Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
<th>Personal Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>See Section 15.</td>
</tr>
<tr>
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<tr>
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</tbody>
</table>

Common Name/Trade Name: VP/VA Copolymer 50 wt.% in IPA

Manufacturer: SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Commercial Name(s): Not available.
Synonym: Not available.
Chemical Name: Not applicable.
Chemical Family: Not applicable.
Chemical Formula: Not applicable.
Supplier: SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Catalog Number(s): V3005
CAS#:
RTECS:
TSCA:
CI#:

Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Isopropyl alcohol</td>
<td>67-63-0</td>
<td>980</td>
<td>1225</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>2) Polyvinylpyrrolidone-Vinyl Acetate Copolymer</td>
<td>25086-89-9</td>
<td></td>
<td></td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

Exposure Limits

Toxicological Data on Ingredients

Isopropyl alcohol:
- ORAL (LD50): Acute: 5045 mg/kg [Rat]. 3600 mg/kg [Mouse]. 6410 mg/kg [Rabbit].
- DERMAL (LD50): Acute: 12800 mg/kg [Rabbit].

Polyvinylpyrrolidone-Vinyl Acetate Copolymer:
- ORAL (LD50): Acute: >630 mg/kg [Rat]. >10000 mg/kg [Rat]. >10000 mg/kg [Mouse].

Section 3. Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (permeator), of inhalation.

Continued on Next Page
### Potential Chronic Health Effects
Slightly hazardous in case of skin contact (sensitizer).

**CARCINOGENIC EFFECTS:** Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Isopropyl alcohol].

**MUTAGENIC EFFECTS:** Not available.

**TERATOGENIC EFFECTS:** Not available.

**DEVELOPMENTAL TOXICITY:** Not available.

The substance may be toxic to kidneys, liver, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

### Section 4. First Aid Measures

#### Eye Contact
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

#### Skin Contact
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

#### Serious Skin Contact
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

#### Inhalation
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

#### Serious Inhalation
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

#### Ingestion
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Serious Ingestion
Not available.

### Section 5. Fire and Explosion Data

#### Flammability of the Product
Flammable.

#### Auto-Ignition Temperature
399°C (750.2°F)

#### Flash Points
CLOSED CUP: 22°C (71.6°F).

#### Flammable Limits
LOWER: 2%  UPPER: 12.7%

#### Products of Combustion
These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).

#### Fire Hazards in Presence of Various Substances

#### Explosion Hazards in Presence of Various Substances
Risks of explosion of the product in presence of mechanical impact: Not available. Explosive in presence of open flames and sparks.

#### Fire Fighting Media and Instructions
Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

#### Special Remarks on Fire Hazards
Vapor may travel considerable distance to source of ignition and flash back. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME. Hydrogen peroxide sharply reduces the autoignition temperature of Isopropyl alcohol. After a delay, Isopropyl alcohol ignites on contact with dioxgenyl tetrafluoroborate, chromium trioxide, and potassium tert-butoxide. When heated to decomposition it emits acrid smoke and fumes. (Isopropyl alcohol)
**Special Remarks on Explosion Hazards**

Secondary alcohols are readily autooxidized in contact with oxygen or air, forming ketones and hydrogen peroxide. It can become potentially explosive. It reacts with oxygen to form dangerously unstable peroxides which can concentrate and explode during distillation or evaporation. The presence of 2-butanone increases the reaction rate for peroxide formation. Explosive in the form of vapor when exposed to heat or flame. May form explosive mixtures with air. Isopropyl alcohol + phosgene forms isopropyl chloroformate and hydrogen chloride. In the presence of iron salts, thermal decompositon can occur, which in some cases can become explosive. A homogeneous mixture of concentrated peroxides + isopropyl alcohol are capable of detonation by shock or heat. Barium perchlorate + isopropyl alcohol gives the highly explosive alkyl perchlorates. It forms explosive mixtures with trinitromethane and hydrogen peroxide. It produces a violent explosive reaction when heated with aluminum isopropoxide + crotonaldehyde. Mixtures of isopropyl alcohol + nitroform are explosive. (Isopropyl alcohol)

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### Section 6. Accidental Release Measures

**Small Spill**
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

**Large Spill**
Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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### Section 7. Handling and Storage

**Precautions**
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis.

**Storage**
Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

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### Section 8. Exposure Controls/Personal Protection

**Engineering Controls**
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection**
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill**
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Isopropyl alcohol**
TWA: 983 STEL: 1230 (mg/m³) [Australia]
TWA: 200 STEL: 400 (ppm) from ACGIH (TLV) [United States] [1999]
TWA: 980 STEL: 1225 (mg/m³) from NIOSH
TWA: 400 STEL: 500 (ppm) from NIOSH
TWA: 400 STEL: 500 (ppm) [United Kingdom (UK)]
TWA: 999 STEL: 1259 (mg/m³) [United Kingdom (UK)]
TWA: 400 STEL: 500 (ppm) from OSHA (PEL) [United States]
TWA: 980 STEL: 1225 (mg/m³) from OSHA (PEL) [United States]

Consult local authorities for acceptable exposure limits.

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### Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical state and appearance</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>pH (1% soln/water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>The lowest known value is 82.5°C (180.5°F) (Isopropyl alcohol).</td>
</tr>
<tr>
<td>Melting Point</td>
<td>May start to solidify at -88.5°C (-127.3°F) based on data for: Isopropyl alcohol.</td>
</tr>
<tr>
<td>Critical Temperature</td>
<td>The lowest known value is 235°C (455°F) (Isopropyl alcohol).</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.958 (Water = 1)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>The highest known value is 4.4 kPa (@ 20°C) (Isopropyl alcohol).</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>The highest known value is 2.07 (Air = 1) (Isopropyl alcohol).</td>
</tr>
<tr>
<td>Volatility</td>
<td>100% (w/w). (Isopropyl alcohol.)</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>The highest known value is 22 ppm (Isopropyl alcohol)</td>
</tr>
<tr>
<td>Taste</td>
<td>Not available.</td>
</tr>
<tr>
<td>Color</td>
<td>Clear Colorless.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Easily soluble in hot water, methanol, diethyl ether, n-octanol, acetone. Soluble in cold water.</td>
</tr>
</tbody>
</table>

### Section 10. Stability and Reactivity Data

| Stability                     | The product is stable.         |
| Instability Temperature       | Not available.                 |
| Conditions of Instability     | Heat, ignition sources, incompatible materials |
| Incompatibility with various substances | Reactive with oxidizing agents, acids, alkalis. |
| Corrosivity                   | Non-corrosive in presence of glass. |
| Special Remarks on Reactivity | Reacts violently with hydrogen + palladium combination, nitroform, oleum, COCl2, aluminum triisopropoxide, oxidants. Incompatible with acetaldehyde, chlorine, ethylene oxide, isocyanates, acids, alkaline earth, alkali metals, caustics, amines, crotonaldehyde, phosgene, ammonia. Isopropyl alcohol reacts with metallic aluminum at high temperatures. Isopropyl alcohol attacks some plastics, rubber, and coatings. Vigorous reaction with sodium dichromate + sulfuric acid. (Isopropyl alcohol) |
| Special Remarks on Corrosivity| Not available.                 |
| Polymerization                | Will not occur.                |

Continued on Next Page
### Section 11. Toxicological Information

**Routes of Entry**
Absorbed through skin. Eye contact. Inhalation.

**Toxicity to Animals**
Acute oral toxicity (LD50): >630 mg/kg [Rat]. (Polyvinylpyrrolidone-Vinyl Acetate Copolymer).
Acute dermal toxicity (LD50): 12800 mg/kg [Rabbit]. (Isopropyl alcohol).

**Chronic Effects on Humans**
CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Isopropyl alcohol].
Contains material which may cause damage to the following organs: kidneys, liver, skin, central nervous system (CNS).

**Other Toxic Effects on Humans**
Hazardous in case of skin contact (irritant), of ingestion.
Slightly hazardous in case of skin contact (permeator), of inhalation.

**Special Remarks on Toxicity to Animals**
Not available.

**Special Remarks on Chronic Effects on Humans**
May cause adverse reproductive/teratogenic effects (fertility, fetotoxicity, developmental abnormalities/developmental toxin) based on animal studies.
Detected in maternal milk in human. (Isopropyl alcohol)

**Special Remarks on Other Toxic Effects on Humans**
Acute Potential Health Effects:
Skin: May cause mild skin irritation, and sensitization.
Eyes: Can cause eye irritation.
Inhalation: Breathing in small amounts of this material during normal handling is not likely to cause harmful effects. However, breathing large amounts may be harmful and may affect the respiratory system and mucous membranes (irritation), behavior and brain (Central nervous system depression - headache, dizziness, drowsiness, stupor, incoordination, unconsciousness, coma and possible death), peripheral nerve and sensation, blood, urinary system, and liver.
Ingestion: Swallowing small amounts during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. Swallowing large amounts may cause gastrointestinal tract irritation with nausea, vomiting and diarrhea, abdominal pain. It also may affect the urinary system, cardiovascular system, sense organs, behavior or central nervous system (somnolence, generally depressed activity, irritability, headache, dizziness, drowsiness), liver, and respiratory system (breathing difficulty).
Chronic Potential Health Effects:
May cause defatting of the skin and dermatitis and allergic reaction.
May cause adverse reproductive effects based on animal data (studies). (Isopropyl alcohol)

### Section 12. Ecological Information

**Ecotoxicity**
Not available.

**BOD5 and COD**
Not available.

**Products of Biodegradation**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation**
The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation**
Not available.

### Section 13. Disposal Considerations

**Waste Disposal**
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

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Continued on Next Page
### Section 14. Transport Information

**DOT Classification**  
CLASS 3: Flammable liquid.

**Identification**  
Isopropanol (Isopropyl alcohol) UNNA: 1219  PG: II

**Special Provisions for Transport**  
Not available.

**DOT (Pictograms)**

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### Section 15. Other Regulatory Information and Pictograms

**Federal and State Regulations**
- Connecticut hazardous material survey: Isopropyl alcohol
- Illinois toxic substances disclosure to employee act: Isopropyl alcohol
- Rhode Island RTK hazardous substances: Isopropyl alcohol
- Pennsylvania RTK: Isopropyl alcohol
- Florida: Isopropyl alcohol
- Minnesota: Isopropyl alcohol
- Massachusetts RTK: Isopropyl alcohol
- New Jersey: Isopropyl alcohol
- New Jersey spill list: Isopropyl alcohol
- California Director's List of Hazardous Substances: Isopropyl alcohol
- TSCA 8(b) inventory: Isopropyl alcohol; Polyvinylpyrrolidone-Vinyl Acetate Copolymer
- TSCA 4(a) final testing order: Isopropyl alcohol
- TSCA 8(a) IUR: Isopropyl alcohol
- TSCA 8(d) H and S data reporting: Isopropyl alcohol: Effective date: 12/15/86  Sunset Date: 12/15/96
- TSCA 12(b) one time export: Isopropyl alcohol
- SARA 313 toxic chemical notification and release reporting: Isopropyl alcohol 50%

**California Proposition 65 Warnings**
- California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.
- California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

**Other Regulations**  

**Other Classifications**
- **WHMIS (Canada)**  
  CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
- **DSCL (EEC)**  
  R10- Flammable.  
  R36- Irritating to eyes.
- **HMIS (U.S.A.)**  
  Health Hazard 2  
  Fire Hazard 3  
  Reactivity 0  
  Personal Protection 2  
  National Fire Protection Association (U.S.A.)
  Health 1  
  Reactivity 0  
  Specific hazard

**WHMIS (Canada) (Pictograms)**

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Protective Equipment

Gloves.
Lab coat.
Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

Section 16. Other Information

<table>
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<tr>
<th>MSDS Code</th>
<th>V0049</th>
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<tr>
<td>References</td>
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<tr>
<td>Other Special Considerations</td>
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</tr>
</tbody>
</table>

Verified by Sonia Owen.  

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.