

### SECTION 1: Identification

#### 1.1. Identification

Trade name : 10% Neutral Buffered Formalin  
 Product code : 3800598, 3800600, 3800600E, 38006001E, 3800602, 3800604E, 3800604EG, 3800650, 3800759, 3800770, 380077027, 3800780, 3800780CLS, 3800810, 380081018, 3800840, 3800840E, 3800790, 3800650E, 3800801, 3801801

#### 1.2. Recommended use and restrictions on use

Recommended use : Preservation of tissue specimens  
 Restrictions on use : Other uses

#### 1.3. Supplier

Leica Biosystems Richmond, Inc  
 5205 Route 12  
 Richmond, IL 60071 - USA  
 T 844-534-2262  
[LBSNA-LBS-QA@leicabiosystems.com](mailto:LBSNA-LBS-QA@leicabiosystems.com) - [leicabiosystems.com](http://leicabiosystems.com)

#### 1.4. Emergency telephone number

Organisation/Company	Emergency number
ChemTrec	800-424-9300
International Calls (call collect)	+1 703-527-3887
Australia 24 Hr Poisons Information Centre	13 11 26

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Skin corrosion/irritation, Category 2	Causes skin irritation
Serious eye damage/eye irritation, Category 1	Causes serious eye damage
Serious eye damage/eye irritation, Category 2	Causes serious eye irritation
Skin sensitisation, Category 1	May cause an allergic skin reaction
Germ cell mutagenicity, Category 2	Suspected of causing genetic defects
Carcinogenicity, Category 1A	May cause cancer
Specific target organ toxicity — single exposure, Category 1	Causes damage to organs

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labelling

Hazard pictograms (GHS-US) :

  
GHS05

  
GHS07

  
GHS08

Signal word (GHS-US) : Danger  
 Hazard statements (GHS-US) : Causes skin irritation  
 May cause an allergic skin reaction  
 Causes serious eye damage  
 Causes serious eye irritation  
 Suspected of causing genetic defects  
 May cause cancer

# 10% Neutral Buffered Formalin

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Precautionary statements (GHS-US)	<p>Causes damage to organs</p> <p>: Obtain special instructions before use Do not handle until all safety precautions have been read and understood Do not breathe mist/vapours/spray. Avoid breathing mists/vapors/spray Wash thoroughly after handling Do not eat, drink or smoke when using this product Contaminated work clothing must not be allowed out of the workplace Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN: Wash with plenty of soap and water If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If exposed: Call a poison center/doctor If exposed or concerned: Get medical advice/attention Immediately call a POISON CENTER or doctor/physician If skin irritation occurs: Get medical advice/attention If skin irritation or rash occurs: Get medical advice/attention If eye irritation persists: Get medical advice/attention Take off contaminated clothing and wash it before reuse Wash contaminated clothing before reuse Store locked up Dispose of contents/container in accordance with all local/regional/national/international regulations</p>
-----------------------------------	--

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
methanol	(CAS-No.) 67-56-1	< 2	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Inhalation:vapour), H331 STOT SE 1, H370
Formaldehyde	(CAS-No.) 50-00-0	< 6	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Corr. 1B, H314 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1A, H350

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

# 10% Neutral Buffered Formalin

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

### 5.2. Specific hazards arising from the chemical

Fire hazard : No data available on direct fire hazard.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Only qualified personnel equipped with suitable protective equipment may intervene.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : In the United States, refer to OSHA 1910.1048 for requirements for handling of formaldehyde solutions.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Provide local exhaust or general room ventilation. Avoid contact with skin and eyes.

Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

# 10% Neutral Buffered Formalin

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Formaldehyde (50-00-0)

Not applicable

##### methanol (67-56-1)

ACGIH	ACGIH TWA (ppm)	200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	250 ppm (Methanol; USA; Short time value; TLV - Adopted Value)

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Hand protection:

Protective gloves

##### Eye protection:

Safety glasses

##### Skin and body protection:

Wear suitable protective clothing

##### Respiratory protection:

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.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless
Odour	: Pungent
Odour threshold	: No data available
pH	: 7 - 7.2
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapour pressure	: No data available

# 10% Neutral Buffered Formalin

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.03
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Formaldehyde (50-00-0)	
ATE US (oral)	100 mg/kg bodyweight
ATE US (dermal)	300 mg/kg bodyweight
ATE US (vapours)	3 mg/l/4h

  

methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)

# 10% Neutral Buffered Formalin

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>methanol (67-56-1)</b>	
ATE US (oral)	100 mg/kg bodyweight
ATE US (dermal)	300 mg/kg bodyweight
ATE US (gases)	700 ppmv/4h
ATE US (vapours)	3 mg/l/4h
ATE US (dust,mist)	0.5 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation. pH: 7 - 7.2
Serious eye damage/irritation	: Causes serious eye damage. Causes serious eye irritation. pH: 7 - 7.2
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Suspected of causing genetic defects .
Carcinogenicity	: May cause cancer.

<b>Formaldehyde (50-00-0)</b>	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	2 - Known Human Carcinogens

Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Causes damage to organs .
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
-------------------	---

<b>methanol (67-56-1)</b>	
LC50 fish 1	15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	10800 mg/l (LC50; 96 h; Salmo gairdneri)

### 12.2. Persistence and degradability

<b>Formaldehyde (50-00-0)</b>	
Persistence and degradability	Readily biodegradable in water. No (test)data on mobility of the components available. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.64 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.06 g O <sub>2</sub> /g substance
ThOD	1.068 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.6

<b>methanol (67-56-1)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.

# 10% Neutral Buffered Formalin

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

methanol (67-56-1)	
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.42 g O <sub>2</sub> /g substance
ThOD	1.5 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.8 (Literature study)

### 12.3. Bioaccumulative potential

Formaldehyde (50-00-0)	
Log Pow	-0.78 - 0.0
Bioaccumulative potential	Bioaccumulation: not applicable.

methanol (67-56-1)	
BCF fish 1	< 10 (BCF; 72 h; Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Not applicable

### Transport by sea

Not applicable

### Air transport

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

# 10% Neutral Buffered Formalin

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Formaldehyde (50-00-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	100 lb
-----------	--------

SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb
--	--------

### methanol (67-56-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	5000 lb
-----------	---------

## 15.2. International regulations

### CANADA

#### Formaldehyde (50-00-0)

Listed on the Canadian DSL (Domestic Substances List)

#### methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

No additional information available

### National regulations

#### Formaldehyde (50-00-0)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)  
Listed on EPA Hazardous Air Pollutant (HAPS)

#### methanol (67-56-1)

Listed on EPA Hazardous Air Pollutant (HAPS)

## 15.3. US State regulations

### Formaldehyde (50-00-0)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	40 µg/day

### methanol (67-56-1)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	No	No	

### Formaldehyde (50-00-0)

U.S. - New Jersey - Right to Know Hazardous Substance List

### methanol (67-56-1)

U.S. - New Jersey - Right to Know Hazardous Substance List



# 10% Neutral Buffered Formalin

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 16: Other information

Full text of H-statements:

H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H331	Toxic if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer
H370	Causes damage to organs

SDS US Leica

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*