

# Safety Data Sheet

## FORMAL ALCOHOL, 10%

### Section 1 - Chemical Product and Company Identification

**SDS Name:** Formal Alcohol, 10%

**Catalog Numbers:** B-172-5

**Company Identification:** Transene Company, Inc., DBA ROWLEY BIOCHEMICAL, Inc.  
10 ELECTRONICS AVENUE  
DANVERS, MA 01923

**For information, call:** 978-739-4883

**Emergency Number:** 800-424-9300

**For CHEMTREC assistance, call:** 800-424-9300

### Section 2 - Hazards Identification

#### GHS Classifications

H225-Flammable liquids: 2

H301-Acute toxicity, oral: 3

H311-Acute toxicity, dermal: 3

H314-Skin corrosion/irritation: 1B

H317-Sensitisation, skin: 1

H318-Serious eye damage/eye irritation: 1

H331-Acute toxicity, inhalation: 3

H335-Specific target organ toxicity, single exposure: 3

H341-Germ cell mutagenicity: 2

H350-Carcinogenicity: 1A

H370-Specific target organ toxicity, single exposure: 1

H372-Specific target organ toxicity, repeated exposure: 1

H401-Hazardous to the aquatic environment, acute toxicity: 2

#### Pictograms or Hazard symbols and Hazard statement(s):



Signal Word: Danger

## **Hazard Statements:**

H225-Highly flammable liquid and vapour  
H301-Toxic if swallowed  
H311-Toxic in contact with skin  
H314-Causes severe skin burns and eye damage  
H317-May cause an allergic skin reaction  
H318-Causes serious eye damage  
H331-Toxic if inhaled  
H335-May cause respiratory irritation  
H341-Suspected of causing genetic defects  
H350-May cause cancer  
H370-Causes damage to organs (target organs: respiratory system, central nervous system, and optic nerve)  
H372-Causes damage to organs through prolonged or repeated exposure (target organs: kidney, liver, heart, spleen, and blood)  
H401-Toxic to aquatic life

## **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, hot surfaces, sparks, open flames, and other ignition sources. No smoking.  
P233-Keep container tightly closed.  
P240-Ground and bond container and receiving equipment.  
P241-Use explosion-proof electrical/ventilating/lighting/equipment.  
P242-Use non-sparking tools.  
P243-Take action to prevent static discharges.  
P260-Do not breathe dust/fume/gas/mist/vapours/spray.  
P261-Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264-Wash thoroughly after handling.  
P270-Do not eat, drink, or smoke when using this product.  
P271-Use only outdoors or in a well-ventilated area.  
P272-Contaminated work clothing should not be allowed out of the workplace.  
P273-Avoid release to the environment.  
P280-Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P310-If swallowed: Immediately call a Poison Center or doctor/physician.  
P301+P330+P331-If swallowed: Rinse mouth. Do NOT induce vomiting.  
P302+P352-If on skin: Wash with plenty of soap and water.  
P303+P361+P353-If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340-If Inhaled: Remove person to fresh air and keep 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.  
P307+P311-If exposed: Call a Poison Center or doctor/physician.  
P308+P313-If exposed or concerned: Get medical advice/attention.  
P310-Immediately call a Poison Center or doctor/physician.  
P311-Call a Poison Center or doctor/physician.  
P312-Call a Poison Center or doctor/physician if you feel unwell.  
P314-Get medical advice/attention if you feel unwell.  
P330-Rinse mouth.  
P333+P313-If skin irritation or rash occurs: Get medical advice/attention.  
P361+P364-Take off immediately all contaminated clothing and wash it before reuse.  
P362+P364-Take off contaminated clothing and wash it before reuse.  
P363-Wash contaminated clothing before reuse.

P370+P378-In case of fire: Use dry chemical, carbon dioxide, dry sand, water spray, or alcohol-resistant foam to extinguish.

P403+P233-Store in a well-ventilated place. Keep container tightly closed.

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.

### Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
50-00-0	Formaldehyde 37-40% Solution (contains water and methanol)	10 v/v
64-17-5	Ethanol	85.5 v/v
67-56-1	Methanol	4.5 v/v

### Section 4 - First Aid Measures

**Eye Exposure:** In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Remove contact lenses if present. Seek immediate medical attention.

**Dermal Exposure:** In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek immediate medical attention. Wash clothing and shoes before reuse.

**Oral Exposure:** If swallowed, seek immediate medical advice. Do NOT induce vomiting. Rinse mouth with water.

**Inhalation Exposure:** If inhaled, remove to fresh air. Seek immediate medical attention.

### Section 5 - Fire Fighting Measures

**General Information:** Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire.

Note: Causes burns of the eyes, skin, and mucous membranes.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, dry sand, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

**Hazardous Combustion Products:** Carbon oxides, hydrogen, formaldehyde, irritating and toxic fumes and gases.

**Flash Point:** Not available

**Autoignition Temperature:** Not available

**Explosion Limits, Lower:** Not available

**Upper:** Not available

**NFPA Rating:** (estimated) Health: 3; Flammability: 4; Instability: 0

Note: Static discharge could act as an ignition source.

## Section 6 - Accidental Release Measures

### **Procedure(s) of Personal Precaution(s):**

Wear personal protective equipment. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation. Keep away from heat. Eliminate all sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharge.

**Methods for Cleaning up:** Absorb with inert material such as sand, earth, or vermiculite. Do NOT absorb with combustible material such as saw dust or cellulosic material. Carefully sweep up and containerize for proper disposal. Use only non-sparking tools. Use explosion-proof equipment and take precautionary measures against static discharge. Do not release to the environment. Do not release to drains.

## Section 7 - Handling and Storage

Use care when handling. Wear personal protective equipment. Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Store in a cool, dry, and well-ventilated area. Keep in a tightly closed and non-metal container. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting/equipment. Use proper grounding procedures to avoid static electricity. Keep away from incompatible materials. Protect from heat. Vapors heavier than air may travel considerable distance and ignite or explode.

NOTE: Static discharge could act as an ignition source.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### **Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by

OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

#### Exposure Limits:

Chemical Name	ACGIH - TLV	NIOSH - IDLH	OSHA - Final PELs
Formaldehyde CAS#50-00-0	0.1 ppm TWA 0.3 ppm STEL	0.1 ppm Ceiling 0.016 ppm TWA 20 ppm IDLH	0.75 ppm TWA 2 ppm STEL
Ethanol CAS#64-17-5	1000 ppm STEL	1000 ppm TWA 1900 mg/m3 TWA 3300 ppm IDLH	1000 ppm TWA 1900 mg/m3 TWA
Methyl Alcohol CAS#67-56-1	200 ppm TWA 250 ppm Skin STEL	200 ppm TWA 260 mg/mg3 TWA 250 ppm STEL 325 mg/m3 STEL 6000 ppm IDLH	200 ppm TWA 260 mg/m3 TWA

**OSHA Vacated PELs:** Formaldehyde: 5 ppm Ceiling; 3 ppm TWA; 10 ppm STEL  
Ethanol: 1000 ppm TWA; 1900 mg/m3 TWA  
Methyl Alcohol: 200 ppm TWA; 260 mg/mg TWA; 250 ppm STEL;  
325 mg/m3 Skin STEL

#### Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** Clear, colorless

**Odor:** Pungent, alcohol-like

**Vapor Pressure:** Not available

**Odor Threshold:** Not available

**Vapor Density:** Not available

**pH:** Approx. 3.65-5.53

**Relative Density:** Not available

**Melting point/freezing point:** Not available

**Solubility:** Soluble in water

**Boiling Point:** Not available

**Flash Point:** Not available

**Evaporation Rate:** Not available

**Flammability (solid, gas):** Not available

**Partition coefficient: n-octanol/water:** Not available

**Auto-ignition Temperature:** Not available

**Decomposition Temperature:** Not available

**Viscosity:** Not available

**Specific Gravity/Density:** Not available

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures. Note: Vapors may form explosive mixtures with air. Reacts violently with oxidizers: Risk of fire/explosion.

**Conditions to Avoid:** Incompatible materials, ignition sources, excess heat, flames, and sparks. Avoid freezing.

**Incompatible Materials:** Strong oxidizing agents, acids, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium-tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide, strong bases, reducing agents, aniline, phenol, isocyanates, amines, peroxides, acid chlorides, nitriles, and metals.

**Hazardous Decomposition Products:** Carbon oxides, hydrogen, formaldehyde, irritating and toxic fumes and gases.

## Section 11 - Toxicological Information

### **CAS#50-00-0 Formaldehyde:**

LD50 Oral: 500 mg/kg (rat)

LD50 Dermal: 270 mg/kg (rabbit)

LC50 Inhalation: 0.578 mg/L 4h (rat)

**Carcinogenicity:** Formaldehyde CAS#50-00-0 is not listed by OSHA. Formaldehyde is listed by IARC (Group 1, Carcinogenic to Humans), NTP (Known Carcinogen), ACGIH (A1, Known Human Carcinogen), and California Prop. 65 as a carcinogen.

### **CAS#64-17-5 Ethyl Alcohol: RTECS#: KQ6300000**

LD50 Oral: 10470 mg/kg (rat)

LD50 Dermal: Not available

LC50 Inhalation: 124.7 mg/L 4h (rat)

Draize test, rabbit, eye: 500 mg/24h Mild Irritant

Skin: Repeated exposure may cause skin dryness or cracking.

Ethyl Alcohol overexposure may lead to headache, dizziness, tiredness, nausea, and vomiting.

**Carcinogenicity:** Ethyl Alcohol CAS#64-17-5 is not listed by OSHA. Ethyl Alcohol is listed by IARC (Group 1, Carcinogenic to Humans), NTP (Known Carcinogen), and ACGIH (A3, Animal Carcinogen). Ethyl Alcohol is listed by California Prop. 65 as a developmental carcinogen (alcoholic beverages only).

### **CAS#67-56-1 Methyl Alcohol: RTECS#: PC1400000**

LD50 Oral: >1187-2769 mg/kg (rat)

LD50 Oral: 100.1 mg/kg (expert judgement)

LD50 Dermal: 17100 mg/kg (rabbit)

LD50 Dermal: 300.1 mg/kg (expert judgement)  
LC50 Inhalation: 128.2 mg/L 4h (rat)  
LC50 Inhalation: 3.1 mg/L 4h (expert judgement)

**Carcinogenicity:** Methyl Alcohol CAS#67-56-1 is not listed by IARC, NTP, ACGIH, or OSHA. Methyl Alcohol is listed by California Prop. 65 as a developmental carcinogen.

**Information on the likely routes of exposure:** Routes of entry anticipated: oral, dermal, inhalation, eye.

**Epidemiology:** Not available.

**Teratogenicity:** Teratogenic effects have occurred in experimental animals.

**Reproductive Effects:** Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects:** Developmental effects have occurred in experimental animals.

**Neurotoxicity:** Not available.

**Mutagenicity:** Mutagenic effects have occurred in humans.

**Specific Target Organ Toxicity, Single Exposure:** Respiratory system, central nervous system, and optic nerve.

**Specific Target Organ Toxicity, Repeated Exposure:** Kidney, liver, heart, spleen, and blood.

**Symptoms associated with exposure:** Headache, dizziness, tiredness, nausea, and vomiting. Corrosive material. Causes severe skin burns and eye damage. Risk of blindness. If ingested, severe burns of the mouth and throat, and danger of perforation of esophagus and stomach, stomach pains. May cause an allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, flushing.

Prolonged or repeated exposure can defat the skin and lead to irritation, cracking, redness, blistering and/or dermatitis. Eye contact may result in corneal damage, blindness, pain, irritation, watering, redness, blurred or double vision. Inhalation may cause respiratory tract irritation, coughing. Causes damage to organs if in contact with skin, if inhaled or if swallowed.

**The toxicological properties of this material have not been thoroughly investigated.**

Section 12 - Ecological Information
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**Ecotoxicity:** Do not release to the environment. Do not release to drains. Toxic to aquatic life. May cause long-term adverse effects in the aquatic environment.

**CAS#50-00-0 Formaldehyde:**

LC50, freshwater fish: 15 mg/L 96h (leuciscus idus)  
EC50, water flea: 20 mg/L 96h  
EC50, water flea: 2 mg/L 48h

**CAS#64-17-5 Ethyl Alcohol:**

EC50, freshwater algae: 275 mg/L 72h (chlorella vulgaris)

LC50, freshwater fish: 14200 mg/L 96h (pimephales promelas)(fathead minnow)  
EC50, water flea: 9268 mg/L 48h, 10800 mg/L 24h  
EC50, water flea: 10800 mg/L 24h  
EC50, microtox: 34634 mg/L 30min (photobacterium phosphoreum)  
EC50, microtox: 35470 mg/L 5min (photobacterium phosphoreum)

**CAS#67-56-1 Methyl Alcohol:**

LC50, freshwater fish: >10000 mg/L 96h (pimephales promelas)(fathead minnow)  
EC50, water flea: >10000 mg/L 24h  
EC50, algae: 22000 mg/L 96h (pseudokirchneriella subcapitata)(green algae)  
IC50, bacteria: >1000 mg/L 3h

**Persistence and degradability:** Persistence is unlikely based on available information.

**Bio-accumulative potential:** Not available.

**Mobility:** Will likely be mobile in the environment due to its water solubility and volatility.

Section 13 - Disposal Considerations
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**DISPOSAL:** Dispose of in accordance with all federal, state, and local regulations.

Section 14 – Transport Information
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**DOT**

Proper Shipping name: Flammable liquids, corrosive, N.O.S. (SD Alcohol & Formaldehyde)  
UN2924  
PG II  
Hazard class 3 (8)

Section 15 - Regulatory Information
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**Canada Regulatory Information**

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

Section 16 - Additional Information
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**SDS Creation Date:** 11/1/12

**Revision #1.** 8/31/15 RC

**Revision #2.** 3-15-19

**Revision #3.** 11-1-22



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