This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

- **Product name**: PA 400 R  
- **MSDS Number**: 130000024716  
- **Product Use**: Solvent, Electrical/electronic industries  
- **Manufacturer**: HD MicroSystems™  
  250 Cheesequake Road  
  Parlin, 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**: Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.
- **Eyes**: May cause eye irritation, tearing, Discomfort, Blurred vision.
- **Inhalation**: Respiratory irritation Cough, Discomfort.

**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>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propyl acetate</td>
<td>108-65-6</td>
<td>60 - 100 %</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

Skin contact : Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water.

Eye contact : Rinse immediately with plenty of water and seek medical advice.

Inhalation : Move to fresh air. Consult a physician.

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 : 43 °C (109 °F) closed cup
Ignition temperature : 354 °C (669 °F)
Lower explosion limit : 1.3 vol%
Upper explosion limit : 10.8 vol%

Suitable extinguishing media : Water spray, Dry chemical, Carbon dioxide (CO2), Foam

Unsuitable extinguishing media : High volume water jet, (contamination risk)
Firefighting Instructions: In the event of fire, wear self-contained breathing apparatus. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES
NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel): Wear personal protective equipment. Avoid contact with skin, eyes and clothing.

Spill Cleanup: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Shovel into suitable container for disposal.

Accidental Release Measures: Do not contaminate water.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel): Provide adequate ventilation. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke.

Handling (Physical Aspects): Keep away from open flames, hot surfaces and sources of ignition.

Storage: Keep containers tightly closed in a cool, well-ventilated place. Keep away from: Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Ensure adequate ventilation, especially in confined areas.

Personal protective equipment
Respiratory protection: When workers are facing concentrations above the exposure limit they must
use appropriate certified respirators. Mask with gas filter, type A (EN 141)

**Hand protection**
- Material: butyl-rubber
- Break through time: 60 min
- Permeation rate: 480 min
- Glove thickness: 0.7 mm

Additional protection: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact) if necessary. The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.

**Eye protection**
- Safety glasses with side-shields

**Skin and body protection**
- Solvent-resistant apron

**Protective measures**
- All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated.

**Exposure Guidelines**

**Exposure Limit Values**

<table>
<thead>
<tr>
<th>Substance</th>
<th>AEL (DUPONT)</th>
<th>100 ppm</th>
<th>15 minute TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propyl acetate</td>
<td>(DUPONT)</td>
<td>100 ppm</td>
<td>15 minute TWA</td>
</tr>
</tbody>
</table>

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>colourless</td>
</tr>
<tr>
<td>Odor</td>
<td>solvent-like</td>
</tr>
<tr>
<td>pH</td>
<td>no data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt; -10 °C (&lt; 14 °F)</td>
</tr>
<tr>
<td></td>
<td>145 - 146 °C (293 - 295 °F)</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>4.93 hPa at 20 °C (68 °F)</td>
</tr>
</tbody>
</table>
Section 10. Stability and Reactivity

Stability: Stable at normal temperatures and storage conditions.
Conditions to avoid: Heat, flames and sparks.
Incompatibility: Strong acids and strong bases, strong oxidizing agents.
Hazardous decomposition products: Hazardous decomposition products: Carbon dioxide (CO2), Carbon monoxide.
Hazardous reactions: With exposure to air, product may slowly degrade, forming peroxides which can be unstable. Hazardous polymerisation does not occur.

Section 11. Toxicological Information

Further information: Solvents may degrease the skin. High concentration of vapours may cause irritation to eyes and respiratory system and produce narcotic effects. No data is available on the product itself.

1-Methoxy-2-propyl acetate
Dermal LD50: > 5,000 mg/kg, rabbit
Oral LD50: 8,532 mg/kg, rat
Skin irritation: No skin irritation, rabbit
Eye irritation: Mild eye irritation, rabbit
Skin sensitization: Did not cause sensitization on laboratory animals, guinea pig
Repeated dose toxicity: Inhalation multiple species
Respiratory irritation

Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Reproductive toxicity: Animal testing showed no reproductive toxicity.

Teratogenicity: Animal testing showed no developmental toxicity.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity
1-Methoxy-2-propyl acetate

96 h LC50: Oryzias latipes (medaka) > 100 mg/l
96 h LC50: Oncorhynchus mykiss (rainbow trout) 134 mg/l
96 h LC50: Pimephales promelas (fathead minnow) 161 mg/l
72 h EC50: Scenedesmus capricornutum (fresh water algae) > 1,000 mg/l
48 h EC50: Daphnia magna (Water flea) 380 mg/l

Environmental Fate
1-Methoxy-2-propyl acetate

Biodegradability: Readily biodegradable.

Additional ecological information: No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal: In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.

Environmental Hazards: Empty containers should be taken to an approved waste handling site for
recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

<table>
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<tr>
<th>DOT</th>
<th>UN number</th>
<th>3272</th>
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<tr>
<td>Proper shipping name</td>
<td>Esters, n.o.s. (1-Methoxy-2-propyl acetate)</td>
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<tr>
<td>Class</td>
<td>3</td>
<td></td>
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<tr>
<td>Packing group</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>Labelling No.</td>
<td>3</td>
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SECTION 15. REGULATORY INFORMATION

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

SARA 313 Regulated Chemical(s) : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65 : Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known

SECTION 16. OTHER INFORMATION

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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