 250 ppm STEL
Ethyl alcohol (64-17-5)	1000 ppm TWA	1000 ppm TWA	1000 ppm TWA

\* = The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors

### 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear liquid	
PHYSICAL STATE:	Liquid	
MOLECULAR WEIGHT:	Not applicable	
CHEMICAL FORMULA:	Not applicable	
ODOR:	Ester/Alcohol like odor	
SPECIFIC GRAVITY (water = 1.0):	0.8 - 0.9 (water = 1)	
SOLUBILITY IN WATER (weight %):	<94% (solvent components)	
pH:	Not available	
BOILING POINT:	Approx. 60-80°C (140-176°F)	
MELTING POINT:	Not available	
VAPOR PRESSURE:	Not available	
VAPOR DENSITY (air = 1.0):	Not available	
EVAPORATION RATE:	<1	COMPARED TO: Ether
% VOLATILES:	Approx. 91-97%	
FLASH POINT:	-17 to 15°C (1.4 to 59°F)	

## MATERIAL SAFETY DATA SHEET

### **Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))**

(Flash point method and additional flammability data are found in Section 5.)

#### **10. STABILITY AND REACTIVITY**

##### **NORMALLY STABLE? (CONDITIONS TO AVOID):**

Stable under recommended storage conditions.

Avoid: Heat. Incompatible materials.

##### **INCOMPATIBILITIES:**

Keep away from oxidising agents, halogens, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Active metals will react with alcohol solvent.

##### **HAZARDOUS DECOMPOSITION PRODUCTS:**

Hazardous decomposition products include carbon monoxide, carbon dioxide (CO<sub>2</sub>), oxides of phosphorus and oxides of silicon.

##### **HAZARDOUS POLYMERIZATION:**

Hazardous polymerisation does not occur.



## MATERIAL SAFETY DATA SHEET

### Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))

#### 11. TOXICOLOGICAL INFORMATION

Component Analysis - LD50/LC50

##### Isopropanol (67-63-0)

Rat: LD50 - Route: Oral; Dose: 4396 mg/kg  
 LD50 - Route: Inhalation; Dose: 72.6 mg/L/4H  
 Rabbit: LD50 - Route: Dermal; Dose: 12800 mg/kg

##### n-Propyl alcohol (71-23-8)

Rat: LD50 - Route: Oral; Dose: 5620 mg/kg  
 Rabbit: LD50 - Route: Dermal; Dose: >20 mL/kg

##### Isopropyl acetate (108-21-4)

Rat: LD50 - Route: Oral; Dose: 6750 mg/kg  
 Rabbit: LD50 - Route: Dermal; Dose: >20000 mg/kg

##### n-Propyl acetate (109-60-4)

Rat: LD50 - Route: Oral; Dose: 9370 mg/kg  
 Rabbit: LD50 - Route: Dermal; Dose: >17760 mg/kg

##### Water (7732-18-5)

Rat: LD50 - Route: Oral; Dose: >90 mL/kg

##### tert-Butyl alcohol (75-65-0)

Rat: LD50 - Route: Oral; Dose: 2733 mg/kg  
 LD50 - Route: Inhalation; Dose: >9700 ppm/4H  
 Rabbit: LD50 - Route: Dermal; Dose: >2000 mg/kg

##### Acetone (67-64-1)

Rat: LD50 - Route: Oral; Dose: 1800 mg/kg  
 LD50 - Route: Inhalation; Dose: 76 mg/L/4H  
 Rabbit: LD50 - Route: Dermal; Dose: 20000 mg/kg

##### tert-Butyl acetate (540-88-5)

Rat: LD50 - Route: Oral; Dose: >2230 mg/m3/4H  
 Rabbit: LD50 - Route: Dermal; Dose: >2 g/kg

##### Ethyl alcohol (64-17-5)

Rat: LD50 - Route: Oral; Dose: 1501 mg/kg  
 LD50 - Route: Inhalation; Dose: 124.7 mg/L/4H

#### IMMEDIATE (ACUTE) EFFECTS:

No data is available on the product itself. May be fatal if inhaled, swallowed, or absorbed through the skin. Causes headache, drowsiness or other effects to the central nervous system. Risk of serious damage to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

#### DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:

Prolonged exposure may have adverse effects on the liver and kidneys. Possible risk of harm to the unborn child.

#### OTHER DATA:

This material is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

The physical and toxicological properties of this material have not been investigated thoroughly.

#### 12. ECOLOGICAL INFORMATION

The solvents of this product are biodegradable; the phosphosilicate polymer is not biodegradable. Should not be released into the environment.

## MATERIAL SAFETY DATA SHEET

### Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))

#### Component Analysis - Ecotoxicity - Aquatic Toxicity

##### Isopropanol (67-63-0)

###### Test & Species

96 Hr LC50 Pimephales promelas	9640 mg/L
96 Hr LC50 Pimephales promelas	94900 mg/L
96 Hr LC50 Pimephales promelas	61200 mg/L
96 Hr EC50 Scenedesmus subspicatus	>1000 mg/L
72 Hr EC50 Scenedesmus subspicatus	>1000 mg/L
5 min EC50 Photobacterium phosphoreum	35390 mg/L
48 Hr EC50 Daphnia magna	13299 mg/L

###### Conditions

flow-through  
29 days old  
31 days old

##### tert-Butyl alcohol (75-65-0)

###### Test & Species

96 Hr LC50 Pimephales promelas	6410 mg/L
72 Hr EC50 Scenedesmus subspicatus	1000 mg/L
17 Hr EC50 Pseudomonas putida	>10000 mg/L
48 Hr EC50 Daphnia magna	933 mg/L

###### Conditions

flow-through

##### n-Propyl alcohol (71-23-8)

###### Test & Species

96 Hr LC50 Pimephales promelas	4480 mg/L
5 min EC50 Photobacterium phosphoreum	17700 mg/L
15 min EC50 Photobacterium phosphoreum	8686 mg/L
12 Hr EC50 Nitrosomonas	980 mg/L
5 Hr EC50 Escherichia coli	45000 mg/L
48 Hr EC50 Daphnia magna	3642 mg/L

###### Conditions

flow-through

##### Ethyl Acetate (141-78-6)

###### Test & Species

96 Hr LC50 Pimephales promelas	230 mg/L
96 Hr LC50 Oncorhynchus mykiss	484 mg/L
48 Hr EC50 Scenedesmus subspicatus	3300 mg/L
5 min EC50 Photobacterium phosphoreum	1180 mg/L
15 min EC50 Photobacterium phosphoreum	5870 mg/L
2 Hr EC50 Pseudomonas fluorescens	7400 mg/L
15 min EC50 Pseudomonas fluorescens	1500 mg/L
48 Hr EC50 Daphnia magna	717 mg/L

###### Conditions

flow-through  
flow-through



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**MATERIAL SAFETY DATA SHEET**

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**Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))****Acetone (67-64-1)****Test & Species**

96 Hr LC50 Oncorhynchus mykiss	5540 mg/L
96 Hr LC50 Pimephales promelas	6210 mg/L
96 Hr LC50 Lepomis macrochirus	8300 mg/L
15 min EC50 Photobacterium phosphoreum	14500 mg/L
48 Hr EC50 water flea	0.0039 mg/L
48 Hr EC50 water flea	12700 mg/L
48 Hr EC50 Daphnia magna	12600 mg/L

**Conditions**

static  
flow-through  
static]

**Isopropyl acetate (108-21-4)****Test & Species**

96 Hr LC50 Pimephales promelas	327 mg/L
5 min EC50 Photobacterium phosphoreum	6.38 mg/L
15 min EC50 Photobacterium phosphoreum	8.04 mg/L
30 min EC50 Photobacterium phosphoreum	11.1 mg/L

**Conditions**

flow-through

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**DISPOSAL CONSIDERATIONS**

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**WASTE INFORMATION:** This product is a D001 ignitable waste in supplied form. Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of according to all federal, state and local applicable regulations.

**OTHER DISPOSAL CONSIDERATIONS:** Observe all Federal, State, and Local Environmental regulations.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

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**14. TRANSPORT INFORMATION**

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**US DOT PROPER SHIPPING NAME:** Flammable liquids, n.o.s (Isopropanol, Ethyl acetate)  
**US DOT HAZARD CLASS:** 3 **PACKING GROUP:** II  
**US DOT ID NUMBER:** 1993

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

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**15. REGULATORY INFORMATION**

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**TOXIC SUBSTANCES CONTROL ACT (TSCA)**

**TSCA INVENTORY STATUS:** All components are on the U.S. EPA TSCA Inventory List. This product is in compliance with TSCA.

**MATERIAL SAFETY DATA SHEET****Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))**

OTHER TSCA ISSUES: None.

**SARA TITLE III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<u>INGREDIENT NAME</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPQ (lb)</u>
Ethyl Acetate (141-78-6)	5000	None
Acetone (67-64-1)	5000	None
tert-Butyl acetate (540-88-5)	5000	None

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: Acute Health. Delayed Health. Fire.

**SARA 313 TOXIC CHEMICALS:**

The following ingredients are SARA 313 "Toxic Chemicals". CAS numbers and weight percents are found in Section 2.

<u>INGREDIENT NAME</u>	<u>COMMENT</u>
Isopropanol (67-63-0)	1.0 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification)
tert-Butyl alcohol (75-65-0)	1.0 % de minimis concentration

**STATE RIGHT-TO-KNOW**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

<u>INGREDIENT NAME</u>	<u>WEIGHT %</u>	<u>COMMENT</u>
Isopropanol (67-63-0)	20-80	CA, MA, MN, NJ, PA, RI
tert-Butyl alcohol (75-65-0)	0-5	CA, MA, MN, NJ, PA, RI
n-Propyl alcohol (71-23-8)	0-50	CA, MA, MN, NJ, PA, RI
Ethyl Acetate (141-78-6)	3-70	CA, MA, MN, NJ, PA, RI
Acetone (67-64-1)	0-30	CA, MA, MN, NJ, PA, RI
Isopropyl acetate (108-21-4)	1-5	CA, MA, MN, NJ, PA, RI
tert-Butyl acetate (540-88-5)	0-5	CA, MA, MN, NJ, PA, RI
n-Propyl acetate (109-60-4)	0-5	CA, MA, MN, NJ, PA, RI
Ethyl alcohol (64-17-5)	1-20	CA, MA, MN, NJ, PA, RI

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

**MATERIAL SAFETY DATA SHEET****Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))****ADDITIONAL REGULATORY INFORMATION:**

None.

**WHMIS CLASSIFICATION (CANADA):**

B2 - Flammable Liquid

D2A - Chronic effects.

D2B - Toxic Material

**FOREIGN INVENTORY STATUS:****Component Analysis - Inventory**

Component	CAS #	TSCA	CAN	EEC
Isopropanol	67-63-0	Yes	DSL	EINECS
tert-Butyl alcohol	75-65-0	Yes	DSL	EINECS
n-Propyl alcohol	71-23-8	Yes	DSL	EINECS
Ethyl Acetate	141-78-6	Yes	DSL	EINECS
Acetone	67-64-1	Yes	DSL	EINECS
Isopropyl acetate	108-21-4	Yes	DSL	EINECS
tert-Butyl acetate	540-88-5	Yes	DSL	EINECS
n-Propyl acetate	109-60-4	Yes	DSL	EINECS
Ethyl alcohol	64-17-5	Yes	DSL	EINECS
Water	7732-18-5	Yes	DSL	EINECS

**16. OTHER INFORMATION****CURRENT ISSUE DATE:** July 12, 2006**PREVIOUS ISSUE DATE:** New MSDS.**CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:**

New MSDS.

**OTHER INFORMATION:** The hazards associated with this material are not fully understood. Therefore, please restrict access to those persons trained in handling such materials. This MSDS must be given to those persons using this material. For laboratory use only. Not for food or drug use. Do not store with foodstuffs.

## MATERIAL SAFETY DATA SHEET

### **Diffusion Technology Phosphorus Spin-On Dopants P-8 Series (P-854(2:1))**

**KEY/LEGEND:** ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service; CFR = Code of Federal Regulations; CPR = Controlled Products Regulations; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; JSOH = Japan Society for Occupational Health; METI = Ministry of Environment, Trade, and Industry; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m<sup>3</sup> = milligrams per Cubic Meter; MSHA = Mine Safety and Health Administration; NA = Not Applicable or Not Available; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System.

**CONTACT:** Laura M. Rosato, Ph.D., Product Regulatory Stewardship Leader, Honeywell Electronic Materials  
**CONTACT PHONE:** 724-452-1540

End of Sheet #HEM-070