Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
SELVOL™ Polyvinyl Alcohol, homopolymer

Trade Names
The following specific grades of SELVOL™ are covered by this SDS:
103, 107, 125, 165, 165SF, 305, 310, 325, 325LA, 325LA-LH, 350, 825

Synonyms
Polyvinyl alcohol, PVA

Chemical Family
Ethenol, homopolymer

Product Use
Intermediate, surfactant, adhesives, Food/feedstuff additives, Packaging materials, Auxiliary for leather, Auxiliary for textile.

Restrictions on Use
None known.

Manufacturer Information
Sekisui Specialty Chemicals America, LLC
1501 LBJ Freeway, Suite 530
Dallas, TX 75234

Emergency Phone Numbers:
In USA: CHEMTREC 800-424-9300
Outside USA: CHEMTREC 703-527-3887 (collect calls accepted)
Phone: +1-972-277-2900
www.sekisui-sc.com

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Combustible Dust

GHS Label Elements

Symbol(s)
None needed according to classification criteria

Signal Word
Warning

Hazard Statement(s)
May form combustible dust concentrations in air
Precautionary Statement(s)

Prevention
None needed according to classification criteria

Response
None needed according to classification criteria

Storage
None needed according to classification criteria

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS</th>
<th>Component Name</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>9002-89-5</td>
<td>Polyvinyl alcohol</td>
<td>&gt; 92</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methyl alcohol</td>
<td>≤ 0.9</td>
</tr>
</tbody>
</table>

Section 4 - FIRST AID MEASURES

Description of Necessary Measures
Wash thoroughly after handling. Avoid breathing dust. Use only outdoors or in a well-ventilated area.

Inhalation
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin
Wash with plenty of soap and water. If skin irritation or rash occurs, seek medical advice/attention. Wash contaminated clothing before reuse.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion
If a large amount is swallowed, get medical attention.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically and supportively.

Most Important Symptoms/Effects
Acute
No information on significant adverse effects.
Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media
carbon dioxide, regular dry chemical, alcohol-resistant foam, water spray.

Unsuitable Extinguishing Media
Do not scatter spilled material with high-pressure water streams.

Special Hazards Arising from the Chemical
Combustible Dust. Dust/air mixtures may ignite or explode. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous Combustion Products
oxides of carbon.

Special Protective Equipment and Precautions for Firefighters
Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures
Avoid inhalation of material or combustion by-products. Move material from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Dike for later disposal. Stay upwind and keep out of low areas.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Avoid contact with skin and eyes. Do not breathe dust. Keep unnecessary people away, isolate hazard area and deny entry. The mixture is slippery when wet.

Methods and Materials for Containment and Cleaning Up
Avoid generation of dust. Collect spilled material in appropriate container for disposal. Dispose of contents/container in accordance with local/regional/national/international regulations.

Environmental Precautions
Avoid generation of dust. Remove all sources of ignition. Ventilate affected area. Discharge into the environment must be avoided.
Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Use methods to minimize dust. Minimize dust generation and accumulation. Use this material with adequate ventilation. Keep container tightly closed. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid breathing dust. Routine housekeeping should be instituted to ensure that dusty do not accumulate on surfaces.

Conditions for Safe Storage, Including any Incompatibilities
None needed according to classification criteria
Store at room temperature. Store in original container. Stacking height must not exceed three pallets.

Incompatible Materials
reactive metals, oxidizing agents, peroxides, perchlorates, nitrates.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyvinyl alcohol</td>
<td>10 mg/m3 total dust; 3 mg/m3 respirable dust</td>
</tr>
<tr>
<td>OSHA (US):</td>
<td>15 mg/m3 total dust; 5 mg/m3 respirable dust</td>
</tr>
<tr>
<td></td>
<td>15 mppcf TWA respirable fraction; 5 mg/m3 TWA respirable fraction; 50 mppcf TWA total dust; 15 mg/m3 TWA total dust (related to Particulates not otherwise classified (PNOC))</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
</tr>
<tr>
<td>ACGIH:</td>
<td>200 ppm TWA</td>
</tr>
<tr>
<td></td>
<td>250 ppm STEL</td>
</tr>
<tr>
<td></td>
<td>Skin - potential significant contribution to overall exposure by the cutaneous route</td>
</tr>
<tr>
<td>NIOSH:</td>
<td>200 ppm TWA; 260 mg/m3 TWA</td>
</tr>
<tr>
<td></td>
<td>250 ppm STEL; 325 mg/m3 STEL</td>
</tr>
<tr>
<td></td>
<td>Potential for dermal absorption</td>
</tr>
<tr>
<td></td>
<td>6000 ppm IDLH</td>
</tr>
<tr>
<td>Europe:</td>
<td>200 ppm TWA; 260 mg/m3 TWA</td>
</tr>
<tr>
<td></td>
<td>Possibility of significant uptake through the skin</td>
</tr>
</tbody>
</table>
Biological limit value
There are no biological limit values for any of this product's components.

Engineering Controls
Provide local exhaust ventilation system. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Individual Protection Measures, such as Personal Protective Equipment
Eye/face protection
Wear safety glasses.

Skin Protection
Wear appropriate chemical resistant clothing.

Respiratory Protection
A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>granular powder</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>230 - 240°C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point Range</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Minimum Dust Cloud Ignition Temperature 280 °C</td>
</tr>
<tr>
<td>Autoignition</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper Explosive Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>white to off-white</td>
</tr>
<tr>
<td>pH</td>
<td>4.5 - 6.5 , conc: 4 %</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.27 - 1.31 at 20 °C</td>
</tr>
</tbody>
</table>
Section 10 - STABILITY AND REACTIVITY

Reactivity
No hazard expected.

Chemical Stability
Stable under normal conditions of use.

Possibility of Hazardous Reactions
Hazardous polymerization will not occur.

Conditions to Avoid
Avoid generating dust.

Incompatible Materials
reactive metals, oxidizing agents, peroxides, perchlorates, nitrates.

Hazardous decomposition products
oxides of carbon

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation
No information on significant adverse effects.

Skin Contact
No information on significant adverse effects.

Eye Contact
No information on significant adverse effects.

Ingestion
No information on significant adverse effects.

Acute and Chronic Toxicity
Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
Polyvinyl alcohol (9002-89-5)
LD50 Rat >5000 mg/kg
LC50 Rat >24 mg/L 1 hour
Methyl alcohol (67-56-1)
Oral LD50 Rat 6200 mg/kg
Inhalation LC50 Rat 22500 ppm 8 h

**Immediate Effects**
No information on significant adverse effects.

**Delayed Effects**
No information on significant adverse effects.

**Irritation/Corrosivity Data**
May cause mechanical irritation.

**Respiratory Sensitization**
No data available.

**Dermal Sensitization**
No data available.

**Component Carcinogenicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>IARC:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyvinyl alcohol</td>
<td>Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))</td>
</tr>
</tbody>
</table>

**Germ Cell Mutagenicity**
Ames test found to be negative. No hazard expected.

**Reproductive Toxicity**
No hazard expected. See information on methanol.

**Specific Target Organ Toxicity - Single Exposure**
None known

**Specific Target Organ Toxicity - Repeated Exposure**
None known

**Aspiration hazard**
No data available.

**Medical Conditions Aggravated by Exposure**
No data available.
Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

<table>
<thead>
<tr>
<th>Material</th>
<th>EC50/LC50 (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyvinyl alcohol</td>
<td>9002-89-5</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50 96 hours Danio rerio (Zebra fish) &gt;5000 mg/L; LC50 96 hours Pimephales promelas (Fathead minnow) 40 g/L</td>
</tr>
<tr>
<td>Invertebrate</td>
<td>EC50 48 hours Daphnia magna 8300 mg/L</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Pimephales promelas &gt;100 mg/L [static]; LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through]</td>
</tr>
</tbody>
</table>

Bioaccumulative Potential
Low.

Biodegradation
90%

Chemical Oxygen Demand (COD)
Ca. 1700 mgO2/g

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of contents/container in accordance with local/regional/national/international regulations. Product is not an EPA hazardous waste.

Section 14 - TRANSPORT INFORMATION

US DOT Information:
UN/NA #: Not Regulated

TDG Information:
UN#: Not Regulated

IATA Information:
No Classification assigned.
Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

SARA Section 313 (40 CFR 370 Subparts B and C)
Acute Health: No Chronic Health: No Fire: No Pressure: No Reactivity: No

U.S. State Regulations
The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):
WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
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<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Repro/Dev. Tox</td>
<td>development toxicity , 3/16/2012</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Canadian WHMIS Ingredient Disclosure List (IDL)
Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

WHMIS Classification
D2B

Component Analysis - Inventory
Polyvinyl alcohol (9002-89-5)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>Yes</td>
<td>DSL No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
Methyl alcohol (67-56-1)

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Section 16 - OTHER INFORMATION

HMIS Rating
Health: 1 Fire: 1 Reactivity: Not available
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings
Health: 1 Fire: 1 Reactivity: Not available
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes
New SDS: 5/18/15

Key / Legend
ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgesellschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR’s Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information
Reasonable care has been taken in the preparation of this information; however, the manufacturer makes no warranty whatsoever including the warranty of merchantability, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental, consequential, or other such damages resulting from its use or misuse.

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