

Living up to Life



BIOSYSTEMS

## Safety Data Sheet

### Sub-X® Mounting Medium

#### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

##### 1.1 Product Identifier

**Trade Name** Sub-X® Mounting Medium  
**Product #** 3801740 3801741 3801742 3801743  
**SDS #** 113  
**SDS Date** August 22, 2013

##### 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

**Product Use:** Coverslipping and slide preparation  
**Uses Advised Against:** All other uses.

##### 1.3 Details of the Supplier of the Substance or Mixture

**Manufacturer/Preparer:** Leica Biosystems Richmond, Inc. Leica Biosystems Canada, Inc.  
5205 Route 12 83 Terracon Place  
Richmond, IL 60071 Winnipeg, Manitoba R2J 4B3  
800-225-8867 800-665-7425

##### 1.4 Emergency Telephone Number

**Emergency Spill Information** 1-800- 424-9300 (CHEMTREC)  
+1-703-527-3887 International calls (call collect)  
**Other Product Information:** 1-800-225-8867

#### SECTION 2: HAZARDS IDENTIFICATION

##### 2.1 Classification of the Substance or Mixture

###### CLP/GHS Classification (1272/2008):

Physical:	Health:	Environmental
Flammable Liquid Category 2	Aspiration Toxicity Category 1 Specific Target Organ Toxicity - Repeat Exposure Category 2 Skin Irritation Category. 2 Specific Target Organ Toxicity Single Exposure Category 3 (narcosis) Reproductive Toxicity Category 2	Aquatic Acute Toxicity Category 3

**EU Classification (67/548/EEC):** F, Xn, Xi, (Repro Cat 3), R63, R11, R38, R48/20, R65, R67

## 2.2 Label Elements

DANGER!



### Hazard Phrases

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child
H373	May cause damage to kidneys, liver, nervous system and hearing through prolonged or repeated exposure.
H402	Harmful to aquatic life.

### Precautionary Phrases

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.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/.../ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331	Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P370 + P378	In case of fire: Use ... for extinction.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local and national regulations.

## 2.3 Other Hazards: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Chemical Name	CAS Number / EINECS Number / REACH Reg. Number	% (w/w)	EU Classification (67/548/EEC)	CLP/GHS Classification (1272/2008)
Toluene	108-88-3 / 203-625-9	<75	F; Xn, Xi, Repr. Cat. 3; R63, R11, R38, R48/20, R65; R67	Flammable Liquid Category 2 (H225) Reproductive Toxicity Category 2 (H361d) Aspiration Toxicity Category 1 (H304) Specific Target Organ Toxicity - Repeat Exposure Category 2 (H373) Skin Irritation Category. 2 (H315) Specific Target Organ Toxicity Single Exposure Category 3 (H336)
Dipropylene Glycol Dibenzoate	27138-31-4 / 248-258-5	<10	Not classified as dangerous	Aquatic Acute Category 2 (H401)

See Section 16 for full text of GHS and EU Classifications.

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of First Aid Measures

#### First Aid

**Eye contact:** Immediately flush eye with water for at least 15 minutes while lifting the upper and lower lids. Get medical attention if irritation persists.

**Skin contact:** Remove contaminated clothing immediately. Wash thoroughly with soap and water. Get medical attention if irritation persists.

**Inhalation:** Remove victim to fresh air. If breathing is difficult have qualified individual administer oxygen and get medical attention. If breathing stops, give artificial respiration and get medical attention.

**Ingestion:** Aspiration Hazard DO NOT induce vomiting unless directed to do so by medical personnel. If the victim is conscious and alert, have them rinse their mouth with water. Never give anything by mouth to an unconscious or drowsy person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs. Get immediate medical attention.

See Section 11 for more detailed information on health effects.

**4.2 Most Important symptoms and effects, both acute and delayed:** May cause eye and skin irritation. Inhalation of vapors may cause abdominal pain and nervous system effects including dizziness, drowsiness, nausea, vomiting and unconsciousness. Harmful or fatal if swallowed.

**4.3 Indication of any immediate medical attention and special treatment needed:** Immediate medical treatment is required for ingestion.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing Media:

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#113

Use carbon dioxide, dry chemical, foam or water fog.

## 5.2 Special Hazards Arising from the Substance or Mixture

**Unusual Fire and Explosion Hazards:** Highly flammable liquid and vapor. Vapors are heavier than air and will travel along surfaces to remove ignition sources and flash back. Vapors will collect in low areas. Vapors may be ignited by static sparks.

**Combustion Products:** Oxides of carbon, smoke.

**5.3 Advice for Fire-Fighters:** Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective equipment. Eliminate all ignition sources and ventilate the area with explosion-proof equipment. Prevent entry into basements or confined areas.

### 6.2 Environmental Precautions:

Prevent entry in storm sewers and waterways. Report spill as required by local and federal regulations.

### 6.3 Methods and Material for Containment and Cleaning Up:

Stop spill at the source if it is safe to do so. Absorb with an inert material. Use non-sparking tools and equipment. Collect into a suitable container for disposal.

### 6.4 Reference to Other Sections:

Refer to Section 8 for personal protective equipment and Section 13 for disposal information.

## SECTION 7: HANDLING and STORAGE

### 7.1 Precautions for Safe Handling:

Avoid eye and skin contact. Avoid breathing vapors. Use only with adequate ventilation. Wash thoroughly after handling. Remove contaminated clothing and laundry before re-use. Keep product away from heat, sparks and all other sources of ignition. Electrically bond and ground transfer equipment, Use appropriately rated electrical equipment in areas where this material is handled and stored. Keep containers closed when not in use.

### 7.2 Conditions for Safe Storage, Including any Incompatibilities:

Keep product away from heat, sparks and all other sources of ignition. Electrically bond and ground transfer equipment, Use appropriately rated electrical equipment in areas where this material is handled and stored.

Protect containers from physical damage. Store in a cool area. Keep away from excessive heat and open flames. Keep containers closed when not in use. Store away from oxidizers.

Empty containers retain product residues. Do not cut, weld, braze, etc. on or near empty containers. Follow all SDS precautions in handling empty containers

### 7.3 Specific end use(s):

**Industrial uses:** None identified

**Professional uses:** Coverslipping and slide preparation

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control Parameters:

Chemical Name	US OEL	EU IOEL	UK OEL	Germany OEL
Toluene	200 ppm TWA, 300 ppm Ceiling OSHA PEL 20 ppm TWA ACGIH TLV	50 ppm TWA, 100 ppm STEL	50 ppm TWA, 100 ppm STEL	50 ppm TWA, 200 ppm STEL
Dipropylene Glycol Dibenzoate	None Established	None Established	None Established	None Established

Refer to local or national authority for exposure limits not listed above.

Chemical Name	Biological Limit Value
Toluene	Toluene in blood, end of shift at the end of workweek, 0.02 mg/L Toluene in urine, end of shift, 0.03 mg/L o-Cresol in urine, end of shift, 0.2 mg/g creatinine
Dipropylene Glycol Dibenzoate	None Established

### 8.2 Exposure Controls:

**Recommended Monitoring Procedures:** Collection on charcoal tubes with analysis by gas chromatography.

**Appropriate Engineering Controls:** Use with adequate local exhaust ventilation to maintain exposure levels below the occupational exposure limits. Use explosion-proof equipment where required.

#### Personal Protective Measurers

**Eye/face Protection:** Wear safety glasses or chemical goggles.

**Skin Protection:** Impervious clothing as needed to avoid skin contact.

**Hands:** Wear polyvinyl alcohol gloves if needed to avoid skin contact.

**Respiratory Protection:** None needed with adequate ventilation. If the occupational exposure limit is exceeded, use an approved organic vapor respirator. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 or other applicable regulations and good Industrial Hygiene practice.

**Other protection:** Suitable washing facilities should be available.

## SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

### 9.1 Information on basic Physical and Chemical Properties

**Appearance:** Colorless liquid

**Odor Threshold:** 0.16 ppm (toluene)

**Melting/Freezing Point:** -94.9°C (-138.8°F) (toluene)

**Flash Point:** : 4°C (40°F) (Closed Cup) (toluene)

**Lower Flammability Limit:** 1.7% (toluene)

**Upper Flammability Limit:** 7.1% (toluene)

**Vapor Density(Air=1):** 3.1 (toluene)

**Solubility:** Insoluble

**Odor:** Hydrocarbon odor

**pH:** Not available

**Boiling Point:** 110°C (231°F) (toluene)

**Evaporation Rate:** (n-butyl acetate =1) <1

**Vapor Pressure:** 28.4 mmHg @ 25°C (toluene)

**Relative Density:** 0.98

**Octanol/Water Partition Coefficient:** Not available

**Autoignition Temperature:** 480°C ( 896°F) (toluene)  
**Viscosity:** Not established

**Oxidizing Properties:** None  
**Molecular Formula:** Mixture

**Decomposition Temperature:** Not established  
**Explosive Properties:** Vapors may be explosive in confined areas.

**Specific Gravity (H<sub>2</sub>O= 1):** 0.98  
**Molecular Weight:** Mixture

**9.2 Other Information:** None available

## SECTION 10: STABILITY and REACTIVITY

**10.1 Reactivity:** This material is not reactive under normal conditions.

**10.2 Chemical Stability:** Normally stable.

**10.3 Possibility of Hazardous Reactions:** Reaction with strong oxidizers will generate heat and cause fire.

**10.4 Conditions to Avoid:** Avoid heat, sparks, flames, and all other sources of ignition.

**10.5 Incompatible Materials:** Oxidizing agents.

**10.6 Hazardous Decomposition Products:** Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: oxides of carbon.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects:

#### Potential Health Effects:

**Eye Contact:** May cause irritation with redness, tearing and swelling.

**Skin contact:** May cause irritation and inflammation. Repeated exposure may cause defatting of skin or dermatitis. May be absorbed through the skin in harmful amounts with symptoms similar to those listed under inhalation or ingestion.

**Inhalation:** Inhalation of vapors or mists may cause mucous membrane and respiratory irritation and central nervous system depression with symptoms of headache, dizziness, giddiness, intoxication, nausea, disorientation and unconscious. Prolonged exposure may damage the kidney, liver, central nervous system and hearing.

**Ingestion:** Swallowing may cause gastrointestinal irritation, nausea, vomiting, diarrhea and central nervous system effects including headache, dizziness, drowsiness, narcosis and unconsciousness. Aspiration during swallowing or vomiting may cause lung damage.

#### Acute toxicity:

Toluene: LD50 oral rat 5000 mg/kg; LD50 dermal rabbit 12,214 mg/kg; LC50 inhalation rat 8000 ppm/4hr.  
Dipropylene glycol dibenzoate: LD50 oral rat 3,914 mg/kg; LD50 skin rabbit >2,000 mg/kg; LC50 inhalation rat >200 mg/L

**Skin corrosion/irritation:** No data available for mixture. Toluene may cause skin irritation and defatting of the skin.

**Eye damage/ irritation:** No data available for mixture. Toluene may irritate eyes.

**Respiratory Irritation:** No data available for mixture. Vapors may be irritating to the respiratory system.

**Respiratory Sensitization:** No data available for mixture. None of the components are respiratory sensitizers.

**Skin Sensitization:** No data available for mixture. None of the components are skin sensitizers.

**Germ Cell Mutagenicity:** No data available for mixture. None of the components are germ cell mutagens.

**Carcinogenicity:** No data available for mixture. There is inadequate evidence for carcinogenicity in humans and animals. None of the components of this product are listed as carcinogens by OSHA, ACGIH, IARC, NTP, or the EU Dangerous Substances Directive.

**Reproductive Toxicity:** No data available for mixture. In animal studies, toluene has been shown to cause fetal lethality and delayed development. Toluene has been detected in maternal milk in humans. It passes through the placental barrier in animals.

**Specific Target Organ Toxicity:**

Single Exposure: Toluene has been shown to cause reversible liver, kidney and central nervous system effects in studies with laboratory animals. Aspiration during swallowing or vomiting may cause chemical pneumonia or lung damage.

Repeat Exposure: In animal studies, toluene has been shown to cause damage to the liver, kidneys, brain and hearing.

## SECTION 12: ECOLOGICAL INFORMATION

**12.1 Toxicity:**

Toluene: 96 hr LC50 *Pimephales promelas* (fathead minnow) 34.27 mg/l; 48 hr LC50 *daphnia magna* 313 mg/L  
Dipropylene glycol dibenzoate: 96 hr LC50 fish 3.7 mg/L

**12.2 Persistence and degradability:** Toluene and dipropylene glycol dibenzoate are readily biodegradable in screening tests.

**12.3 Bioaccumulative Potential:** The BCF for toluene is 13-90 which suggests bioaccumulation is low to moderate in aquatic organisms.

**12.4 Mobility in Soil:** Toluene is estimated to have a KoC of 37-178 which indicates it will have a moderate to high mobility on soil.

**12.5 Results of PVT and vPvB assessment:** Not required.

**12.6 Other Adverse Effects:** None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

**13.1 Waste Treatment Methods:**

Dispose in accordance with local, state and national regulations.

**SECTION 14: TRANSPORTATION INFORMATION**

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
<b>US DOT</b>	UN 1294	Toluene	3	II	Packages containing 1,000 lbs. are subject to RQ provisions.
<b>Canadian TDG</b>	UN 1294	Toluene	3	II	None
<b>EU ADR/RID</b>	UN 1294	Toluene	3	II	None
<b>IMDG</b>	UN 1294	Toluene	3	II	None
<b>IATA/ICAO</b>	UN 1294	Toluene	3	II	None

**14.6 Special Precautions for User:** Flammable Liquid

**14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code:** Not applicable

**SECTION 15: REGULATORY INFORMATION**

**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture**

**INTERNATIONAL INVENTORIES**

**EPA TSCA INVENTORY:** All of the components are listed on the TSCA inventory.

**CANADIAN ENVIRONMENTAL PROTECTION ACT:** All of the ingredients are listed on the Canadian Domestic Substances List.

**EUROPEAN UNION:** All of the components of this product are listed on the European Inventory of New and Existing Chemical Substances (EINECS) inventory.

**AUSTRALIA:** All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances (AICS).

**CHINA:** All of the ingredients are listed on the Chinese chemical inventory.

**KOREA:** All of the components of this product are listed on the Korean Existing Chemical List (KECL).

**PHILIPPINES:** All of the components of this product are listed on the Philippine Inventory of Chemicals and Chemical Substances (PICCS).

**U.S. REGULATIONS**

**OSHA HAZARD CLASSIFICATION:** Flammable, Irritant, Target Organ Effects

**CERCLA Section 103:** The RQ for the product, based on the RQ for toluene (75% maximum) of 1,000 lbs, is 1,333 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

**EPA SARA 302:** This product does not contain chemicals regulated under SARA Section 302.

**EPA SARA 311 HAZARD CLASSIFICATION:** Acute Health, Chronic Health, Fire Hazard



**EPA SARA 313:** This product contains the following chemicals that are regulated under SARA Title III, section 313:

Toluene

108-88-3

<75

**CALIFORNIA PROPOSITION 65:** This product contains the following chemicals which are known to the State of California to cause cancer or reproductive toxicity: Toluene <35% (developmental, female reproductive toxicity), benzene 0.03%(carcinogen)

### **INTERNATIONAL REGULATIONS**

**WHMIS CLASSIFICATION:** Class B-2, Class D-2-A

## **SECTION 16: OTHER INFORMATION**

**Revision History:** Updated Logo and website.

### EU Classes and Risk Phrases for Reference (See Sections 2 and 3)

F Highly Flammable

Xi Irritant

Xn Harmful

Repro Cat 3 Reproductive Category 3

R11 Highly Flammable

R38 Irritating to skin.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R63 Possible risk of harm to the unborn child.

R65 Harmful: may cause lung damage if swallowed.

R67 Vapours may cause drowsiness and dizziness.

### CLP/GHS Classification and H Phrases for Reference (See Section 3)

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H361d Suspected of damaging the unborn child.

H373 May cause damage to kidney, liver and central nervous system through prolonged or repeated exposure.

H401 Toxic to aquatic life.

NFPA Rating: Health: 2 Fire: 3 Instability: 0

HMIS Rating: Health: 2 Fire: 3 Physical Hazard: 0

This Safety Data Sheet has been prepared in accordance with the REACH regulation in the EU and the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS). It complies with the requirements of the Canadian Controlled Products Regulations and US 29CFR 1910.1200. To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries makes any warranty of merchantability or any other warranty, expressed or implied, which respect to such information, and we assume no liability resulting from its use. In no event shall Leica Biosystems be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages resulting from use of or reliance upon this information.