

**MATERIAL SAFETY DATA SHEET**

IN CASE OF EMERGENCY, CONTACT: CHEMTREC (24HR) 800-424-9300



Manufacturer: Poly Scientific R&D Corp  
 70 Cleveland Ave  
 Bay Shore, NY 11706  
 631-586-0400  
 polyrnd@polyrnd.com  
 www.polyrnd.com

**Hazardous Materials Identification System**

Health.....: 3  
 Flammability.....: 2  
 Reactivity.....: 0  
 \*PPE.....: g

\*See Section 8

**Section 1: Chemical Product and Company Identification**

Item Number: s129-1  
 Common Name: Bouin's Fixative  
 Chemical Name(s): Formaldehyde, Methanol  
 Chemical Family: Aldehyde, Aliphatic,Carb  
 Chemical Formula: Mixture

**Section 2: Composition Information**

Exposure Limits(A blank value indicates no information available)

Component	CAS#	PEL(mg/m3)	STEL(mg/m3)	CEIL(mg/m3)
Picric Acid	88-89-1		0.10	
Acetic Acid, Glacial	64-19-7	15.00	10.00	
Methanol	67-56-1	325.00	260.00	
Formaldehyde	50-00-0	0.37	2.00	

**Section 3: Hazards Identification**

Potential Acute Health Effects: Hazardous in case of inhalation, eye contact, skin contact, ingestion

Potential Chronic Health Effects: Formaldehyde: OSHA Carcinogen; IARC Code 3; NTP Code 2

**Section 4: First Aid Measures**

Eye Contact: Check for and remove contact lenses. Wash with large amounts of water for 15 minutes. Seek medical attention.

Skin Contact: Remove contaminated clothing and shoes. Wash the affected area with large with soap and water. Seek medical attention

Ingestion: Give two glasses of water to a conscious victim. Do not induce vomiting. Seek medical attention

Inhalation: Move person to fresh air. If necessary give CPR; warning this could pose a risk of exposure to the rescue breather. Seek medical attention

**Section 5: Fire and Explosion Data**

Flash Point (F) TCC: N/A

Lower Flammability Limit (%): N/A

Upper Flammability Limit (%): N/A

Extinguishing Media: Dry Chemical, Carbon Dioxide or Foam

Special Fire and Explosion Remarks: N/A

**Section 6: Accidental Release Measures**

Spill Cleanup and Disposal Special: Eliminate ignition sources. Pick up with absorbent material

Spill Cleanup: Take up spills with absorbant material and containerize for proper disposal

**Section 7: Handling and Storage**

Storage and Handling Special: N/A

Storage and handling: Keep container tightly closed. Store in a cool, dry area and protect from physical damage

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

Personal Protective Equipment: Safety Glasses, Gloves, Vapor Respirator

This information is provided as a guide but proper PPE can only be determined by the end user and their situation.

Engineering Controls: Provide local exhaust ventilation to keep the airborne concentrations of vapors below their respective threshold limit values. Ensure that eyewash stations and safety showers are local to the work-station.

**Section 9: Physical and Chemical Properties**

Note: Quantative data below is

Appearance.....: clear yellow

pH.....: N/A

Vapor Pressure (mm Hg).....: 152

Volatile Percent.....: 100

Odor.....: Pungent, suffocating

Specific Gravity (@20C).....: 1.047

Vapor Density (Air=1).....: 0.83

Water Soluable?.....: Yes

**Section 10: Stability and reactivity**

Special Remarks on Stability: Stable

Special Remarks on Reactivity: N/A

Water Reactive: No

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**Section 11. Toxicological Information**

Routes of Entry: Inhalation, Ingestion, Skin Absorption

Animal Toxicity: Formaldehyde: Acute Oral (LD50) 42 mg/kg (Mouse) Acute Dermal (LD50) 0.27 mg/kg (Rabbit); Methanol: Acute Oral (LD50) 6.3 g/kg (Rabbit)

Human Toxic Effects: Target Organs: Respiratory System, Skin, Eyes

**Section 12. Ecological Information**

Ecological Information: N/A

**Section 13. Disposal Considerations**

Waste Disposal: Dispose of in accordance with local, state and federal laws.

**Section 14. Transport Information**

DOT Identification: Non Hazardous

**Section 15. Regulatory Information**

State Regulations: New York Release reporting list: Formaldehyde, Methanol  
Sara Section 311 Reporting

Component	CAS#	Acute	Chronic	Fire	Pressure	Reactive	SARA302	SARA313	CERCLA	RCRA
Picric Acid	88-89-1	No	No	No	No	No	No	Yes	No	No
Acetic Acid, Glacial	64-19-7	No	No	No	No	No	No	No	Yes	No
Methanol	67-56-1	No	No	No	No	No	No	Yes	Yes	No
Formaldehyde	50-00-0	No	No	No	No	No	Yes	Yes	Yes	No

**Section 16. Other Information**

Review Date: 7/29/2009

Reviewed by: tdo

MSDS Group Id: 47

Notice: This MSDS applies only to the material as packaged. If the material is altered by any means it may pose risks not mentioned here.

It is the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use.

While this MSDS is based on reliable technical data, Poly Scientific R&D Corp. assumes no responsibility for the completeness or accuracy of the information contained herein.

**EMERGENCY:** CHEMTREC (800) 424-9300

**SECTION I PRODUCT IDENTIFICATION**

**NAME:** BOUIN FLUID CATALOG#: 1020  
 BOUIN FLUID VIALS 10201  
 BOUIN FLUID; TRICHROME STAIN KIT, GOMORI ONE-STEP, ANILINE BLUE, SOL'N A 9176  
 BOUIN FLUID; TRICHROME STAIN KIT, GOMORI ONE-STEP, LIGHT GREEN, SOL'N A 9175  
 BOUIN FLUID; TRICHROME STAIN KIT, MASSON, ANILINE BLUE, SOL'N A 9179  
 BOUIN FLUID; TRICHROME STAIN KIT, MASSON, LIGHT GREEN, SOL'N A 9180  
**CHEMICAL NAME:** SATURATED AQUEOUS SOLUTION

**SECTION II.A HAZARDOUS INGREDIENTS**

NAME	%	CAS#	ACGIH		OSHA	
			TWA/STEL		TWA/CEIL	
1. PICRIC ACID	<1	88-89-1	0.1mg/m <sup>3</sup>	0.3mg/m <sup>3</sup>	0.1mg/m <sup>3</sup>	NK
2. FORMALDEHYDE	10	50-00-0	1ppm	2ppm	3ppm	5ppm
3. GLACIAL ACETIC ACID	5-6	64-19-7	10ppm	15ppm	10ppm	NK
4. METHYL ALCOHOL	<1	67-56-1	200ppm	250ppm	200ppm	250ppm

**SECTION II.B EMERGENCY OVERVIEW**

FORMS VERY SENSITIVE EXPLOSIVE COMPOUND WHEN DRY. DO NOT ALLOW SOLUTIONS TO EVAPORATE COMPLETELY. HARMFUL IF INHALED OR SWALLOWED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN.

**SECTION II.C HAZARDOUS INGREDIENTS REGULATORY INFORMATION**

NAME	EPA#	SARA REPORTING
1. PICRIC ACID	D003	313
2. FORMALDEHYDE	U122	313
3. ACETIC ACID	D002	NONE
4. METHYL ALCOHOL	U154	313

**SECTION III GENERAL PHYSICAL & CHEMICAL INFORMATION ABOUT THIS PRODUCT**

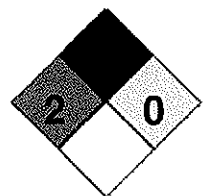
**BOILING POINT:** NA      **% VOLATILES BY VOLUME:** NA  
**MELTING POINT:** NA      **SPECIFIC GRAVITY:** NK  
**VAPOR PRESSURE:** NK      **WATER SOLUBILITY:** COMPLETE  
**pH AS SUPPLIED:** NK      **EVAPORATION RATE:** NK  
**PHYSICAL DESCRIPTION:** SOLID ( ) LIQUID ( X ) GAS ( ) SUSPENSION ( ) EMULSION ( )  
**PHYSICAL APPEARANCE, ODOR, COLOR:** CLEAR, YELLOW SOLUTION WITH A STRONG ODOR OF FORMALDEHYDE AND ACETIC ACID

**SECTION IV FIRE AND EXPLOSION HAZARD DATA**

**FLAMMABLE:** NO      **FLASH POINT:** NA      **LEL:** NA      **UEL:** NA

**NFPA HAZARD CLASS:**

<b>HEALTH HAZARD</b>	<b>2</b>	<b>0 = LEAST</b>
<b>FLAMMABILITY</b>	<b>1</b>	<b>1 = SLIGHT</b>
<b>REACTIVITY</b>	<b>0</b>	<b>2 = MODERATE</b>
<b>OTHER</b>		<b>3 = HIGH</b>
		<b>4 = EXTREME</b>



**EXTINGUISHING MEDIA:** DRY CHEMICAL, "ALCOHOL RESISTANT" FOAM, CARBON DIOXIDE, WATER SPRAY

**SPECIAL FIRE FIGHTING PROCEDURES:** WEAR POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS. APPROACH FROM UPWIND. USE WATER SPRAY TO COOL SURROUNDING CONTAINERS AND TO KNOCK DOWN TOXIC FUMES.

**UNUSUAL FIRE & EXPLOSION HAZARDS:** COMBUSTION MAY EMIT TOXIC AND IRRITATING FUMES.

#### **SECTION v REACTIVITY DATA**

**STABILITY:** STABLE IN A CLOSED CONTAINER WITHIN LABEL SPECIFIED STORAGE TEMPERATURE AND EXPIRATION DATE.

**INCOMPATIBLE MATERIALS (AVOID CONTACT WITH):** STRONG OXIDIZERS, ACIDS, ALKALIES

**HAZARDOUS DECOMPOSITION PRODUCTS:** FORMALDEHYDE GAS, CARBON MONOXIDE/DIOXIDE

**HAZARDOUS POLYMERIZATION:** WILL NOT OCCUR.

#### **SECTION vi HEALTH HAZARD DATA**

##### **ROUTES OF ENTRY/SYMPTOMS:**

**EYE CONTACT:** IRRITATION WITH PAINFUL BURNING OR STINGING SENSATION, WATERING, INFLAMMATION OF EYELIDS, EYES BECOME PAINFUL IN OR SENSITIVE TO LIGHT.

**SKIN CONTACT:** FEELING OF COLD, ITCHING (DUE TO DRYING OF SKIN), IRRITATION, REDNESS.

**INHALATION (BREATHING):** IRRITATION OF THE NOSE AND THROAT, LACK OF COORDINATION, HEADACHE, MENTAL CONFUSION, VISUAL DISTURBANCE, TIREDNESS, NAUSEA, VOMITING, DIZZINESS, HEAD FEELS HOT AND FACE IS FLUSHED, PALENESS OF COMPLEXION.

**INGESTION (SWALLOWING):** GASTRO INTESTINAL IRRITATION, EXCITABILITY, LACK OF COORDINATION, DRUNKEN BEHAVIOUR, MENTAL CONFUSION, HEADACHE, VISUAL DISTURBANCE, TIREDNESS, NAUSEA, VOMITING, DIZZINESS, DROWSINESS, STUPOR, HEAD FEELS HOT AND FACE IS FLUSHED, STAGGERING, PALENESS OF COMPLEXION.

##### **EMERGENCY FIRST AID PROCEDURES:**

**EYE CONTACT:** REMOVE VICTIM TO NEAREST SOURCE OF CLEAN WATER. BLOT EXCESS CHEMICAL FROM FACE AND GENTLY RINSE AFFECTED EYE (S) WITH TEPID (NOT HOT) WATER FOR AT LEAST 15 MIN. TRY TO GET AS MUCH OF THE EYEBALL(S) AS POSSIBLE. HAVE VICTIM REMOVE CONTACTS, IF PRESENT. GET MEDICAL ATTENTION. IF EYES ARE PAINFUL IN OR SENSITIVE TO LIGHT, PROTECT EYES WITH A CLEAN, LOOSELY TIED TOWEL OR BANDAGE. MAINTAIN PHYSICAL AND VERBAL CONTACT UNTIL HELP ARRIVES.

**SKIN CONTACT:** REMOVE VICTIM TO NEAREST SOURCE OF CLEAN WATER. WASH AFFECTED AREA UNDER TEPID (NOT HOT) WATER USING A MILD SOAP. RINSE THOROUGHLY FOR AT LEAST 15 MIN. AND DRY GENTLY. GET MEDICAL ATTENTION. MONITOR VICTIM'S HEARTBEAT BY TAKING HIS PULSE EVERY FEW MINUTES; BE PREPARED FOR CPR.

**INHALATION (BREATHING):** REMOVE VICTIM AWAY FROM SOURCE OF EXPOSURE AND INTO FRESH AIR. GET MEDICAL ATTENTION. IF BREATHING HAS STOPPED, OPEN AIRWAY, LOOSEN TIGHT CLOTHING, GIVE MOUTH-TO-MOUTH, GIVE OXYGEN BY MASK. IF UNCONSCIOUS, LAY VICTIM DOWN ON HIS BACK AND OPEN AIRWAY, LOOSEN TIGHT CLOTHING, GIVE OXYGEN. IF COUGHING OR SHORT OF BREATH OR SIMPLY OVERWHELMED, LAY VICTIM DOWN, LOOSEN TIGHT CLOTHING, COVER , KEEP HIM CALM AND QUIET, GIVE OXYGEN.

**INGESTION (SWALLOWING):** REMOVE VICTIM TO WELL-VENTILATED AREA. GET MEDICAL ATTENTION. IF BREATHING STOPS, WIPE CHEMICAL FROM FACE AND GIVE MOUTH-TO-MOUTH, GIVE OXYGEN. IF FACE IS BLUE OR BREATHING IS LABORED, OPEN AIRWAY AND GIVE OXYGEN. IF UNCONSCIOUS: LAY VICTIM ON LEFT SIDE , LOOSEN BELT & COLLAR. IF CONSCIOUS: LOOSEN TIGHT CLOTHING, KEEP HIM QUIET AND CALM, AND UNLESS OTHERWISE DIRECTED, INDUCE VOMITING BY GIVING 2 tbsp IPECAC FOLLOWED BY A GLASS OF WATER. HAVE HIM SITTING UP AND LEANING FORWARD WHILE VOMITING.

**TOXICITY DATA:** \*\* FORMALDEHYDE: LD50 ORALLY IN RATS: 0.80g/kg. OSHA REGULATED CARCINOGEN; IARC GROUP 2A CARCINOGEN (LIMITED EVIDENCE IN HUMANS, SUFFICIENT EVIDENCE IN ANIMALS). PICRIC ACID: LOCAL OR GENERAL ALLERGIC REACTIONS MAY OCCUR FOLLOWING TOPICAL USE. TOXIC. IRRITANT. TOXIC BY ABSORPTION. ACETIC ACID: LD50 ORALLY IN RATS: 3.53g/kg. CORROSIVE.



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## SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

**IN EVENT OF SPILL OR RELEASE:** WEAR APPROPRIATE PROTECTIVE GEAR. CONTAIN SPILL. KEEP SPILLED MATERIAL WET WITH WATER; RUNOFF TO SEWER MAY CREATE FIRE OR EXPLOSION HAZARD. IF SOLIDS ARE PRESENT, ADD WATER TO THE SOLIDS WITHOUT STIRRING. DO NOT ALLOW TO DRY OUT. USE SPILL RESPONSE PAD OR ABSORBENT MATERIAL DAMP WITH WATER TO ABSORB REMAINING MATERIAL. DISPOSE OF SPILLED MATERIAL AND MATERIALS USED IN CLEANUP IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.

**WASTE DISPOSAL METHOD:** KEEP ALL WASTE WET; FORMS AN EXPLOSIVE SOLID IF ALLOWED TO DRY OUT. IT MAY BE NECESSARY TO DISPOSE OF THIS MATERIAL AS A HAZARDOUS WASTE. CONTACT EPA OR STATE ENVIRONMENTAL AGENCY FOR ASSISTANCE. DISPOSE OF ALL MATERIAL IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.

**STORAGE AND HANDLING PRECAUTIONS:** REFER TO INDIVIDUAL BOTTLE LABEL FOR PROPER STORAGE TEMPERATURE. STORE THE TIGHTLY CLOSED CONTAINER IN A COOL, DRY, WELL-VENTILATED AREA AWAY FROM INCOMPATIBLE SUBSTANCES. SEPARATE FROM STRONG OXIDIZERS, ACIDS, AND ALKALIES. KEEP AWAY FROM HEAT, FLAME, AND IGNITION SOURCES. DO NOT HEAT. WIPE OFF BOTTLE NECK AND INSIDE CAP AFTER EACH USE.

## SECTION VIII CONTROL MEASURES

**RESPIRATION PROTECTION:** NONE GENERALLY NEEDED UNDER ORDINARY LAB CONDITIONS.

**VENTILATION:** LOCAL EXHAUST AND CHEMICAL FUME HOODS.

**GLOVES:** BUTYL OR NITRILE GLOVES RECOMMENDED.

**EYE PROTECTION:** SPLASH-PROOF CHEMICAL SAFETY GOGGLES.

**OTHER PROTECTION EQUIPMENT:** EYE WASH, SAFETY SHOWER, BLANKET, LAB COAT, RUBBER APRON, CHEMICAL-RESISTANT BOOTS, FIRE EXTINGUISHER.

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