

# MATERIAL SAFETY DATA SHEET

## Richard Allan Scientific Buffered Wright Stain

Manufactured by:  
Richard-Allan Scientific  
225 Parsons Street  
Kalamazoo, MI 49007-3538

CHEMTREC (800) 424-9300

(800) 522-7270 8.00 a.m. - 5.00 p.m. EST  
Everyday

24 hours

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### 1. SUBSTANCE IDENTIFICATION

SUBSTANCE: **Wright Stain Solution**

CATALOG NUMBER: 3111

### 2. COMPOSITION AND INGREDIENTS INFORMATION

Methyl Alcohol	CAS#67-56-1	>99%
Wright Stain	CAS# 68988-92-1	<1%

### 3. HAZARDOUS IDENTIFICATION:

NFPA RATINGS (SCALE 0-4)                      HEALTH = 1                      FIRE = 3                      REACTIVITY = 0

#### Emergency Overview: **DANGER: FLAMMABLE, POISON, IRRITANT**

Wright Stain contains methanol, a flammable, colorless, poisonous liquid with a slight alcohol odor. Methanol is a suspected teratogen with experimental reproductive effects. Vapor is harmful, may be fatal or cause blindness if swallowed. It cannot be made nonpoisonous. Methanol is harmful if inhaled and causes irritation to eyes, skin and respiratory tract.

**Primary Routes of Exposure:** Inhalation, ingestion, skin and eye contact.

**Acute Effects:** Irritation of eyes, nose, throat and mucous membranes of the upper respiratory tract. Breathing of vapor, absorption through skin, or ingestion can cause permanent blindness. Exposure to high concentrations can cause headaches, nausea, vomiting, dizziness, loss of consciousness or death.

**Chronic Effects:** Irritation of the eyes, nose, throat and mucous membranes of the upper respiratory tract. Repeated exposure can cause dryness, irritation, inflammation of the skin, visual impairment with symptoms ranging from mild blurring to contraction of visual fields to sometimes complete blindness. Long term effect may include liver damage.

**Potential Health Effects:**

**Inhalation:** May cause irritation of mucous membranes and respiratory tract.

**Eye Contact:** Vapor may cause eye irritation, contact may cause severe irritation.

**Skin Contact:** Contact with liquid could cause staining, irritation, dryness and cracking of the skin.

**Ingestion:** May cause nausea, vomiting, dizziness, blindness or death.

**4. FIRST AID PROCEDURES:**

**Inhalation:** Remove from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult give oxygen. Get medical attention immediately.

**Eye Contact:** Flush eyes immediately with large amounts of water, occasionally lifting upper and lower lids for at least 15-20 minutes. If irritation persists, seek medical attention.

**Skin Contact:** Remove contaminated clothing and shoes immediately. Wash effected area with soap or mild detergent and large amounts of water. If irritation persists, seek medical attention.

**Ingestion:** If swallowed, induce vomiting by giving two glasses of water and sticking fingers down throat. Keep victims head lower than hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

5% be in ANTIDOTE: Give ethanol, 50% (100 proof), 1.5 mL/Kg orally initially, diluted to no more than solution, followed by 0.5-1.0 mL/Kg every 2 hours orally or intravenously for 4 days in order to reduce metabolism of methanol and to allow time for its excretion. Blood ethanol level should be in the range of 1-1.5 mg/mL (Dreisbach, Handbook of Poisoning, 12th ed.). Antidote should be administered by qualified medical personnel.

**5. FIRE FIGHTING PROCEDURES**

FIRE AND EXPLOSION HAZARD: DANGEROUS FIRE HAZARD AND MODERATE EXPLOSION HAZARD WHEN EXPOSED TO HEAT, FLAME, OR OXIDIZERS. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO THE SOURCE OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURE IS EXPLOSIVE.

**FLASH POINT:** 54°F (12°C) (CC) Methanol  
**LOWER EXPLOSIVE LIMITS:** 6.0%

**UPPER EXPLOSIVE LIMIT:** 36.0%  
**AUTOIGNITION TEMP:** 752°F (385°C)

**FIRE FIGHTING MEDIA:** DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL-RESISTANT FOAM (1993 Emergency Response Guidebook, DOT P 5800.5). FOR LARGER FIRES USE WATER SPRAY, FOG, OR ALCOHOL - RESISTANT FOAM (1993 Emergency Response Guidebook), DOT P 5800.5).

**FIRE RESPONSE PROCEDURES:** Remove container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Extinguish only if flow can be stopped. Use flooding amounts of water as fog: solid streams

may be ineffective. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors; keep upwind. Fire fighters should wear full protective clothing and NIOSH approved self contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Water spray can be used to extinguish fires and cool fire-exposed containers. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Containers may explode in fire, methanol burns with a non-luminous blue flame. Vapors are heavy and will travel long distances back to a source of ignition. POISONOUS GASES ARE PRODUCED IN THE FIRE. CONTAINERS MAY EXPLODE IN FIRE.

## 6. ACCIDENT RELEASE MEASURES:

**SMALL OR LARGE SPILL:** Shut off ignition sources. Do not touch spill material. Stop leak if you can do it without risk. Take up spilled material with sand or other absorbent material and place into containers for later disposal. No smoking, flames or flares in hazard area! Keep unnecessary people away.

### **REPORTABLE QUANTITY (RQ): 5000 POUNDS**

The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the national response center must be notified immediately at (800) 424-8882 or (202) 426-2675 in the metropolitan Washington, D. C. area (40 CFR 302.6).

## 7. HANDLING AND STORAGE:

**GENERAL HANDLING:** Keep away from heat, sparks and flame. Keep container tightly closed and in an upright position to prevent leakage. Avoid breathing vapor or spray mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wash thoroughly after handling. In case of spillage, absorb and wash with large volumes of water immediately.

**OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY. STORE IN ACCORDANCE WITH 29 CFR 1910.106. STORE AWAY FROM INCOMPATIBLE SUBSTANCES.**

Methanol is a class 1B flammable liquid (NFPA). Follow the maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authority should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities.

Store at 15°C to 30°C (59°F to 86°F) in a well ventilated place, away from sources of ignition. In laboratory quantities, store away from oxidizing material, mineral acids, and chloroform. In warehouse quantities, follow NFPA and BOCA guidelines for storage of flammable liquids. Store One Step I, Wright Stain in areas equipped with automatic sprinklers or fire extinguishing system. Containers of this material may be hazardous when empty. Since emptied containers retain product residues, assume emptied containers to have the same hazard qualities as full containers.

## 8. EXPOSURE CONTROL (PERSONNEL PROTECTION)

VENTILATION:

Provide local exhaust or process enclosure ventilation to meet the published exposure limits. Ventilation equipment must be explosion-proof.

#### RESPIRATION:

Where the potential exists for exposures over 1000 ppm, use a NIOSH approved respirator with and organic vapor cartridge/canister. More protection is provided by a full face piece respirator than by a half-mask respirator, and even greater protection is provided by a powered-air purifying respirator.

#### **FOR FIRE FIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:**

Any self-contained breathing apparatus that has a full face piece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full face piece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

#### CLOTHING:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

#### GLOVES:

Employee must wear appropriate protective gloves to prevent contact with this substance. ACGIH recommends NITRILE rubber or VITON as good to excellent protective materials.

#### EYE PROTECTION:

Employee must wear splash-proof or dust-resistant goggles to prevent eye contact with this substance.

#### EMERGENCY EYE WASH:

Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain within the immediate work area for emergency use.

#### **EXPOSURE LIMITS:**

##### **100% Methyl Alcohol (Methanol);**

200 ppm (260 mg/m<sup>3</sup>) OSHA TWA (SKIN); 250 ppm (310 mg/m<sup>3</sup>) OSHA STEL  
200 ppm (262 mg/m<sup>3</sup>) ACGIH TWA (SKIN); 250 ppm (328 mg/m<sup>3</sup>) ACGIH STEL  
200 ppm (260 mg/m<sup>3</sup>) NIOSH RECOMMENDED TWA (SKIN);  
250 ppm (325 mg/m<sup>3</sup>) NIOSH RECOMMENDED STEL  
200 ppm (260 mg/m<sup>3</sup>) DFG MAK TWA (SKIN);  
400 ppm (524 mg/m<sup>3</sup>) DFG MAK 30 MINUTE PEAK, AVERAGE VALUE, 4 TIMES/SHIFT  
MEASUREMENT METHOD: SILICA GEL TUBE; WATER; GAS CHROMATOGRAPHY WITH  
FLAME IONIZATION DETECTION; (NIOSH VOL. III #2000, METHANOL).

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

**DESCRIPTION:** Dark Purple liquid with a characteristic alcohol odor.

**BOILING POINT:** 149°F (65°C)

**SPECIFIC GRAVITY:** 0.7914

**EVAPORATE RATE:** (butyl acetate): 4.6

**DENSITY (25°C):** 0.7866 g/mL

**MELTING POINT:** -137°F (-94°C)

**SOLUBILITY IN WATER:** Soluble

**VISCOSITY:** 0.59 CPS @ 20°C  
20°C

**VAPOR PRESSURE:** 97.25 mm HG @

**ODOR THRESHOLD:** 100 ppm

**FLASH POINT (cc):** 12°C (54°F)

**pH:** 6.5 - 8

**VAPOR DENSITY:** 1.11

**SOLUBILITY:** Soluble in alcohol, acetone, chloroform, ethanol, ether, benzene

## 10. STABILITY AND REACTIVITY INFORMATION

**REACTIVITY:** Stable under normal temperatures and pressures.

### **INCOMPATIBILITIES - METHYL ALCOHOL (METHANOL):**

ACETYL BROMIDE:	Violent reaction with formation of hydrogen bromide
ALKYLALUMINUM SOLUTIONS:	Violent reaction
ALUMINUM:	Corrodes
BARIUM PERCHLORATE:	Distillation yields highly explosive alkyl perchlorate
BERYLLIUM HYDRIDE:	Violent reaction even at -196°C
BROMIDE:	Vigorously exothermic reaction
CALCIUM CARBIDE:	Violent reaction
CHLORINE:	Possible ignition and explosive hazard
CHLOROFORM AND SODIUM HYDROXIDE:	Explosive reaction
CHROMIUM TRIOXIDE (CHROMIC ANHYDRIDE):	Possible ignition
CYANURIC CHLORIDE:	Violent reaction
DICHLOROMETHANE:	Possible ignition and explosion
DIETHYL ZINC:	Possible ignition and explosion
HYDROGEN PEROXIDE + WATER	Explosion hazard
IODINE + ETHANOL + MERCURIC OXIDE:	Explosion hazard
LEAD:	Corrodes
LEAD PERCHLORATE:	Explosion hazard
MAGNESIUM:	Violent reaction
MAGNESIUM (POWDER):	Mixtures are capable of detonation
METALS:	Incompatible
NICKEL:	Possible ignition in the presence of nickel catalyst.
NITRIC ACID (CONCENTRATED):	Mixture of greater than 25% acid may decompose violently.
OXIDIZERS (STRONG):	Fire and explosion hazard
PERCHLORIC ACID:	Explosion hazard
PHOSPHOROUS TRIOXIDE:	Possible violent reaction and ignition
PLASTICS, RUBBER, COATINGS:	May be attacked
POTASSIUM:	Possible dangerous reaction
POTASSIUM HYDROXIDE + CHLOROFORM:	Exothermic reaction
POTASSIUM TERT-BUTOXIDE:	Fire and explosion hazard
SODIUM + CHLOROFORM:	Possible explosion
SODIUM HYPOCHLORITE:	Explosion hazard
SODIUM METHOXIDE + CHLOROFORM:	Violent reaction
SULFURIC ACID:	Fire and explosion hazard
ZINC:	Explosion hazard

**DECOMPOSITION:** Thermal decomposition products may include toxic oxides of carbon.

**POLYMERIZATION:** Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

## 11. TOXICOLOGICAL INFORMATION

100% METHYL ALCOHOL (METHANOL):  
skn-rbt 500mg/24H MOD  
eye-rbt 40mg MOD  
orl-rat LD50:5627mg/kg

Inh-rat LC50:64000ppm/4H  
orl-man TDLo:3429mg/kg: EYE  
orl-hmn LDLo:428mg/kg: EYE,PUL  
orl-hmn LDLo:4g/kg: EYE, PUL, GIT  
inh-hmn TClO:300ppm: EYE, CNS, PUL

Mutagenic data (RTECS); reproductive effects data (RTECS).

## 12. ECOLOGICAL INFORMATION

Acute toxic effects of Wright Stain may include death of animals, birds, or fish and death or low growth rate in plants. Acute effects are seen two to four days after animals or plants come into contact with a toxic chemical substance. Chronic effects may include shortened lifespan, reproductive problems, lower fertility, and changes in appearance or behavior. Chronic effects can be seen long after first exposure(s) to a toxic chemical. Wright Stain has slightly acute and chronic toxic effects to aquatic life. It has caused germination and size decrease and other injury to agricultural and ornamental crops.

## 13. DISPOSAL GUIDELINES

RCRA: The unused product is a RCRA hazardous waste if discarded, the RCRA ID number is D001. DISPOSAL MUST BE IN ACCORDANCE WITH STANDARD APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262.

OTHER DISPOSAL CONSIDERATIONS: The waste material should be treated and/or disposed of at a site authorized to handle hazardous chemical waste. Appropriate federal, state and local regulatory authorities should be contacted before discharge, treatment or disposal of waste material. The information offered here is for the product as shipped. Use and alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

## 14. TRANSPORT INFORMATION

Proper shipping name: Methanol  
Hazardous class or Division: 3  
Identification Numbers: UN1230  
Packaging Group: II  
Label(s) Required (if not excepted): None, LTD. QTY.

Packaging Authorization: Exemptions - none  
Non-bulk packaging: 173.202 for liquid hazardous material in packaging group II  
Bulk packaging: 173.242 for liquid hazardous material.  
Quantity Limitations: Passenger aircraft or railcar: 1L  
Cargo aircraft only: 60L

## 15. REGULATORY INFORMATION

### **SARA TITLE III (Superfund Amendment and Reauthorization Act)**

SECTION 302 AND 304: Extremely hazardous substance list (40 CFR 355) - Not listed

SECTION 311: Hazardous Categorization (40 CFR 370) - Acute, Chronic and Fire

SECTION 313: Toxic Chemicals Listed (40 CFR 372.65) - Listed as a toxic chemical

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)**

SECTION 102 (A): Hazardous Substance (40 CFR 302.4) - Listed

REPORTABLE QUANTITIES: 5,000 lbs.

SECTION 101(4): Reportable Quantities: 5,000 lbs.

**RCRA (Resource Conservation and Recovery Act)**

40 CFR 261.21 Hazardous Waste Number: U154/D001

**NJ (New Jersey - State Right to Know)**

Environmental Hazardous Substance List: Listed, Substance #1222

**TSCA (Toxic Substance Control Act)**

Methanol is listed on TSCA Inventory.

**16. OTHER INFORMATION:** Buffered Wright Stain, as manufactured by Richard-Allan Scientific, is intended for legal use in laboratories and manufacturing environments.