

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 03/01/2017

Reviewed on 03/01/2017

### 1 Identification

- **Product Identifier**
- **Trade name: Zeroln™**
- **Relevant identified uses of the substance or mixture and uses advised against:**  
No further relevant information
- **Product Description** Used in oil and gas well completion applications
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
Perf Sealers  
16225 Park Ten Place, Suite 500  
Houston, TX, 77084  
Phone: 844-277-7373  
Fax: 713-338-3410  
Perfsealers.com
- **Emergency telephone number:** 844-277-7373 USA (24 hours/day, 7 days/week)

### 2 Hazard(s) Identification

- **Classification of the substance or mixture:**



GHS07

Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2A H319 Causes serious eye irritation.  
STOT SE 3 H335 May cause respiratory irritation.

- **Label elements:**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS07

- **Signal word:** Warning
- **Hazard-determining components of labeling:**  
Fibrous Glass  
Polylactique acide
- **Hazard statements:**  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.
- **Precautionary statements:**  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves / eye protection / face protection.  
P264 Wash thoroughly after handling.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

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- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312 Call a POISON CENTER/doctor if you feel unwell.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P405 Store locked up.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Unknown acute toxicity:**

This value refers to knowledge of known, established toxicological or ecotoxicological values. 28 % of the mixture consists of component(s) of unknown toxicity.

· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Hazard(s) not otherwise classified (HNOC):** None known

### 3 Composition/Information on Ingredients

· **Non-hazardous components:**

9002-89-5	Poly(vinyl alcohol)	60-90%
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· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with non-hazardous additions.

· **Dangerous Components:**

65997-17-3	Fibrous Glass	⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	25-50%
9051-89-2	Polylactique acide	⚠ STOT SE 3, H335	5-10%

· **Additional information:**

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

### 4 First-Aid Measures

· **Description of first aid measures:**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Wash with soap and water.  
If skin irritation occurs, consult a doctor.

· **After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.  
If easy to do so, remove contact lenses if worn.

· **After swallowing:** If swallowed and symptoms occur, consult a doctor.

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- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed:**  
No further relevant information available.

### 5 Fire-Fighting Measures

- **Extinguishing media:**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters:**
- **Protective equipment:**  
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**  
Ensure adequate ventilation.  
Dispose of the collected material according to regulations.
- **Reference to other sections:**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

9002-89-5	Poly(vinyl alcohol)	24 mg/m3
65997-17-3	Fibrous Glass	15 mg/m3

· **PAC-2:**

9002-89-5	Poly(vinyl alcohol)	270 mg/m3
65997-17-3	Fibrous Glass	170 mg/m3

· **PAC-3:**

9002-89-5	Poly(vinyl alcohol)	1,600 mg/m3
65997-17-3	Fibrous Glass	990 mg/m3

### 7 Handling and Storage

- **Handling**
- **Precautions for safe handling:** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities:**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s):** No further relevant information available.

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### 8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters:**

· <b>Components with occupational exposure limits:</b>	
<b>65997-17-3 Fibrous Glass</b>	
PEL	Short-term value: 5 mg/m <sup>3</sup> Long-term value: 15 mg/m <sup>3</sup>
TLV	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 10 mg/m <sup>3</sup>
<b>9051-89-2 Polylactique acide</b>	
TWA	Short-term value: 10 mg/m <sup>3</sup> Long-term value: 3 mg/m <sup>3</sup>

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.
- **Exposure controls:**  
Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Where acceptable concentrations cannot be maintained by general mechanical ventilation, local exhaust ventilation is recommended.
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing and wash before reuse.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Select glove material based on penetration times, rates of diffusion and degradation.

- **Material of gloves:**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material:**  
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
- **Eye protection:**



Safety glasses

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### \* 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
  - Form: Solid
  - Color: Various
- **Odor:** None to slight acidic
- **Odor threshold:** Not determined.
- **pH-value @ 20 °C (68 °F):** 6-8 (in an aqueous solution)
- **Change in condition**
  - Melting point/Melting range: Not determined.
  - Boiling point/Boiling range: Not determined.
- **Flash point:** None
- **Flammability (solid, gaseous):** Not determined.
- **Ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.
- **Vapor pressure:** Not applicable.
- **Density @ 20 °C (68 °F):** 0.85-1.15 g/cm<sup>3</sup> (7.093-9.597 lbs/gal)
- **Relative density:** Not determined.
- **Vapor density:** Not applicable.
- **Evaporation rate:** Not applicable.
- **Solubility in / Miscibility with:**
  - Water: Soluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.
- **Solvent content:**
  - Organic solvents: 0.0 %
- **Other information:** No further relevant information available.

### 10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.

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- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**
- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** Irritating effect.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant
- **Carcinogenic categories:**
- **IARC (International Agency for Research on Cancer):**  
Group 1 - Carcinogenic to humans  
Group 2A - Probably carcinogenic to humans  
Group 2B - Possibly carcinogenic to humans  
Group 3 - Not classifiable as to its carcinogenicity to humans  
Group 4 - Probably not carcinogenic to humans

9002-89-5	Poly(vinyl alcohol)	3
65997-17-3	Fibrous Glass	65997-17-3

- **NTP (National Toxicology Program):**  
None of the ingredients are listed.
- **OSHA-Ca (Occupational Safety & Health Administration):**  
None of the ingredients are listed.

### 12 Ecological Information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

### 13 Disposal Considerations

- **Waste treatment methods:**
- **Recommendation:**  
Observe all federal, state and local environmental regulations when disposing of this material.

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- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport Information**

- **UN-Number:** Non-Regulated Material
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name:** Non-Regulated Material
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es):**
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material
- **Class:** Non-Regulated Material
- **Packing group:** Non-Regulated Material
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

**15 Regulatory Information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

<b>Section 355 (extremely hazardous substances):</b>	None of the ingredients are listed.
<b>Section 313 (Specific toxic chemical listings):</b>	None of the ingredients are listed.
<b>TSCA (Toxic Substances Control Act):</b>	All ingredients are listed or exempt from listing.
<b>California Proposition 65:</b>	
<b>Chemicals known to cause cancer:</b>	None of the ingredients are listed.
<b>Chemicals known to cause reproductive toxicity for females:</b>	None of the ingredients are listed.
<b>Chemicals known to cause reproductive toxicity for males:</b>	None of the ingredients are listed.
<b>Chemicals known to cause developmental toxicity:</b>	None of the ingredients are listed.
<b>New Jersey Right-to-Know List:</b>	None of the ingredients are listed.
<b>New Jersey Special Hazardous Substance List:</b>	None of the ingredients are listed.
<b>Pennsylvania Right-to-Know List:</b>	None of the ingredients are listed.



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<ul style="list-style-type: none"> <li>· <b>Pennsylvania Special Hazardous Substance List:</b></li> </ul>
<p>None of the ingredients are listed.</p>

<ul style="list-style-type: none"> <li>· <b>Carcinogenic categories:</b></li> </ul>
<ul style="list-style-type: none"> <li>· <b>EPA (Environmental Protection Agency):</b></li> </ul>
<p>None of the ingredients are listed.</p>

<ul style="list-style-type: none"> <li>· <b>TLV (Threshold Limit Value established by ACGIH):</b></li> </ul>
<p>None of the ingredients are listed.</p>

<ul style="list-style-type: none"> <li>· <b>NIOSH-Ca (National Institute for Occupational Safety and Health):</b></li> </ul>
<p>None of the ingredients are listed.</p>

- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



GHS07

- **Signal word:** Warning

- **Hazard-determining components of labeling:**

Fibrous Glass  
Polylactique acide

- **Hazard statements:**

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

- **Precautionary statements:**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves / eye protection / face protection.  
P264 Wash thoroughly after handling.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P405 Store locked up.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

<ul style="list-style-type: none"> <li>· <b>National regulations:</b></li> </ul>
<p>The product is subject to be classified according with the latest version of the regulations on hazardous substances.</p>

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- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

- **Date of preparation / last revision:** 03/01/2017 / 1

- **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety & Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

- **\* Data compared to the previous version altered.**

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