SAFETY DATA SHEET

1. Identification

Product identifier: BAKER PRS-2000™ Positive Resist

Other means of identification
Product No.: 6052, 6410, 640K, 6400

Recommended use and restriction on use
  Recommended use: Not available.
  Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
  Company Name: Avantor Performance Materials, Inc.
  Address: 3477 Corporate Parkway, Suite 200 Center Valley, PA 18034
  Telephone: Customer Service: 855-282-6867
  Fax: Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:
  24 Hour Emergency: 908-859-2151
  Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Health hazards
  Skin corrosion/irritation Category 2
  Serious eye damage/eye irritation Category 1
  Specific target organ toxicity - single exposure Category 3
  Specific target organ toxicity - repeated exposure Category 2
  Acute toxicity (Oral) Category 5

Label elements
  Hazard symbol:

Signal word: Danger
Hazard statement:  May be harmful if swallowed.  
Causes skin irritation.  
Causes serious eye damage.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
May damage fertility or the unborn child.  
May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention:  Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response:  Immediately call a POISON CENTER/doctor. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Specific treatment (see this label). IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:  Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal:  Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification:  None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-METHYL-2-PYRROLIDONE</td>
<td></td>
<td>872-50-4</td>
<td>40 - 60%</td>
</tr>
<tr>
<td>TETRAHYDROTHIOPHENE 1,1-DIOXIDE</td>
<td></td>
<td>126-33-0</td>
<td>20 - 40%</td>
</tr>
<tr>
<td>2-(2-ETHOXYETHOXY)ETHANOL</td>
<td></td>
<td>111-90-0</td>
<td>10 - 20%</td>
</tr>
<tr>
<td>1-AMINO-2-PROpanol</td>
<td></td>
<td>78-96-6</td>
<td>5 - 15%</td>
</tr>
<tr>
<td>TETRAETHYLENE GLYCOL</td>
<td></td>
<td>112-60-7</td>
<td>2.5 - 10%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:  Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion: Call a POISON CENTER or doctor/physician if you feel unwell. If vomiting occurs, keep head low so that stomach content doesn’t get into the lungs.

Inhalation: Move to fresh air. Call a physician or poison control center immediately. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration.

Skin contact: Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. In case of irritation from airborne exposure, move to fresh air. Get medical attention immediately.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** Causes serious eye damage.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

---

### 5. Fire-fighting measures

**General fire hazards:** In case of fire and/or explosion do not breathe fumes.

**Suitable (and unsuitable) extinguishing media**

- **Suitable extinguishing media:** Foam, carbon dioxide or dry powder.
- **Unsuitable extinguishing media:** Water may be ineffective in fighting the fire.

**Specific hazards arising from the chemical:** Fire may produce irritating, corrosive and/toxic gases.

**Special protective equipment and precautions for firefighters**

- **Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

- **Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

---

### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Methods and material for containment and cleaning up:** Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Do not get in eyes, on skin, on clothing. Avoid breathing mists or vapors. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities: Keep away from food, drink and animal feeding stuffs. Keep containers tightly closed. Keep in a cool, well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None of the components have assigned exposure limits.

Appropriate engineering controls

No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Chemical goggles and face shield are recommended.

Skin protection

Hand protection: Chemical resistant gloves

Other: Wear suitable protective clothing.

Respiratory protection: In case of inadequate ventilation use suitable respirator.

Hygiene measures: Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state: Liquid
Form: Liquid
Color: Pale yellow
Odor: Amine-like odor
Odor threshold: No data available.
PH: 11.2 5% aqueous solution
Melting point/freezing point: No data available.
Initial boiling point and boiling range: 180 °C
Flash Point: 96 °C
Evaporation rate: No data available.
Flammability (solid, gas): No data available.
Upper/lower limit on flammability or explosive limits
  Flammability limit - upper (%): No data available.
  Flammability limit - lower (%): No data available.
  Explosive limit - upper (%): No data available.
  Explosive limit - lower (%): No data available.
Vapor pressure: 0.03 kPa
Vapor density: No data available.
Relative density: 1.07 (20 °C)
Solubility(ies)
  Solubility in water: Completely Soluble
  Solubility (other): No data available.
Partition coefficient (n-octanol/water): No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.

10. Stability and reactivity
Reactivity: No dangerous reaction known under conditions of normal use.
Chemical stability: Material is stable under normal conditions.
Possibility of hazardous reactions: Hazardous polymerization does not occur.
Conditions to avoid: Heat, sparks, flames. Contact with incompatible materials.

11. Toxicological information
Information on likely routes of exposure
  Ingestion: May be harmful if swallowed.
  Inhalation: Spray mist may irritate the respiratory system.
  Skin contact: Causes skin irritation.
  Eye contact: Causes serious eye damage.
Information on toxicological effects
  Acute toxicity (list all possible routes of exposure)
    Oral
      Product: ATEmix (Rat): 2,897 mg/kg
Product: ATEmix (Rabbit): 16,040 mg/kg

Inhalation
Product: No data available.

Specified substance(s):
TETRAHYDROTHIOPHENE 1,1-DIOXIDE
LC 50 (Rat, 4 h): > 12 mg/l

Repeated dose toxicity
Product: No data available.

Skin corrosion/irritation
Product: Causes skin irritation.

Serious eye damage/eye irritation
Product: Causes serious eye damage.

Respiratory or skin sensitization
Product: Not a skin sensitizer.

Carcinogenicity
Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

No carcinogenic components identified

Germ cell mutagenicity
In vitro
Product: No mutagenic components identified

In vivo
Product: No mutagenic components identified

Reproductive toxicity
Product: May damage fertility or the unborn child.

Specific target organ toxicity - single exposure
Product: Narcotic effect. Respiratory tract irritation.

Specific target organ toxicity - repeated exposure
Product: Kidneys. Central nervous system.

Aspiration hazard
Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:
Acute hazards to the aquatic environment:
Fish
Product: No data available.

Specified substance(s):
- TETRAHYDROTHIOPENE 1,1-DIOXIDE
  LC 50 (Goldfish (Carassius auratus), 24 h): 140 mg/l Mortality
- 2-(2-ETHOXYETHOXY)ETHANOL
  LC 50 (Bluegill (Lepomis macrochirus), 96 h): 19,100 - 23,900 mg/l Mortality
  LC 50 (Fathead minnow (Pimephales promelas), 96 h): 7,910 - 11,800 mg/l Mortality
- 1-AMINO-2-PROPANOL
  LC 50 (Goldfish (Carassius auratus), 96 h): 210 mg/l Mortality
  LC 50 (Fathead minnow (Pimephales promelas), 96 h): 2,390 - 2,650 mg/l Mortality

Aquatic invertebrates
Product: No data available.

Specified substance(s):
- 2-(2-ETHOXYETHOXY)ETHANOL
  LC 50 (Brine shrimp (Artemia salina), 24 h): > 10,000 mg/l Mortality
  LC 50 (Water flea (Daphnia magna), 48 h): 2,120 - 5,280 mg/l Mortality
  LC 50 (Crayfish (Orconectes immunis), 96 h): 29,100 - 41,400 mg/l Mortality
- TETRAETHYLENE GLYCOL
  LC 50 (Brine shrimp (Artemia salina), 24 h): > 10,000 mg/l Mortality

Chronic hazards to the aquatic environment:
Fish
Product: No data available.
Aquatic invertebrates
Product: No data available.
Toxicity to Aquatic Plants
Product: No data available.

Persistence and degradability

Biodegradation
Product: Expected to be readily biodegradable.

BOD/COD ratio
Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)
Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s):
- 1-METHYL-2-PYRROLIDONE
  Log Kow: -0.54
- TETRAHYDROTHIOPENE 1,1-DIOXIDE
  Log Kow: -0.77
- 2-(2-ETHOXYETHOXY)ETHANOL
  Log Kow: -0.54
- 1-AMINO-2-PROPANOL
  Log Kow: -0.96
Mobility in soil: No data available.

Known or predicted distribution to environmental compartments
- 1-METHYL-2-PYRROLIDONE: No data available.
- TETRAHYDROTHIOPHEN E 1,1-DIOXIDE: No data available.
- 2-(2-ETHOXYETHOXY)ETHANOL: No data available.
- 1-AMINO-2-PROpanol: No data available.
- TETRAETHYLENE GLYCOL: No data available.

Other adverse effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT Not regulated.

IMDG Not regulated.

IATA Not regulated.

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories
- Acute (Immediate) X
- Chronic (Delayed) X
- Fire
- Reactive
- Pressure Generating

SARA 302 Extremely hazardous substance
None present or none present in regulated quantities.
SARA 304 Emergency release notification

Chemical identity | RQ
--- | ---
2-(2-ETHOXYETHOXY)ETHANOL

SARA 311/312 Hazardous chemical

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-METHYL-2-PYRROLIDONE</td>
<td>500 lbs</td>
</tr>
<tr>
<td>TETRAHYDROTHIOPHENE 1,1-DIOXIDE</td>
<td>500 lbs</td>
</tr>
<tr>
<td>2-(2-ETHOXYETHOXY)ETHANOL</td>
<td>500 lbs</td>
</tr>
<tr>
<td>1-AMINO-2-PROpanol</td>
<td>500 lbs</td>
</tr>
<tr>
<td>TETRAETHYLENE GLYCOL</td>
<td>500 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Reporting threshold for other users</th>
<th>Reporting threshold for manufacturing and processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-METHYL-2-PYRROLIDONE</td>
<td>10000 lbs</td>
<td>25000 lbs.</td>
</tr>
<tr>
<td>2-(2-ETHOXYETHOXY)ETHANOL</td>
<td>10000 lbs</td>
<td>25000 lbs.</td>
</tr>
</tbody>
</table>

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US state regulations

US. California Proposition 65
1-METHYL-2-PYRROLIDONE Developmental toxin.

US. New Jersey Worker and Community Right-to-Know Act
1-METHYL-2-PYRROLIDONE Listed
2-(2-ETHOXYETHOXY)ETHANOL Listed
1-AMINO-2-PROpanol Listed

US. Massachusetts RTK - Substance List
1-METHYL-2-PYRROLIDONE Listed
TETRAHYDROTHIOPHENE 1,1-DIOXIDE Listed
1-AMINO-2-PROpanol Listed

US. Pennsylvania RTK - Hazardous Substances
1-METHYL-2-PYRROLIDONE Listed
TETRAHYDROTHIOPHENE 1,1-DIOXIDE Listed
2-(2-ETHOXYETHOXY)ETHANOL Listed
1-AMINO-2-PROpanol Listed
US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:
- Australia AICS: On or in compliance with the inventory
- Canada DSL Inventory List: On or in compliance with the inventory
- EINECS, ELINCS or NLP: On or in compliance with the inventory
- Japan (ENCS) List: On or in compliance with the inventory
- China Inv. Existing Chemical Substances: Not in compliance with the inventory
- Korea Existing Chemicals Inv. (KECI): On or in compliance with the inventory
- Canada NDSL Inventory: Not in compliance with the inventory
- Philippines PICCS: On or in compliance with the inventory
- US TSCA Inventory: On or in compliance with the inventory
- New Zealand Inventory of Chemicals: On or in compliance with the inventory
- Japan ISHL Listing: On or in compliance with the inventory
- Japan Pharmacopoeia Listing: Not in compliance with the inventory

16. Other information, including date of preparation or last revision

NFPA Hazard ID

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date: 06-18-2014
Revision date: No data available.
Version #: 1.0
Further information: No data available.
Disclaimer:

THE INFORMATION PRESENTED IN THIS MATERIAL SAFETY DATA SHEET (MSDS/SDS) WAS PREPARED BY TECHNICAL PERSONNEL BASED ON DATA THAT THEY BELIEVE IN THEIR GOOD FAITH JUDGMENT IS ACCURATE. HOWEVER, THE INFORMATION PROVIDED HEREIN IS PROVIDED “AS IS,” AND AVANTOR PERFORMANCE MATERIALS MAKES AND GIVES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, AND EXPRESSLY DISCLAIMS ALL WARRANTIES REGARDING SUCH INFORMATION AND THE PRODUCT TO WHICH IT RELATES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION WARRANTIES OF ACCURACY, COMPLETENESS, MERCHANTABILITY, NONINFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY, STABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE. THIS MSDS/SDS IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PROPERLY TRAINED PERSON USING THIS PRODUCT, AND IS NOT INTENDED TO BE COMPREHENSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, STORAGE, OR DISPOSAL OF THE PRODUCT. INDIVIDUALS RECEIVING THIS MSDS/SDS MUST ALWAYS EXERCISE THEIR OWN INDEPENDENT JUDGMENT IN DETERMINING THE APPROPRIATENESS OF SUCH ISSUES. ACCORDINGLY, AVANTOR PERFORMANCE MATERIALS ASSUMES NO LIABILITY WHATSOEVER FOR THE USE OF OR RELIANCE UPON THIS INFORMATION. NO SUGGESTIONS FOR USE ARE INTENDED AS, AND NOTHING HEREIN SHALL BE CONSTRUED AS, A RECOMMENDATION TO INFRINGE ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, LOCAL, OR FOREIGN LAWS. AVANTOR PERFORMANCE MATERIALS REMINDS YOU THAT IT IS YOUR LEGAL DUTY TO MAKE ALL INFORMATION IN THIS MSDS/SDS AVAILABLE TO YOUR EMPLOYEES.