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 : VM 651  
MSDS Number : 130000024743  
Product Use : Solvent, Electrical/electronic industries  
Manufacturer : HD MicroSystems™  
250 Cheesquake 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
3-Aminopropyltriethoxysilane : Corrosion with pain, ulceration or blisters, cracking or peeling of skin. May cause skin sensitization reactions in certain individuals.

Eyes
3-Aminopropyltriethoxysilane : Corrosive, may cause permanent eye injury if not promptly treated.

Carcinogenicity
Material IARC NTP OSHA
Ethanol 1

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS
Component | CAS-No. | Concentration
--- | --- | ---
3-Aminopropyltriethoxysilane | 919-30-2 | >95%

SECTION 4. FIRST AID MEASURES

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

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). Do NOT induce vomiting. Call a physician immediately.

General advice: Never give anything by mouth to an unconscious person.

SECTION 5. FIRE-FIGHTING MEASURES

Flammable Properties
- Flash point: 93 °C (199 °F)
- Ignition temperature: 300 °C (572 °F)
- Lower explosion limit: 0.8 vol%
- Upper explosion limit: 4.5 vol%

Fire and Explosion Hazard: Fire or intense heat may cause violent rupture of packages.

Suitable extinguishing media: Dry sand, Dry chemical, Carbon dioxide (CO2)

Unsuitable extinguishing media: Water
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 : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Accidental Release Measures : Should not be released into the environment.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel) : Use only in well-ventilated areas. Keep away from food, drink and animal feedingstuffs. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke.

Handling (Physical Aspects) : When using do not smoke. Use only in area provided with appropriate exhaust ventilation.

Storage : Keep container tightly closed in a dry and well-ventilated place. Store in original container. Never allow product to get in contact with water during storage.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Ensure adequate ventilation.

Personal protective equipment

Respiratory protection : Breathing apparatus needed only when aerosol or mist is formed. respirator with A2B2-P3 filter
Hand protection: Material: butyl-rubber
  Glove thickness: 0.5 mm
  Wearing time: 480 min
  Additional protection: Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Eye protection: Safety glasses with side-shields

Skin and body protection: Long sleeved clothing

Exposure Guidelines

**Exposure Limit Values**

<table>
<thead>
<tr>
<th>Material</th>
<th>PEL (OSHA)</th>
<th>TLV (ACGIH)</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>1,000 ppm</td>
<td>1,000 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,900 mg/m3</td>
<td>8 hr. TWA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 hr. TWA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td></td>
</tr>
<tr>
<td>AEL * (DUPONT)</td>
<td>1,000 ppm</td>
<td>8 &amp; 12 hr. TWA</td>
<td></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**

Form: liquid
Color: none
Odor: amine-like
Water solubility: Decomposes in contact with water.

**SECTION 10. STABILITY AND REACTIVITY**

Stability: Stable at room temperature when stabilized with 2-ethylhexl dihydrogen
phosphate.

Conditions to avoid : Exposure to water vapour.
Incompatibility : Incompatible with acids.
Hazardous reactions : Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

VM 651

Further information : No data is available on the product itself.
3-Aminopropyltriethoxysilane
Dermal LD50 : 4,290 mg/kg , rabbit
  Dermal : rabbit
     Kidney effects
Oral LD50 : 1,680 mg/kg , rat
  Oral : rat
     no data available
  Oral
     Kidney effects
Inhalation 4 h LC50 : > 7.35 mg/l , rat
Skin irritation : rabbit
     Corrosive
Eye irritation : rabbit
     Corrosive
Skin sensitization : Causes sensitization., guinea pig
Repeated dose toxicity : Inhalation
    rat
    Respiratory irritation
    Dermal
    rabbit
    No adverse effects expected.

5 / 8
Oral rat
No toxicologically significant effects were found.

Mutagenicity : Animal testing did not show any mutagenic effects. Did not cause genetic damage in cultured bacterial cells.

Reproductive toxicity : Animal testing showed no reproductive toxicity.

Teratogenicity : Animal testing showed no developmental toxicity.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity
3-Aminopropyltriethoxysilane

96 h LC50 : Danio rerio (zebra fish) > 934 mg/l

72 h EbC50 : Algae 603 mg/l

48 h EC50 : Daphnia magna (Water flea) 331 mg/l

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 : Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT UN number : 1760

Print Date: 2 - 10 - 2012
### Proper shipping name
- **IATA_C**
  - Corrosive liquids, n.o.s. (3-(Triethoxysilyl)propylamine)
- **IMDG**
  - Corrosive liquid, n.o.s. (3-(Triethoxysilyl)propylamine)

### Class
- 8

### Packing group
- II

### Labelling No.
- 8

### Reportable Quantity
- 100 lbs

### UN number
- 1760

### 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.

**CERCLA Reportable Quantity**: 10,000 lbs

Based on the percentage composition of this chemical in the product:

- Ethanol

**California Prop. 65**: WARNING! This product contains a chemical known to the State of California to cause cancer.

- Ethanol

**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):

- Ethanol
NJ Right to Know Regulated Chemical(s) : Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Ethanol

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.