

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product Identifier

**Product Name** Chloroform

### Other means of identification

**Product Code(s)** A4119

**UN/ID no.** 1888

**Synonyms** No information available

**Product Use** For Laboratory Research Use Only.

### Supplier/Manufacturer

Biomatik Corporation  
9-140 McGovern Dr.  
Cambridge, Ontario N3H 4R7  
Canada

**Telephone Number** 1-519-489-7195

**E-mail Address** info@biomatik.com

**Emergency Telephone Number** Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute Toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Carcinogenicity	Category 1B
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

### Label elements

#### **Emergency Overview**

#### **Danger**

#### **Hazard statements**

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H331 - Toxic if inhaled

H350 - May cause cancer

H361 - Suspected of damaging fertility or the unborn child

H373 - May cause damage to organs through prolonged or repeated exposure

**Appearance** Clear, colorless**Physical State** Liquid**Odor** No information available**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
 Specific treatment (see .? on this label)  
 Specific treatment (see .? on this label)  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN: Wash with plenty of water and soap  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash it before reuse  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Call a POISON CENTER or doctor  
 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
 Rinse mouth

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not regulated

**Other Information**

- Harmful to aquatic life with long lasting effects
- Harmful to aquatic life

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	EC No.	Weight %	Trade Secret
Chloroform	67-66-3	200-663-8	95-100	Not applicable

### 4. FIRST AID MEASURES

**First Aid Measures****Eye Contact**

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.  
 Consult a physician.

<b>Skin Contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
<b>Ingestion</b>	Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms/Effects** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No information available.

**Specific Hazards Arising from the Chemical**

No information available.

**Hazardous Combustion Products** Hydrogen Chloride gas. Phosgene gas. Carbon oxides.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal protection** Ensure adequate ventilation, especially in confined areas.

**Environmental Precautions**

**Environmental Precautions** See Section 12 for additional Ecological information.

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE****Precautions for Safe Handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Protect from light and moisture.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep container tightly closed in a dry and well-ventilated place. Protect from light.

**Incompatible Products** Bases. Aluminium.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Chloroform	TWA: 10 ppm	Ceiling: 50 ppm Ceiling: 240 mg/m <sup>3</sup>	IDLH: 500 ppm STEL: 2 ppm STEL: 9.78 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection** Safety glasses with side-shields.

**Skin and Body Protection** Wear protective gloves/clothing.

**Respiratory Protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid	<b>Odor</b>	No information available
<b>Appearance</b>	Clear, colorless	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	No information available	
<b>Melting point/freezing point</b>	-63 °C	
<b>Boiling Point/Range</b>	59.4-61.5 °C	
<b>Flash Point (High in °C)</b>	No information available	
<b>Evaporation Rate</b>	No information available	
<b>Flammability (solid, gas)</b>	No information available	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit:</b>	No information available	
<b>Lower flammability limit:</b>	No information available	
<b>Vapor pressure</b>	No information available	
<b>Vapor Density</b>	No information available	
<b>Specific Gravity</b>	1.48	
<b>Water Solubility</b>	Very soluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Partition coefficient</b>	No information available	
<b>Autoignition Temperature</b>	No information available	
<b>Decomposition Temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	No information available	
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	

**Other Information**

<b>Softening Point</b>	No information available
<b>Molecular Weight</b>	No information available
<b>VOC Content</b>	No information available
<b>Density</b>	4.1
<b>Bulk Density</b>	No information available

<b>10. STABILITY AND REACTIVITY</b>
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**Reactivity**

No data available

**Chemical Stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to Avoid**

Protect from light and moisture.

**Incompatible Materials**

Bases. Aluminium.

**Hazardous Decomposition Products**

Hydrogen chloride. Phosgene gas. Carbon oxides.

<b>11. TOXICOLOGICAL INFORMATION</b>
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**Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Toxic by inhalation.
<b>Eye Contact</b>	Irritating to eyes.
<b>Skin Contact</b>	Irritating to skin.
<b>Ingestion</b>	Harmful if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Chloroform	= 450 mg/kg ( Rat ) = 695 mg/kg ( Rat )	> 20 g/kg ( Rabbit )	= 47702 mg/kg ( Rat ) 4 h = 47702 mg/m <sup>3</sup> ( Rat ) 4 h

**Information on toxicological effects****Symptoms** No information available.**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Sensitization** No information available.**Mutagenic Effects** No information available.**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Chloroform	A3	Group 2B	Reasonably Anticipated	X

<b>Reproductive Toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Chronic Toxicity</b>	Suspected carcinogen.
<b>Target Organ Effects</b>	Nerves, Liver, Heart.
<b>Aspiration hazard</b>	No information available.

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document .

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Toxicity to Fish	Crustacea
Chloroform	560: 48 h Desmodium subspicatus mg/L EC50	71: 96 h Pimephales promelas mg/L LC50 flow-through 300: 96 h Poecilia reticulata mg/L LC50 static 18: 96 h Lepomis macrochirus mg/L LC50 flow-through 18: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	29: 48 h Daphnia magna mg/L EC50

**Persistence and Degradability**

No information available.

**Bioaccumulation/Accumulation**

No information available.

Chemical Name	Partition coefficient
Chloroform	2

**Other Adverse Effects**

No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods****Waste Disposal Method**

Dispose of material in accordance with all federal, state, and local regulations.

**Contaminated Packaging**

Do not re-use empty containers.

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Chloroform	Category I - Volatiles	-	-	-

Chemical Name	California Hazardous Waste Status
Chloroform	Toxic

## 14. TRANSPORT INFORMATION

**DOT**

UN/ID no. 1888  
 Proper shipping name CHLOROFORM  
 Hazard Class 6.1  
 Packing Group III

**IATA**

UN/ID no. 1888  
 Proper shipping name CHLOROFORM  
 Hazard Class 6.1  
 Packing Group III

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

### Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Component	SARA 313 - Threshold Values %
Chloroform	0.1

#### SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

#### Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Chloroform	10 lb	X	X	X

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Chloroform	10 lb	10 lb	RQ 10 lb final RQ RQ 4.54 kg final RQ

### U.S. State Regulations

#### California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Chloroform	Carcinogen Developmental

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Chloroform	X	X	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not regulated

**16. OTHER INFORMATION****Disclaimer**

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**