TED PELLA, INC.
Microscopy Products for Science and Industry

**Safety Data Sheet**

**Product No. 18510 Formalin, 10% Neutral Buffered**
**Issue Date (09-11-15)**
**Review Date (08-31-17)**

## Section 1: Product and Company Identification

**Product Name: Formalin, 10% Neutral Buffered**
Synonym: None
**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 the substance or mixture

**GHS Pictograms**

GHS06 GHS08 GHS07 GHS05

**GHS Categories**

GHS06 – Toxic

| | |
|---|---|
| Acute Tox. 3 | H311: Toxic in contact with skin. |
| Acute Tox. 3 | H331: Toxic if inhaled. |

GHS08 - Health

| | |
|---|---|
| Carc. 2 1B | H350: May cause cancer. |
| Muta. 2 | H341: Suspected of causing genetic defects. |
| STOT SE 1 | H370: Causes damage to organs. |

GHS05 – Corrosion

| | |
|---|---|
| Eye Dam. 1 | H318: Causes serious eye damage. |

GHS07 - Irritant

| | |
|---|---|
| Acute Tox. 4 | H302: Harmful if swallowed. |
| Skin Irrit. 2 | H315: Causes skin irritation. |
| Skin Sens. 1 | H317: May cause an allergic reaction. |

### 2.2 Label elements

**Hazard pictograms**

GHS05 GHS06 GHS08

**Signal Word:** DANGER

**Hazard-determining components of labeling:** formaldehyde, methyl alcohol

**Hazard statements:**

H227 Combustible liquid.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H370 Causes damage to organs.

**Precautionary statements:**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P264 | Wash thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P272 | Contaminated work clothing must not be allowed out of the workplace. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P301+P330+P312 | If swallowed: Rinse mouth. Call a poison center/doctor if you feel unwell. |
| P302+P353 | If on skin: Wash with plenty of soap and water. |
| P305+P351+P338 | If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P313 | IF exposed: Call a POISON CENTER or doctor/physician. |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P361 | Remove/take off immediately all contaminated clothing. |
| P363 | Wash contaminated clothing before reuse. |
| P370+P378 | In case of fire: Use for extinction: CO2, powder or water spray. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/ international regulations. |

**2.3 Other Hazards**

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Label: $X_n$ - Harmful
R20/21/22-40: Harmful by inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect.
Label: $X_i$; Sensitizing
R43: May cause sensitisation by skin contact.
Hazard-determining components of labeling: formaldehyde 50-00-0
**Risk phrases:**
20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.
40 - Limited evidence of a carcinogenic effect.

43 - May cause sensitisation by skin contact.
**Safety phrases:**
9 - Keep container in a well-ventilated place.
23 - Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).
36/37 - Wear suitable protective clothing and gloves.
60 - This material and its container must be disposed of as hazardous waste.

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

**Results of PBT and vPvB assessment:**
PBT: NA
vPvB: NA

**Emergency overview**
Appearance: Liquid
Immediate effects: ND
**Potential health effects**
Primary Routes of entry: Inhalation, ingestion and eye and skin contact.
Signs and Symptoms of Overexposure: ND
Eyes: Harmful in contact with eyes.
Skin: May cause sensitisation by skin contact. Harmful in contact with skin.
Ingestion: Harmful if swallowed.
Inhalation: Harmful by inhalation.
Chronic Exposure: ND
Chemical Listed as Carcinogen or Potential Carcinogen: Formaldehyde (50-00-0).
See Toxicological Information (Section 11)
**Potential environmental effects**
See Ecological Information (Section 12)

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**Section 3: Composition / Information on Ingredients**

| **Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)** | **%** | **OSHA PEL** | **ACGIH TLV** | **NTP** | **IARC** | **OSHA regulated** |
|---|---|---|---|---|---|---|
| Formaldehyde (50-00-0) | 2.5-10 | 2 ppm | 0.37 $mg/m^3$ 0.3 ppm | R | Group 1 | Yes |
| Methyl Alcohol (67-56-1) | 2.5-10 | 260 $mg/m^3$ 200 ppm | 328 $mg/m^3$ 250 ppm | No | No | No |

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**Section 4: First Aid Measures**
**If accidental overexposure is suspected**

| | |
|---|---|
| General: | Immediately remove any clothing soiled by the product. Symptoms of poisoning may even occur after several hours; therefore, medical observation for at least 48 hours after the accident. |
| 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 and to be sure call for a doctor. In case of unconsciousness, place patient stably in side position for transportation.
Ingestion: Immediately call a doctor.

**Note to physician**

Treatment: ND

Medical Conditions generally Aggravated by Exposure: ND

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**Section 5: Fire Fighting Measures**

Flash Point: 85 °C

Flammable Limits: NE

Auto-ignition point: Product is not self-igniting.

Fire Extinguishing Media: $CO_2$, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special Fire Fighting Procedures: Use mouth respiratory protective device.

Unusual Fire and Explosion Hazards: Product does not present an explosion hazard.

Hazardous combustion products: Oxides of Carbon.

DOT Class: NA

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**Section 6: Accidental Release Measures**

Steps to be Taken in Case Material is Released or Spilled: Do not allow to enter sewers/ surface or ground water. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.

Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

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**Section 7: Handling and Storage**

Precautions to be taken in Handling and Storage: Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. Keep receptacle tightly sealed. Protect from heat and direct sunlight.

Storage temperature: Room temperature.

Storage Pressure: NA

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**Section 8: Exposure Controls / Personal Protection**

**Components with limit values that require monitoring at the workplace:**

| **50-00-0 formaldehyde** | |
|---|---|
| PEL | Short-term value: 2 ppm<br>Long-term value: 0.75 ppm<br>See 29 CFR 1910.1048(c) |
| REL | Long-term value: 0.016 ppm<br>Ceiling limit value: 0.1* ppm<br>*15 min; See Pocket Guide App. |
| TLV | Ceiling limit value: 0.37 mg.m$^3$, 0.3 ppm<br>(SEN) NIC-DSEN; RSEN |
| **67-56-1 Methyl Alcohol** | |
| PEL | Long-term value: 260 mg/m³, 200 ppm |
| REL | Short-term value: 325 mg/m³, 250 ppm<br>Long-term value: 260 mg/m³, 200 ppm<br>Skin |
| TLV | TLV Short-term value: 328 mg/m³, 250 ppm |

| | |
|---|---|
| | Long-term value: 262 mg/m³, 200 ppm<br>Skin; BEI |

**Ingredients with biological limit values**

| **67-56-1 Methyl Alcohol** | |
|---|---|
| BEI | 15 mg/L<br>Medium: urine<br>Time: end of shift<br>Parameter: Methanol (background, nonspecific) |

**Engineering Controls**

Ventilation required: Ensure good ventilation/exhaustion at the workplace.

**Personal Protection Equipment**

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.

Skin protection: Protective gloves and clothing.

Eye protection: Tightly-sealed goggles or face shield.

Additional clothing and/or equipment: ND

General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

**Exposure Guidelines**

See Composition/Information on Ingredients (Section 3)

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**Section 9 Physical and Chemical Properties**

Appearance and Physical State: Liquid, color according to product specification.
Odor (threshold): Characteristic (ND)
Specific Gravity ($H_2O$=1): 0.98817 g/cm³
Vapor pressure at 20 °C: 23 hPa
Vapor Density (air=1): ND
Percent Volatile by volume: ND

Evaporation Rate (butyl acetate=1): ND
Boiling Point: 100 °C
Freezing point / melting point: ND
pH: 7.1
Solubility in Water: Fully miscible.
Organic solvents: 6.0 %
Water: 84 %
VOC content: 6.0%
Molecular Weight: NA

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**Section 10: Stability and Reactivity**

Stability: Stable.
Conditions to Avoid: Heat, flames and sparks.
Materials to Avoid (Incompatibility): ND
Hazardous Decomposition Products: No dangerous decomposition products known.
Hazardous Polymerization: No dangerous reactions known.

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**Section 11: Toxicological Information**

Results of component toxicity test performed:
Acute toxicity - LD/LC50 values relevant for classification

| | | |
|---|---|---|
| 50-00-0 Formaldehyde | Oral LD50: | >200 mg/kg (rat) |
| 67-56-1 Methyl alcohol | Oral LD50: | 5628 mg/kg (rat) |
| | Dermal LD50: | 15800 mg/kg (rat) |

Primary irritant effect:
Skin: Irritant to skin and mucous membranes.
Eyes: Strong irritant with the danger of severe eye injury.
Sensitization: Sensitization possible through skin contact.
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations: Toxic, Harmful, Irritant, Carcinogenic.
Human experience: ND
This product **does** contain compounds listed by NTP or IARC or regulated by OSHA as a carcinogen. See Section 15.

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**Section 12: Ecological Information**
Ecological Information: Water hazard class 1 (Self-assessment): Slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Chemical Fate Information: ND

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**Section 13 Disposal Considerations**
RCRA 40 CFR 261 Classification: ND
Recommendation: Must not be disposed of 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.

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**Section 14: Transportation Information**
US DOT Information: Not regulated.
IATA: Not regulated.
Limitations: Formaldehyde solutions from 10% to 24.9% are regulated by IATA as: UN3334, Aviation regulated, n.o.s. (10%-24.9% Formaldehyde solution). Office of Hazardous Materials Safety Regulations and Interpretations; Refer# 01-0271. Refer to IATA for specific operator regulations.
Marine Pollutant: No
Canadian TDG: Not regulated.
Ground Limitations: Reportable Quantity (RQ): 2500 lbs. At RQ limit is regulated. US DOT, Combustible liquid, n.o.s. (Formaldehyde, Methanol), 3, NA1993.

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**Section 15: Regulatory Information**
**United States Federal Regulations**
SDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.
SARA: Section 355 (extremely hazardous substances): 50-00-0 formaldehyde
SARA Title III: Section 313 (Specific toxic chemical listings): 50-00-0 formaldehyde. 67-56-1 Methyl Alcohol.
RCRA: ND
TSCA (Toxic Substances Control Act): All ingredients are listed.
CERCLA: Formaldehyde 50-00-0: RQ = 100 lbs (45.4 Kg).
**State Regulations**
California Proposition 65: Yes; chemicals known to cause cancer: 50-00-0 formaldehyde
Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed.
Chemicals known to cause developmental toxicity: 67-56-1 Methyl Alcohol.

**Carcinogenic categories:**
EPA (Environmental Protection Agency): 50-00-0 formaldehyde - B1
TLV (Threshold Limit Value established by ACGIH): 50-00-0 formaldehyde - A2
NIOSH-Ca (National Institute for Occupational Safety and Health): 50-00-0 formaldehyde
OSHA-Ca (Occupational Safety & Health Administration): 50-00-0 formaldehyde
IARC (International Agency for Research on Cancer): 50-00-0 formaldehyde - 1
NTP (National Toxicology Program): 50-00-0 formaldehyde – K
**International Regulations**
Canada WHMIS: Canadian substance listings:
Canadian Domestic Substances List (DSL): All ingredients are listed.
Canadian Ingredient Disclosure list (limit 0.1%): 50-00-0 formaldehyde.
Canadian Ingredient Disclosure list (limit 1%): None of the ingredients is listed.
Europe EINECS Numbers: ND

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**Section 16: Other Information**
Label Information: Health Hazard.
European Risk and Safety Phrases: See Section 2.
European symbols needed: X, Harmful.
Canadian WHMIS Symbols:
B3 - Combustible liquid.
D2B - Toxic material causing other toxic effects.
**Abbreviations used in this document**
NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

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