TED PELLA, INC.
Microscopy Products for Science and Industry

Safety Data Sheet
Product No. 18508 Formaldehyde, 37%, microfiltered (Formalin)
Issue Date (5-8-15)
Review Date (9-11-15)

Section 1: Product and Company Identification
Product Name: Formaldehyde, 37%, microfiltered (Formalin),
Synonym: Methanal, Methyl aldehyde, Methylene oxide
Company Name
Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477
Domestic Phone (800) 237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
International Phone (01) (530) 243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
Chemtrec Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Hazard Identification
2.1 Classification of the substance or mixture

GHS Pictograms

GHS02 GHS06 GHS08 GHS05 GHS07

GHS Categories
GHS02 - Flammable
Flam. Liq. 3 H226: Flammable liquid and vapor.

GHS06 - Toxic
Acute Tox. 3 H311: Toxic in contact with skin.
Acute Tox. 3 H331: Toxic if inhaled
Acute Tox. 4 H302: Harmful if swallowed

GHS08 - Health
Carc. 2 H351: Suspected of causing cancer.
STOT SE 1 H370: Causes damage to organs.

GHS05 – Corrosion
Skin Corr. 1B H314: Causes severe skin burns and eye damage.
Eye Dam. 1 H318: Causes serious eye damage.

GHS07 – Irritant

Skin Sens. 1 H317: May cause an allergic skin reaction.

2.2 Label elements

Hazard pictograms

GHS02 GHS05 GHS06 GHS08

Signal Word: DANGER

Hazard-determining components of labeling: formaldehyde, methyl alcohol

Hazard statements:

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H370	Causes damage to organs.

Precautionary statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P322	Specific measures (see on this label).
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: NA

vPvB: NA

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
Label: T; Toxic - R23/24/25-39/23/24/25: Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
Label: C; Corrosive - R34: Causes burns.
Label: Xn; Harmful - R40: Limited evidence of a carcinogenic effect.
Label: Xi; Irritant - R37: Irritating to respiratory system.
Label: Xi; Sensitizing - R43: May cause sensitisation by skin contact.
Risk phrases:
23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.
34 - Causes burns.
37 - Irritating to respiratory system.
39/23/24/25 - Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if
swallowed.
40 - Limited evidence of a carcinogenic effect.
43 - May cause sensitisation by skin contact.
Safety phrases:
26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where
possible).
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: 4; Fire: 2; Reactivity: 0; Chronic Health Hazard: *
(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Emergency overview
Appearance: Colorless liquid.
Immediate effects: Toxic
Potential health effects
Primary Routes of entry: Inhalation, ingestion, contact with skin and eyes.
Signs and Symptoms of Overexposure: ND
Eyes: Toxic by contact with eye. Toxic: danger of very serious irreversible effects in contact with eyes.
Skin: Toxic in contact with skin. Toxic: danger of very serious irreversible effects in contact with skin.
Ingestion: Toxic if swallowed. Toxic: danger of very irreversible effects if swallowed.
Inhalation: Toxic by inhalation, Toxic: danger of very serious irreversible effects through inhalation.

Chronic Exposure: ND
Chemical Listed As Carcinogen Or Potential Carcinogen: Yes.
See Toxicological Information (Section11)

Potential environmental effects

See Ecological Information (Section 12)

Section 3: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m3	ACGIH TLV mg/m3	NTP	IARC	OSHA regulated
Formaldehyde (CAS: 50-00-0) EINECS: 200-001-8 H301; H311; H331; H351; H314; H317	25-50	TWA 0.75 ppm	0.37 mg/m^3 0.3 ppm	R	Group 1	Yes
Methyl Alcohol (67-56-1) EINECS: 200-659-6 H225; H302; H312; H315; H332; H370	10-25	260 mg/m^3 200 ppm	250 ppm	No	No	No

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Section 4: First Aid Measures

If accidental overexposure is suspected

General information: 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. Remove breathing equipment 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 doctor. In case of unconsciousness, place patient stably in side position for transportation.

Ingestion: Do not induce vomiting; call for medical help immediately. 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: 60 °C
Ignition temperature: 300 °C
Flammable Limits: Lower: 5.5 Vol %, Upper: 73.0 Vol %.
Auto-ignition point: Product is not self-igniting.
Fire Extinguishing Media: CO2, 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: Flammable, Corrosive.

Section 6: Accidental Release Measures
Steps to be Taken in Case Material is Released or Spilled
Personal precautions, protective equipment, and emergency procedures: Wear protective equipment. Keep unprotected persons away.
Environmental precautions: Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use neutralizing agent. Ensure adequate ventilation.
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:

Handling:	Ensure good ventilation/exhaustion at the workplace. Open and handle receptacle with care. Prevent formation of aerosols. Keep ignition sources away - Do not smoke. Keep respiratory protective device available.
Storage:	Keep from freezing. Keep container tightly sealed.
Storage temperature:	Room temperature.
Storage Pressure:	NA

Section 8: Exposure Controls / Personal Protection
Ingredients with limit values that require monitoring at the workplace

50-00-0 Formaldehyde	
WEL	Short-term value: 2.5 mg/m_3, 2 ppm Long-term value: 2.5 mg/m_3, 2 ppm
67-56-1 Methyl alcohol	
WEL	Short-term value: 333 mg/m_3, 250 ppm Long-term value: 266 mg/m_3, 200 ppm

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. Store protective clothing separately. Avoid contact with the eyes and skin.
Engineering Controls

Ventilation required:	Ensure good ventilation/exhaustion at the workplace. Use a chemical fume hood.

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 self-contained respiratory protective device.

Protective gloves: Wear protective gloves.
Skin protection: Wear protective gloves and clothing.
Eye protection: Tightly sealed goggles.
Additional clothing and/or equipment: Eye wash station.

Exposure Guidelines

See Composition/Information on Ingredients (Section 3)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Colorless liquid.
Odor (threshold): Strong (ND)
Specific Gravity (H_2O=1): 0.9045 g/cm³
Vapor Pressure at 20 °C: 128 hPa
Vapor Density (air=1): ND
Percent Volatile by volume: ND

Evaporation Rate (butyl acetate=1): ND
Boiling Point: 64 °C
Freezing point / melting point: ND
pH: 7
Solubility in Water: Fully miscible.
Organic solvents: 49.0 %, Water: 51.0 %
VOC (EC) 49.00 %
Molecular Weight: NA

Section 10: Stability and Reactivity

Stability: Stable.
Conditions to Avoid: No further relevant information available.
Materials to Avoid (Incompatibility): No further relevant information available.
Hazardous Decomposition Products: No decomposition if used according to specifications.
Hazardous Polymerization: No dangerous reactions known.

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 (Rabbit)

Primary irritant effect

On the skin: Caustic effect on skin and mucous membranes.
On the eye: Strong caustic effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information

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:

Toxic, Corrosive, Irritant, Harmful

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of the esophagus and stomach.

Human experience: Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach

This product **does** contain compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information

Ecological Information

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: Water hazard class 2 (German Regulation) (Self-assessment): Hazardous for water. Do not allow product to reach ground water, water course or sewage system. Must not reach sewage water or drainage ditch undiluted or un-neutralized. Danger to drinking water if even small quantities leak into the ground.

Chemical Fate Information: ND

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: ND

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.

Section 14: Transportation Information

US DOT Information: Proper shipping name: Formaldehyde solutions, flammable

Hazard Class: 3

Subsidiary Hazard Class: 8

Packaging group: III

UN Number: UN1198

IATA: Proper shipping name: Formaldehyde solutions, flammable

Hazard Class: 3

Subsidiary Hazard Class: 8

Packaging group: III

UN Number: UN1198

Marine Pollutant: No

Canadian TDG: Formaldehyde solutions, flammable

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: All ingredients are listed.
CERCLA: Formaldehyde 50-00-0: RQ = 100 lbs (45.4 Kg).
State Regulations
California Proposition 65: This chemical is known to the State of California 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.
A Chemical Safety Assessment has not been carried out.
International Regulations
Canada WHMIS: Canadian Domestic Substances List (DSL): All ingredients are listed.
Canadian Ingredient Disclosure list (limit 0.1%): 50-00-0 formaldehyde.
Europe EINECS Numbers: 200-659-6

Section 16: Other Information
Label Information: Flammable, Toxic, Health Hazard, Corrosive, Irritant.
European Risk and Safety Phrases: See Section 2
European symbols needed: T - Toxic, C - Corrosive, X_n - Harmful, X_i – Irritant, Xi – Sensitizing.
Canadian WHMIS Symbols: ND
Abbreviations used in this document
NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

Disclaimer
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