Material Safety Data Sheet

**PI 2611**

Version 2.0

Revision Date 11/10/2011

Ref. 130000024521

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PI 2611

MSDS Number: 130000024521

Product Use: Polymide coating for semi-conductor industry

Manufacturer: HD Microsystems

256 Cheesequake Road

Pahran, New Jersey 08859

Product Information: 800-346-5656

Transport Emergency: CHEMTREC, 1-800-424-9300 (outside the U.S. 1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Potential Health Effects

- Skin: May cause skin irritation.
- Eyes: Contact with eyes may cause irritation.
- Inhalation: Altered respiratory rate.
- Ingestion: Effects due to ingestion may include altered blood chemistry, Kidney effects, Respiratory tract damage.
- Repeated exposure: The material may be absorbed through the skin.

Target Organs: Respiratory system, Kidney

Carcinogenicity: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Concentration</th>
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</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>85 - 90 %</td>
</tr>
</tbody>
</table>

| Proprietary Polymer | | 10 - 15 % |

SECTION 4. FIRST AID MEASURES

Skin contact:

Take off all contaminated clothing immediately. Wash off immediately with plenty of water.

Eye contact:

Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

Inhalation:

Move to fresh air.

Ingestion:

Immediately give plenty of water (if possible charcoal slurry). Call a physician immediately.

General advice:

Never give anything by mouth to an unconscious person.

SECTION 5. FIREFIGHTING MEASURES

Flammable Properties

- Flash point: 90 °C (199 °F)
- Method: closed cup

Suitable extinguishing media:

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, Dry powder, Foam. Carbon dioxide (CO2).

Unsuitable extinguishing media:

- High volume water jet, (contamination risk)
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excessive heat or to incompatible materials

SECTION 11. TOXICOLOGICAL INFORMATION
PI 2611
Further information
N-Methyl-2-pyrrolidone
Dermal LD50
Oral LD50
Inhalation 4 h. LC50
Skin irritation
Eye irritation
Skin sensitization
Repeated dose toxicity
Oral

No data is available on the product itself. May cause eye or skin irritation with susceptible persons.

> 5,000 mg/kg, rat

4,150 mg/kg, rat

> 51 mg/l, rat

Target Organs: Respiratory Tract
Respiratory tract irritation

Skin irritation, rabbit

Eye irritation, rabbit

Patch test on human volunteers did not demonstrate sensitization properties, human

Oral

Reduced body weight gain

Carcinogenicity

Overall weight of evidence indicates that the substance is not carcinogenic.

Mutagenicity

Did not show mutagenic effects in animal experiments.
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Reproductive toxicity

Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.

Teratogenicity

Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Reduced embryo-fetal viability

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

N-Methyl-2-pyrrolidone
96 h LC50
72 h EC50

Oncorhynchus mykiss (rainbow trout) > 500 mg/l
Algae > 500 mg/l

Environmental Fate

N-Methyl-2-pyrrolidone
Biodegradability
Bioaccumulation

Readily biodegradable, according to appropriate OECD test
Accumulation in aquatic organisms is unlikely

Additional ecological information

No data is available on the product itself

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal

In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.

Environmental Hazards

If recycling is not practicable, dispose of in compliance with local regulations

SECTION 14. TRANSPORT INFORMATION

Not dangerous goods in the meaning of ADR/ RID, ADNR, IMDG-CODE, ICAO/IATA-DGR

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SECTION 15. REGULATORY INFORMATION

TSCA Status
On the inventory, or in compliance with the inventory

SARA 313 Regulated Chemical(s)
N-Methyl-2-pyrroldione

California Prop 65
WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. N-Methyl-2-pyrroldione

PA Right to Know Regulated Chemical(s)
Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances) N-Methyl-2-pyrroldione

SECTION 16. OTHER INFORMATION

Do not use for medical clinical purposes.
For further information contact the local DuPont office or DuPont's nominated distributors.

Contact person

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Significant change from previous version is denoted with a double bar.