Living up to Life

Safety Data Sheet

Paraplast®, Plus

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

1.1 Product Identifier

Trade Name	**Paraplast Plus**
Product #	39602004 39501121 39502004
SDS #	191
SDS Date	August 22, 2013

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

Product Use:	Tissue embedding medium
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 800-225-8867	Leica Biosystems Canada, Inc. 83 Terracon Place Winnipeg, Manitoba R2J 4B3 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): Not classified as dangerous

EU Classification (67/548/EEC): Not classified as dangerous

2.2 Label Elements: None required

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)
Paraffin Wax	Proprietary	>75	Not Classified as Dangerous	Not Classified as Hazardous
Dimethyl Sulfoxide	67-68-5	<2	Not Classified as Dangerous	Not Classified as Hazardous

	200-664-3			

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: Flush eyes with water, holding the eyelids apart. Get medical attention if irritation persists. If product is hot, flush eyes with water, holding the eyelids apart. Get immediate medical attention.

Skin contact: Wash skin with soap and water after handling. If product is molten, cool skin with large amounts of water. Do not remove material bonded to the skin. Do not apply saves or ointment. Get medical attention. Launder contaminated clothing before re-use.

Inhalation: Remove victim to fresh air. Get medical attention if symptoms persist.

Ingestion: If small quantities are swallowed, rinse out mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious or drowsy person. If large amounts are swallowed or if irritation or discomfort occurs, get medical attention.

See Section 11 for more detailed information on health effects.

4.2 Most Important symptoms and effects, both acute and delayed: Contact with molten product may cause thermal burns. Vapors or fumes from molten material may cause eye and respiratory tract irritation.

4.3 Indication of any immediate medical attention and special treatment needed: No immediate treatment is normally required.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media:
Use any media that is suitable for the surrounding fire.

5.2 Special Hazards Arising from the Substance or Mixture
Unusual Fire and Explosion Hazards: Not classified as flammable but product will burn under fire conditions.
Combustion Products: Carbon monoxide, carbon dioxide, oxides of sulfur, wax fumes and 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. Avoid contact with molten material.

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:

At ambient temperatures, pick up material and place into a container for disposal. If molten, allow material to solidify and cool. Pick up or scrape up and place into a 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 contact with molten material. Avoid breathing fumes from heated material. Use with adequate ventilation.

7.2 Conditions for Safe Storage, Including any Incompatibilities:

Protect containers from physical damage. Store in a cool area. Keep containers closed when not in use.

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: In vitro diagnostic

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Chemical Name	US OEL	EU IOEL	UK OEL	Germany OEL
Paraffin Wax Fumes	2 mg/m3 TWA ACGIH TLV	None Established	2 mg/m3 TWA 6 mg/m3 STEL	None Established
Dimethyl Sulfoxide	250 ppm TWA ACGIH TLV	None Established	None Established	None Established

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

Chemical Name	Biological Limit Value
Paraffin Wax	None Established
Dimethyl Sulfoxide	None Established

8.2 Exposure Controls:

Recommended Monitoring Procedures: Collection on filters and 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.

Personal Protective Measurers

Eye/face Protection: None needed if handing product at ambient temperatures. Wear safety glasses when handling hot material.

Skin Protection: Clothing with long sleeves should be worn when working with molten product.

Hands: None needed if handing product at ambient temperatures. Wear insulated gloves when handling hot

material.

Respiratory Protection: None should be needed for normal use.

Other protection: Suitable washing facilities should be available.

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

9.1 Information on basic Physical and Chemical Properties

Appearance: Waxy pellets, colorless-white, translucent
Odor Threshold: Not established
Melting/Freezing Point: 56℃ (132.8°F)
Flash Point: 199℃ (390℉) (Closed Cup)
Lower Flammability Limit: Not applicable
Upper Flammability Limit: Not applicable
Vapor Density(Air=1): Not applicable
Solubility: Insoluble
Autoignition Temperature: 245℃ (473℉)
Viscosity: Not applicable
Oxidizing Properties: None
Molecular Formula: Mixture

Odor: Oderless

pH: Not applicable
Boiling Point: Not established
Evaporation Rate: Not applicable
Vapor Pressure: Not applicable

Relative Density: 0.8
Octanol/Water Partition Coefficient: Not available
Decomposition Temperature: Not established
Explosive Properties: None
Specific Gravity (H_2O= 1): 0.8
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 oxidizers may generate heat and cause fire.

10.4 Conditions to Avoid: Extreme heat.

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, oxides of sulfur, wax fumes, and smoke.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:

Eye Contact: Contact may cause slight, transient irritation. Wax fumes may cause eye irritation with redness and tearing. Contact with molten product may cause thermal burns.

Skin contact: Contact with molten product may cause thermal burns.

Inhalation: Inhalation of fumes may cause irritation of the eyes, nose and upper respiratory tract. Symptoms include coughing, sneezing and sore throat.

Ingestion: Small amounts are not anticipated to cause adverse effects. Large quantities may cause obstruction of the bowel.

Acute toxicity:

Paraffin Wax: LD50 oral rat >5000 mg/kg; LD50 skin rat >5000 mg/kg
Dimethyl Sulfoxide: LD50 oral rat 14,500-28,300 mg/kg; LC50 inhalation rat No mortality at 2,900 mg/m^3; LD50 dermal rat 40,000 mg/kg

Skin corrosion/irritation: Wax: negligible skin irritant based on studies with rabbits for similar materials. Dimethyl sulfoxide: mild irritant in humans.

Eye damage/ irritation: Wax: may cause mild, transient irritation based on studies with rabbits for similar materials. Dimethyl sulfoxide: non-irritating in laboratory animals.

Respiratory Irritation: No data available for mixture. High concentrations of wax fumes may be irritating to the respiratory system.

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

Skin Sensitization: No data available for mixture. Wax: non-sensitizing in tests with laboratory animals and humans. Dimethyl sulfoxide: negative in Buehler tests.

Germ Cell Mutagenicity: Wax: not mutagenic in in-vitro studies. None of the components are germ cell mutagens. Dimethyl sulfoxide: negative in in-vitro and in-vivo studies.

Carcinogenicity: No data available for mixture. Wax: Not carcinogenic in lifetime animal skin painting or oral feeding studies. 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. Dimethyl sulfoxide: not teratogenic to animals at doses that are not maternally toxic.

Specific Target Organ Toxicity:

Single Exposure: None known

Repeat Exposure: Wax: High oral doses in one rat strain (F-344) resulted in microscopic inflammatory changes (microgranulomas) in liver, spleen, and lymph nodes, some increased organ weights, inflammation of the cardiac mitral valve, and accumulation of saturated mineral hydrocarbons in certain tissues. Dimethyl sulfoxide: In a 13 week oral study in rats a LOEL of 8800 mg/kg/day was observed with the target organ the liver. In a 13 week rat inhalation study the NOAEL was 0.964 mg/L (302 ppm).

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:

No data available for mixture. Dimethyl sulfoxide: LC50 fish 32,500-43,000 mg/L/96 hr; EC50 growth inhibition for algae 0.4-4%. Not expected to be harmful to aquatic organisms.

12.2 Persistence and degradability: Wax: Expected to be inherently biodegradable. Dimethyl sulfoxide: not readily biodegradable.

12.3 Bioaccumulative Potential: Wax: Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability. Dimethyl sulfoxide: no bioaccumulation expected based on log Kow of -2.03.

12.4 Mobility in Soil: Wax: Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

12.5 Results of PVT and vPvB assessment: Not required.

12.6 Other Adverse Effects: No data available.

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
US DOT	N/A	Not classified for transport	N/A	N/A	N/A
Canadian TDG	N/A	Not classified for transport	N/A	N/A	N/A
EU ADR/RID	N/A	Not classified for transport	N/A	N/A	N/A
IMDG	N/A	Not classified for transport	N/A	N/A	N/A
IATA/ICAO	N/A	Not classified for transport	N/A	N/A	N/A

14.6 Special Precautions for User: None
14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not determined.

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 of this product are listed on the Inventory of Existing Chemical Substance in China (IECSC).

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

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

NEW ZEALAND: All of the components of this product are listed on the New Zealand Inventory of Chemicals (NzIoC).

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: Hazardous (exposure limit)

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

EPA SARA 311 HAZARD CLASSIFICATION: None

EPA SARA 313: This product contains the following chemicals that are regulated under SARA Title III, section 313:
None

CALIFORNIA PROPOSITION 65: This product contains the following chemicals which are known to the State of California to cause cancer, reproductive toxicity or birth defects (developmental toxicity): None known

INTERNATIONAL REGULATIONS

WHMIS CLASSIFICATION: Not a controlled product

SECTION 16: OTHER INFORMATION

Revision History: Updated Logo and website.

EU Classes and Risk Phrases for Reference (See Sections 2 and 3)
None

CLP/GHS Classification and H Phrases for Reference (See Section 3)
None

NFPA Rating:	Health: 0	Fire: 1	Instability: 0
HMIS Rating:	Health: 0	Fire: 1	Physical Hazard: 0