Section 1: Product and Company Identification

Product Name: Glutaraldehyde, 25% EM grade
Synonym: Glutaral, Glutaric Dialdehyde
Chemical Family: Aldehydes

Company Name
Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477
Inside USA and Canada 1-800-237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
Outside USA and Canada 1-530-243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
CHEMTREC USA and Canada Emergency Contact Number 1-800-424-9300 24 hours a day
CHEMTREC Outside USA and Canada Emergency Contact Number +1-703-741-5970 24 hours a day

Section 2: Hazard Identification

2.1 Classification of substance or mixture

GHS Pictograms:

GHS05  GHS06  GHS07  GHS08

GHS Categories:

GHS05: Corrosion
  Skin Corr. 1B  H314: Causes severe skin burns and eye damage.
  Eye dam. 1   H318: Causes serious eye damage.
GHS06: Toxic
  Acute Tox. 3  H331: Toxic if inhaled.
GHS07: Irritant
  Skin Sens. 1  H317: May cause an allergic skin reaction.
GHS08: Health
  Resp. Sens. 1 H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

2.2 Label Elements

Hazard pictograms

GHS05  GHS06  GHS08
Signal word: DANGER

Hazard-determining components of labeling:
Glutaraldehyde

Hazard statements
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements
P210 Keep away from flames and hot surfaces. – No smoking.
P235 Keep cool.
P260 Do not breathe dust/fumes/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated clothing must not be taken out of the workplace.
P280 Wear protective gloves/eye protection/face protection.
P284 Wear respiratory protection.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P341 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P333+P313 If skin rash or irritation occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
2.3 Other hazards

Health Effects:
HMIS® Rating: Health: 3; Fire: 0; Reactivity: 0
NFPA Rating: Health: *4; Fire: 0; Reactivity: 0
(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Emergency Overview
Appearance: Transparent Liquid
Immediate effects: Corrosive to skin and eyes

Potential health effects
Primary Routes of entry: Inhalation, ingestion, eye and skin contact.
Signs and Symptoms of Overexposure: ND
Eyes: Causes serious eye damage.
Skin: Causes skin irritation and may cause an allergic skin reaction.
Inhalation: May cause sensitisation. Irritating to respiratory system.
Chronic Exposure: ND
Chemical Listed As Carcinogen or Potential Carcinogen: No
See Toxicological Information (Section 11)

Potential environmental effects
See Ecological Information (Section 12)

Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.

Section 3: Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Principle Hazardous Component(s)</th>
<th>%</th>
<th>OSHA PEL mg/m³</th>
<th>ACGIH TLV mg/m³</th>
<th>NTP</th>
<th>IARC</th>
<th>OSHA regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glutaraldehyde (111-30-8)</td>
<td>10-25</td>
<td>NE</td>
<td>0.2 (0.05 ppm)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Section 4: First Aid Measures

If accidental overexposure is suspected
General information: Immediately remove any clothing soiled by the product. Remove breathing apparatus only after contaminated clothing have been completely removed. In case of irregular breathing or respiratory arrest, provide artificial respiration.
Eye(s) Contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
Skin Contact: Immediately wash with water and soap and rinse thoroughly.
Inhalation: Supply fresh air or oxygen; call for a doctor. In case of unconsciousness, place patient stably in side position for transportation.
Ingestion: Drink plenty of water and provide fresh air. Call for a doctor immediately.

Note to physician
Treatment: ND
Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures
Flash Point: 71 °C (160 °F)
Flammable Limits: ND
Auto-ignition point: Product is not self-igniting.
Fire Extinguishing Media: CO₂, powder or water spray.
Special Fire Fighting Procedures: Fight larger fires with water spray or alcohol resistant foam. Wear respiratory protective device.
Unusual Fire and Explosion Hazards: Product does not present an explosion hazard.
Hazardous combustion products: None known.
DOT Class: Corrosive.

Section 6: Accidental Release Measures
Steps to be Taken in Case Material is Released or Spilled:
Environmental precautions: Inform respective authorities in case of seepage into water course or sewage system. Dilute with plenty of water. Do not allow to enter sewers/surface or ground water.
Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage
Precautions to be taken in Handling and Storage:

No special handling requirements for storage.
Storage Temperature: **0-5°C recommended for long term storage. Do not freeze.**
Storage Pressure: NA

Section 8: Exposure Controls / Personal Protection
Components that require monitoring in the workplace

<table>
<thead>
<tr>
<th>Component</th>
<th>REL Ceiling limit value</th>
<th>TLV Ceiling limit value</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-330-8 Glutaraldehyde</td>
<td>0.8 mg/m³, 0.2 ppm</td>
<td>0.2 mg/m³, 0.05 ppm</td>
</tr>
</tbody>
</table>

Engineering Controls
Ventilation required: Ensure adequate ventilation.

Personal Protection Equipment
General protective and hygienic measures: Keep away from all foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes and skin.
Respiratory protection: In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Protective gloves: The glove material has to be impermeable and resistant to the product/substance/preparation.
Skin protection: Wear suitable protective clothing. Immediately remove all soiled and contaminated clothing. Avoid contact with the skin.
Eye protection: Tightly sealed goggles. Avoid contact with the eyes.
Additional clothing and/or equipment: ND

Exposure Guidelines
See Composition/Information on Ingredients (Section 3)

Section 9 Physical and Chemical Properties
Appearance and Physical State: Transparent liquid
Odor (threshold): Fruit-like (ND)
Specific Gravity (H₂O=1): 1.0125 g/cm³
Vapor Pressure (mm Hg): 23 hPa
Vapor Density (air=1): ND
Percent Volatile by volume: ND
Evaporation Rate (butyl acetate=1): ND
Boiling Point: 101 °C (214 °F)
Freezing point / melting point: ND
pH: 4.5
Solubility in Water: Fully miscible.
Molecular Weight: ND
Solvent content: Organic solvents: 0.0 %, Water: 75.0 %
VOC content: 0.0 %

Section 10: Stability and Reactivity
Stability: Stable under normal storage conditions.
Conditions to Avoid: ND
Materials to Avoid (Incompatibility): ND
Hazardous Decomposition Products: None known.
Hazardous Polymerization: None known.

Section 11: Toxicological Information
Results of component toxicity test performed (111-30-8 Glutaraldehyde 25%)
Acute toxicity:
  LD/LC50 values relevant for classification:
    Oral LD50 134 mg/kg (rat)
    Dermal LD50 2560 mg/kg (rabbit)
Primary irritant effect:
  On the skin: Caustic effect on skin and mucous membranes
  On the eye: Strong caustic effect.
Sensitization: Sensitization possible through inhalation and skin contact.
Human experience: ND
This product does not contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  Harmful
  Corrosive
  Irritant
  Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Section 12: Ecological Information
Ecological Information:
Aquatic toxicity: ND
Persistence and degradability: ND
Behavior in environmental systems:
  Bioaccumulative potential: ND
  Mobility in soil: ND
Additional ecological information: Water hazard class 3 (German Regulation) (Self-assessment): Extremely hazardous for water. Do not allow product to reach ground water, water course or sewage system, even in small quantities. Must not reach sewage water or drainage ditch undiluted or un-neutralized. Danger to drinking water if even extremely small quantities leak into the ground.
Chemical Fate Information: ND
Section 13 Disposal Considerations
RCRA 40 CFR 261 Classification: ND
Recommendation: Must not be disposed together with household garbage. Do not allow product to reach sewage system. Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information
US DOT Information: Proper shipping name: Corrosive liquid, acidic, organic, n.o.s. (Glutaraldehyde)
Hazard Class: 8
Packaging group: III
UN Number: UN3265
IATA: Proper shipping name: Corrosive liquid, acidic, organic, n.o.s. (Glutaraldehyde)
Hazard Class: 8
Packaging group: III
UN Number: UN3265
Marine Pollutant: Not listed in 49CFR tables.
Canadian TDG: Corrosive liquid, acidic, organic, n.o.s. (Glutaraldehyde)

Section 15: Regulatory Information
United States Federal Regulations
SARA: Section 355 (extremely hazardous substances): None of the ingredients is listed.
Section 313 (Specific toxic chemical listings): None of the ingredients is listed.
SARA Title III: ND
RCRA: ND
TSCA: All ingredients are listed.
CERCLA: None ingredients is listed.

State Regulations
California Proposition 65: None of the ingredients is listed.

International Regulations
Canada WHMIS: ND
Europe EINECS Numbers: ND
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

Section 16: Other Information
Label Information: Corrosive.
European symbols needed: ND
Chemical safety assessment: A Chemical Safety Assessment has not been carried out. 

Abbreviations used in this document
NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

Disclaimer
Ted Pella, Inc. makes no warranty of any kind regarding the information furnished herein. Users should
independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.

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