1. Product Identification

Product name: WR-LPU Clear Gloss
SDS Number: 1801A00
Product type: Polyurethane Dispersion Mixture
Recommended use of the chemical and restrictions on use: Marine top coat paint.
Restrictions: None known

Manufacturer/Supplier information
Company name: SYSTEM THREE RESINS, INC.
Address: 8517 Commerce Place Dr NE
Lacey, WA 98516
United States
Telephone: 1-253-333-8118
Website: www.systemthree.com
Email: support@systemthree.com
Emergency Contact
CHEMTEL (U.S. and CANADA) 1-800-704-9215
CHEMTEL (Outside the U.S.) – Call Collect accepted +1-360-256-7365

2. Hazard(s) Identification

Classification of substance or mixture/Signal Word: DANGER
Toxic to Reproduction (Unborn Child) – Category 1B

GHS Label Elements
Hazard Pictograms

Hazard Statements/Classification of substance or mixture
H360 May damage fertility or the unborn child.

Precautionary statements
Precautionary Statements Prevention
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response
P308 + P313 IF exposed or concerned: Get medical advice/attention.

Storage
P405 Store locked up.
Disposal
P501 Dispose of contents in accordance with local/regional/national/international regulations.

Hazards not otherwise classified (HNOC)
Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.
3. Composition/Information On Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Pyrrolidinone, 1-methyl-</td>
<td>872-50-4</td>
<td>5 – 10%</td>
</tr>
<tr>
<td>Triethylamine</td>
<td>121-44-8</td>
<td>1 – 5%</td>
</tr>
<tr>
<td>2,2,4-trimethyl-1,3-pentanediol monoisobutyrate</td>
<td>25265-77-4</td>
<td>1 – 5%</td>
</tr>
<tr>
<td>Propylene Glycol</td>
<td>57-55-6</td>
<td>1 – 5%</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

4. First-Aid Measures

Skin contact
Wash skin thoroughly with soap and water or use recognized skin cleaner. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention if irritation persists. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contacts lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Ingestion
Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.

Inhalation
If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician
In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments
No specific treatment.

5. Fire-Fighting Measures

Suitable extinguishing media
All extinguishing media are suitable.

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life. Fire water contaminated with
this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous decomposition products**

Decomposition products may include the following materials:
- Carbon dioxide
- Carbon monoxide
- Nitrogen oxides
- Aldehydes
- Organic acids

**Special protective actions for fire-fighters**

Promptly evacuate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Further information**

This material will not support combustion unless the water has evaporated.

---

### 6. Accidental Release Measures

**Personal precautions**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear properly fitted NIOSH certified respirator when ventilation is inadequate. Wear the appropriate personal protective equipment.

**Emergency procedures**

If specialized clothing is required to deal with the spillage, take note of any information in section 8 on suitable and unsuitable materials. See also information in “For non-emergency personnel”.

**Methods and materials for containment/cleanup**

Stop leak if without risk. Ventilate area. Move containers from spill area. Dilute with water and mop up. Alternatively, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Environmental precautions**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil).

---

### 7. Handling and Storage

**Precautions for safe handling**

Always wear personal protective equipment when handling (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure — obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear an appropriate respirator. Keep in the original container or an approved alternative made from a compatible hazard, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Precautions/Recommendations for safe/proper storage**

Store between 40 to 90 °F (4-32 °C). Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, out of the reach of children or pets. Keep container tightly closed and sealed until ready for use. Do not store in unlabeled containers. Store in original container, protected from direct sunlight.
8. Exposure Controls/Personal Protection

### Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triethylamine</td>
<td>121-44-8</td>
<td>ACGIH TLV (United States, 4/2014).</td>
<td>TWA: 1 ppm 8 hours. TWA: 4.1 mg/m3 8 hours. STEL: 3 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STEL 12 mg/m3 15 minutes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 10 ppm 8 hours. TWA: 40 mg/m3 8 hours. STEL: 15 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STEL 60 mg/m3 15 minutes.</td>
</tr>
<tr>
<td>2,2,4-trimethyl-1,3-pentanediol monoisobutyrate</td>
<td>25265-77-4</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Propylene Glycol</td>
<td>57-55-6</td>
<td>Not established</td>
<td>Not established</td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**

Use only with adequate ventilation. Wear personal protection equipment when handling.

**Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Individual protection measures/Personal protective equipment**

- **Eye/face protection**
  - Splash proof goggles or safety spectacles with side shields are recommended.

- **Hand protection**
  - Always wear impervious gloves, neoprene, vinyl or rubber.

- **Skin protection**
  - Wear clean, body-covering clothing to avoid skin contact.

- **Respiratory protection**
  - Use a properly fitted NIOSH certified respirator, or air-fed respirator complying with an approved standard if risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Special instructions for protection and hygiene**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

- **Chemical family**: Aqueous Urethane
- **Appearance**: Aqueous solution
- **Physical State**: Aqueous solution
**10. Stability and Reactivity**

Reactivity: No specific data.

Chemical Stability: Stable.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Conditions to avoid: No specific data.

Incompatible materials: No specific data.

Hazardous decomposition products: No specific data.

Other hazards: None known.

**11. Toxicological Information**

Acute Health Hazard (components): No comprehensive data (ingestion, inhalation, dermal) on mixture (product).

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Pyrrolidinone, 1-methyl-</td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>&gt;5.1 mg/l</td>
<td>4 h</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>8000 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>7000 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3600 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Component</td>
<td>Result</td>
<td>Species</td>
<td>Test</td>
<td>Exposure</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>---------</td>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>Trimethylamine</td>
<td>Skin – mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>365 milligrams</td>
</tr>
<tr>
<td></td>
<td>Skin – visible necrosis</td>
<td>Rabbit</td>
<td>-</td>
<td>1 to 15 minutes</td>
</tr>
<tr>
<td></td>
<td>Eyes – cornea opacity</td>
<td>Rabbit</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2,2,4-trimethyl-1,3-pentanediol monoisobutyrate</td>
<td>Skin – slight</td>
<td>Rabbit</td>
<td>-</td>
<td>24 h</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion (components)**

No information on product itself.

**Sensitization**

No information on product itself.

**Mutagenicity**

No information on product itself.

**Carcinogenicity**

No information on product itself.

**Reproductive Toxicity**

No information on product itself.

**Teratogenicity**

No information on product itself.

**Specific target organ toxicity (single exposure)**

No information on product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Pyrrolidinone, 1-methyl-</td>
<td>Category 3</td>
<td>Not applicable</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**

No information on product itself.

**Aspiration hazard**

No information on product itself.

**Potential acute health effects**

**Eye Contact**

No known significant effects or critical hazards.

**Inhalation**

May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin Contact**

Causes skin irritation.

**Ingestion**

Corrosive to digestive tract. Causes burns.

**Symptoms related to the physical, chemical and toxicological characteristics**
Eye Contact
No specific data.

Inhalation
Adverse symptoms may include the following:
- Reduced fetal weight
- Increase in fetal deaths
- Skeletal malformations

Skin Contact
Adverse symptoms may include the following:
- Irritation
- Dryness
- Cracking
- Reduced fetal weight
- Increase in fetal deaths
- Skeletal malformations

Ingestion
Adverse symptoms may include the following:
- Stomach pains
- Reduced fetal weight
- Increase in fetal deaths
- Skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure
No information on product itself.

Potential chronic health effects
No information on product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethylamine</td>
<td>Sub-chronic NOAEC Inhalation Vapor</td>
<td>Rat</td>
<td>247 ppm</td>
<td>28 weeks, 6 hours per day.</td>
</tr>
</tbody>
</table>

General
Prolonged or repeated chemical contact can defeat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity
No significant effects or critical hazards.

Mutagenicity
No significant effects or critical hazards.

Teratogenicity
May damage the unborn child.

Developmental effects
No significant effects or critical hazards.

Fertility effects
No significant effects or critical hazards.

Numerical measures of toxicity
Data not available.

Acute toxicity estimates (ATEmix)

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>N/A</td>
</tr>
<tr>
<td>Dermal</td>
<td>N/A</td>
</tr>
<tr>
<td>Inhalation (vapors)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

12. Ecological Information

Ecotoxicity
No information on product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Pyrrolidinone, 1-methyl-</td>
<td>Acute EC50: &gt;9000 mg/l</td>
<td>Bacteria</td>
<td>48 h</td>
</tr>
<tr>
<td></td>
<td>Acute EC50: &gt;1000 mg/l</td>
<td>Daphnia</td>
<td>24 h</td>
</tr>
<tr>
<td></td>
<td>Acute EC50: &gt;600 mg/l</td>
<td>Micro-organism</td>
<td>0.5 h</td>
</tr>
</tbody>
</table>
Acute IC50: >500 mg/l  
Acute LC50: >500 mg/l  
Chronic NOEC: 12.5 mg/l

2,2,4-trimethyl-1,3-pentanediol monoisobutyrate

Acute LC50: 33 mg/l  
Acute EC50: 147.8 mg/l  
ErC50: >57 mg/l

Triethylamine

Acute EC50: 1.167 mg/l  
Acute EC50: 95 mg/l  
Acute EC50: 17 mg/l  
Acute LC50: 36 mg/l  
Acute NOAEC: 12 mg/l

Chronic NOEC: 7.1 mg/l

Persistence and degradability

<table>
<thead>
<tr>
<th>Component</th>
<th>Test</th>
<th>Period</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Pyrrolidinone, 1-methyl-</td>
<td>301C Ready Biodegradability – Modified MITI Test (I)</td>
<td>28 days</td>
<td>73% - Readily</td>
</tr>
<tr>
<td>Triethylamine</td>
<td>OECD 301B Ready Biodegradability – CO2 Evolution Test</td>
<td>21 days</td>
<td>80% - Readily</td>
</tr>
<tr>
<td>2,2,4-trimethyl-1,3-pentanediol monoisobutyrate</td>
<td>Ready Biodegradability – CO2 Evolution Test</td>
<td>28 days</td>
<td>77% - Readily</td>
</tr>
</tbody>
</table>

Bioaccumulative Potential

<table>
<thead>
<tr>
<th>Component</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Pyrrolidinone, 1-methyl-</td>
<td>-0.46</td>
<td>0.2</td>
<td>Low</td>
</tr>
<tr>
<td>Triethylamine</td>
<td>1.45</td>
<td>&lt;0.5</td>
<td>Low</td>
</tr>
</tbody>
</table>

Mobility in Soil

Soil/water partition coefficient (KOC) Not available.

Other adverse effects No known significant effects or critical hazards.

13. Disposal Considerations

Waste from residues/ unused products

The generation of waste should be avoided wherever possible. Disposal of this product should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus product via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Contaminated packaging

Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information
The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

### International Transport Regulations

<table>
<thead>
<tr>
<th>Regulatory Information</th>
<th>UN/NA number</th>
<th>Proper Shipping Name</th>
<th>Classes/*PG</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td></td>
<td>Not regulated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDG</td>
<td></td>
<td>Not regulated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td></td>
<td>Not regulated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td></td>
<td>Not regulated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*PG: Packing group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Special precautions for user:** Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

### 15. Regulatory Information

#### UNITED STATES

**U.S. Federal Regulations**

United States – TSCA 12(b) – Chemical export notification: None Required.

United States – TSCA 5(a)2 – Final significant new use rules: Not Listed.

United States – TSCA 5(a)2 – Proposed significant new use rules: Not Listed.

United States – TSCA 5(e) – Substance consent order: Not listed.

**Clean Air Act – Ozone Depleting Substances (ODS)**

None known.

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Concentration %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethylamine</td>
<td>1.8046</td>
</tr>
</tbody>
</table>

**Pennsylvania – RTK**

2-Pyrroldinone, 1-methyl, propylene glycol

**California Prop. 65**

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Cancer</th>
<th>Reproductive</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Pyrroldinone, 1-methyl-</td>
<td>No.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

**EPA SARA 302 Extremely Hazardous Substances**

None known.

**EPA SARA 302/304/311/312 Hazardous Chemicals SARA 313 Form R – Reporting requirements**

None known.

**CERCLA Hazardous substances**

<table>
<thead>
<tr>
<th>Component</th>
<th>%</th>
<th>Section 304 CERCLA Hazardous Substance</th>
<th>CERCLA Reportable Quantity (Lbs)</th>
<th>Product Reportable Quantity (Lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Pyrroldinone, 1-methyl-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triethylamine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**United States inventory (TSCA 8b)**

All components are listed or exempted.
CANADA

WHMIS (Canada) None.
Canadian NPRI None required.
CEPA Toxic substances None required.

INTERNATIONAL REGULATIONS

International Lists

Australia inventory (AICS): All components are listed or exempted.
Canada inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Japan inventory: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
New Zealand inventory (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): All components are listed or exempted.

16. Other Information, Including Date of Preparation or Last Revision

HMIS Rating

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Date of Preparation January 13, 2020
Date of Last Revision September 27, 2019
Revision # 4.0
More Information 1-253-333-8118
Prepared by System Three Resins Inc.

The information contained herein is based on the data available to us and is believed to be correct. However, System Three Resins, Inc. makes no warranty, expressed or implied, regarding the accuracy of these data or the results to be obtained from the use thereof. System Three assumes no responsibility for injury from the use of the product described herein.