

# Living up to Life

## Safety Data Sheet

### Clearium® Mounting Medium

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

##### 1.1 Product Identifier

Trade Name	Clearium® Mounting Medium
Product #	3801100 3801101 3801102
SDS #	115
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. 5205 Route 12 Richmond, IL 60071	Leica Biosystems Canada, Inc. 83 Terracon Place Winnipeg, Manitoba R2J 4B3	Leica Biosystems Melbourne Pty. Ltd. 495 Blackburn Road Mount Waverley, Victoria Australia, 3149
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##### 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 1B	Aquatic Acute Toxicity Category 2

**EU Classification (67/548/EEC:** F, Xn, Xi, N, T (Repro Cat 2), R61, R62, 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.
H360df	May damage fertility, suspected of damaging the unborn child
H373	May cause damage to kidneys, liver, nervous system and hearing through prolonged or repeated exposure.
H401	Toxic 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.
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.
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.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
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 carbon dioxide, dry chemical, alcohol foam or water fog 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	<60	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)
Dibutyl Phthalate	84-74-2 / 201-557-4	<10	T(Repro Cat 2), N, R61, R62, R50	Reproductive Toxicity Category 1B (H360df) Aquatic Acute Toxicity Category 1 (H400)
Butylated hydroxytoluene	128-37-0 / 204-881-4	<5	Xn, N R22, R50	Acute Toxicity Category 4 (H302), Aquatic Acute Toxicity Category 1 (400)

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, visual disturbances 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:

Use carbon dioxide, dry chemical, alcohol 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 launder 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):

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**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
Dibutyl Phthalate	5 mg/m <sup>3</sup> TWA OSHA PEL 5 mg/m <sup>3</sup> TWA ACGIH TLV	None Established	5 mg/m <sup>3</sup> TWA, 10 mg/m <sup>3</sup> STEL	0.05 mg/m <sup>3</sup> TWA, 0.1 mg/m <sup>3</sup> STEL
Butylated hydroxytoluene	2 mg/m <sup>3</sup> TWA ACGIH TLV (inhalable fraction and vapor)	None Established	10 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA, 20 mg/m <sup>3</sup> STEL (inhalable aerosol)

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
Dibutyl Phthalate	None Established
Butylated hydroxytoluene	None Established

### 8.2 Exposure Controls:

**Recommended Monitoring Procedures:** Toluene: Collection on charcoal tubes with analysis by gas chromatography. Dibutyl Phthalate Mixed cellulose ester or glass fiber +XAD-2 with analysis by gas chromatography/flame ionization detector.

**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 with dust/mist cartridges. 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)  
**Flash Point:** : 6.6°C (44°F) (Closed Cup)  
**Lower Flammability Limit:** 1.7% (toluene)  
**Upper Flammability Limit:** 7.1% (toluene)  
**Vapor Density(Air=1):** >1  
**Solubility:** Partial  
**Autoignition Temperature:** 402°C (757°F) (dibutyl phthalate)  
**Viscosity:** Not established  
  
**Oxidizing Properties:** None  
**Molecular Formula:** Mixture

**Odor:** Sour, burnt odor  
**pH:** Not available  
**Boiling Point:** 110°C (231°F) (toluene)  
**Evaporation Rate:** <1 (n-butyl acetate =1)  
**Vapor Pressure:** 28.4 mmHg @ 25°C (toluene)  
  
**Relative Density:** 0.93  
**Octanol/Water Partition Coefficient:** Not available  
**Decomposition Temperature:** Not established  
  
**Explosive Properties:** Vapors may be explosive in confined areas.  
**Specific Gravity (H<sub>2</sub>O= 1):** 0.93  
**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, acids and alkalies.

**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. 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:

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Toluene: LD50 oral rat 5000 mg/kg; LD50 dermal rabbit 12,214 mg/kg; LC50 inhalation rat 8000 ppm/4hr.  
Dibutyl Phthalate: LD50 oral rat 6,300 mg/kg; LD50 skin rabbit 4200 mg/kg; LC50 inhalation mouse 25 g/m<sup>3</sup>/2 hr.  
Butylated hydroxytoluene: Oral rat LD50 890 mg/kg

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

**Eye damage/ irritation:** No data available for mixture. Toluene cause mild irritation in rabbit's eyes.

**Respiratory Irritation:** No data available for mixture. High concentrations of 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. None of the components are listed as carcinogens by IARC, NTP, ACGIH, OSHA or the EU 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. In a 2 generation study with animals, butyl phthalate was shown to cause adverse reproductive and developmental effects.

**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.

Repeat Exposure: In animal studies, toluene has been shown to cause damage to the liver, kidneys, brain and hearing. In animal studies, dibutyl phthalate has been shown to cause kidney and liver damage, fetotoxicity, teratogenicity, and testicular damage.

## 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  
Dibutyl Phthalate: 96 hr. LC50 Pimephales promelas (Fathead minnow) 0.92 mg/L; 48 hr EC50 daphnia magna 4.8 mg/L; 96 hr EC50 Pseudokirchnerella subcapitata 0.75 mg/L;  
Butylated hydroxytoluene: 48 hr EC50 daphnia magna 0.61 mg/L; 96 hr EC50 fish 0.199 mg/L

**12.2 Persistence and degradability:** Toluene and dibutyl phthalate 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:** Dibutyl phthalate is estimated to have a KoC value of 3.05-3.14 which indicates it will have a low 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 1866	Resin solution	3	II	Packages containing 120 lbs. are subject to RQ provisions.
<b>Canadian TDG</b>	UN 1866	Resin solution	3	II	None
<b>EU ADR/RID</b>	UN 1866	Resin solution	3	II	None
<b>IMDG</b>	UN 1866	Resin solution		II	None
<b>IATA/ICAO</b>	UN 1866	Resin solution	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).

**JAPAN:** All of the components of this product are listed on the Japanese Existing and New Chemical Substances List (ENCS).

### U.S. REGULATIONS

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

**CERCLA Section 103:** The RQ for the product, based on the RQ for Dibutyl Phthalate (10% maximum) of 10 lbs, is 100 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 <60%

Dibutyl Phthalate 84-74-2 <10%

**CALIFORNIA PROPOSITION 65:** This product contains the following chemicals which are known to the State of California to cause cancer or reproductive toxicity: Toluene <60% (developmental, female reproductive toxicity), dibutyl (developmental, female reproductive toxicity, male reproductive toxicity)

### **INTERNATIONAL REGULATIONS**

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

**REACH:** Dibutyl phthalate is listed on the Candidate list for Authorisation under REACH.

## **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

N Dangerous for the Environment

T Toxic

Xi Irritant

Xn Harmful

Repro Cat 2 Reproductive Category 2

Repro Cat 3 Reproductive Category 3

R11 Highly Flammable

R22 Harmful if swallowed.

R38 Irritating to skin.

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

R50 Very toxic to aquatic organisms.

R61 May cause harm to the unborn child.

R62 Possible risk of impaired fertility.

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.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H360df May damage fertility. May damage the unborn child.

H361d Suspected of damaging fertility. Suspected of damaging the unborn child.

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

H400 Very 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.