



# SAFETY DATA SHEET

Revision date 10-Feb-2022

Revision Number 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### Product identifier

**Product Name** Liquichek Hematology-16 Control

**Catalogue Number(s)** 760, 761, 762, 763, 760X

### Other means of identification

### Recommended use of the chemical and restrictions on use

**Recommended use** In vitro diagnostic

**Uses advised against** No information available

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

Bio-Rad Laboratories Inc.  
1000 Alfred Nobel Drive  
Hercules, CA 94547  
USA

#### Manufacturer

Bio-Rad Laboratories Inc.  
9500 Jeronimo Road  
Irvine, California 92618  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Pty Ltd  
189 Bush Road  
Auckland  
New Zealand

**Technical Service** +64 9 415 2280 or 0508 805 500  
sales.nz@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC New Zealand: 64-98010034

## SECTION 2: Hazards identification

### GHS Classification

Not classified

### Label elements

### Hazard statements

### Other hazards which do not result in classification

Contains animal source material  
Contains human source material and / or potentially infectious components

## SECTION 3: Composition/information on ingredients

Chemical name	CAS No	Weight-%
Human Red Blood Cells	NO-CAS-19	50 - 100
Water	7732-18-5	20 - 35

Chemical name	CAS No	Weight-%
Ethyl alcohol	64-17-5	2.5 - 5
Lactose, monohydrate	64044-51-5	2.5 - 5
Sodium chloride	7647-14-5	0.3 - 0.999
Albumins, blood serum	9048-46-8	0.3 - 0.999
4-Morpholinepropanesulfonic acid	1132-61-2	0.1 - 0.299
Methanol	67-56-1	0.1 - 0.299
Isopropyl alcohol	67-63-0	0.1 - 0.299
Glucose	50-99-7	0.1 - 0.299
Citric acid	77-92-9	0.01 - 0.099
Sodium hydroxide	1310-73-2	0.01 - 0.099
Trade secret	-	0.01 - 0.099
Trade secret	-	0.01 - 0.099
Magnesium nitrate	10377-60-3	0.01 - 0.099
Trade secret	-	0.01 - 0.099
Inosine	58-63-9	0.001 - 0.01
Adenine	73-24-5	0.001 - 0.01
Animal Source Material	NO-CAS-61	0.001 - 0.01
5-Chloro-2-methyl-3(2H)-isothiazolone, mixture with 2-methyl-3(2H)-isothiazolone	55965-84-9	< 0.001
Magnesium chloride	7786-30-3	< 0.001

Non-hazardous ingredients	Proprietary	Balance
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## SECTION 4: First aid measures

### Description of first aid measures

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Contains human source material and / or potentially infectious components. Call a doctor.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Call a doctor. Contains human source material and / or potentially infectious components.

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

<b>Symptoms</b>	No information available.
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### Indication of any immediate medical attention and special treatment needed

<b>Note to doctors</b>	Contains human source material and / or potentially infectious components.
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## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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<b>Unsuitable extinguishing media</b>	No information available.
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### Specific hazards arising from the chemical

**Specific hazards arising from the chemical** None known.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## **SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8 for more information.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

**Methods for containment** Do not allow into any sewer, on the ground or into any body of water.

**Methods for cleaning up** Clean contaminated surface thoroughly. Use: Disinfectant.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## **SECTION 7: Handling and storage**

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**General hygiene considerations** Follow universal and standard precautions for handling potentially infectious materials.

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

**Storage Conditions** Store according to product and label instructions.

**Incompatible materials** None known based on information supplied.

## **SECTION 8: Exposure controls/personal protection**

**Control parameters**

**Exposure Limits**

Chemical name	New Zealand	ACGIH TLV	United Kingdom	Australia
Ethyl alcohol 64-17-5	TWA: 1000 ppm TWA: 1880 mg/m <sup>3</sup>	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1920 mg/m <sup>3</sup> STEL: 3000 ppm	1000 ppm 1880 mg/m <sup>3</sup>

			STEL: 5760 mg/m <sup>3</sup>	
Methanol 67-56-1	TWA: 200 ppm TWA: 262 mg/m <sup>3</sup> STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> Skin	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 266 mg/m <sup>3</sup> STEL: 250 ppm STEL: 333 mg/m <sup>3</sup> Sk*	200 ppm 262 mg/m <sup>3</sup> 250 ppm STEL 328 mg/m <sup>3</sup> STEL
Isopropyl alcohol 67-63-0	TWA: 400 ppm TWA: 983 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1230 mg/m <sup>3</sup>	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 999 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1250 mg/m <sup>3</sup>	400 ppm 983 mg/m <sup>3</sup> 500 ppm STEL 1230 mg/m <sup>3</sup> STEL
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>	STEL: 2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup> Peak

**Biological occupational exposure limits**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Chemical name	New Zealand	ACGIH
Methanol 67-56-1	15 mg/L - urine (Methyl alcohol) - end of shift	15 mg/L - urine (Methanol) - end of shift
Isopropyl alcohol 67-63-0	-	40 mg/L - urine (Acetone) - end of shift at end of workweek

**Appropriate engineering controls****Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Hand protection**

Wear suitable gloves.

**Skin and body protection**

Wear suitable protective clothing.

**Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Environmental exposure controls**

No information available.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	Opaque
Colour	dark red
Odour	Odourless.
Odour threshold	No information available

Property	Values	Remarks • Method
pH	7.15-7.25	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known

<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapour pressure</b>	No data available	None known
<b>Vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Miscible in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Explosive properties</b>	Not applicable.	
<b>Oxidising properties</b>	Not applicable.	
<b><u>Other information</u></b>		
<b>Molecular weight</b>	Not applicable	
<b>VOC Content (%)</b>	Not applicable	

## SECTION 10: Stability and reactivity

### Reactivity

**Reactivity** No information available.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

### Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

### Conditions to avoid

**Conditions to avoid** None known based on information supplied.

### Incompatible materials

**Incompatible materials** None known based on information supplied.

### Hazardous decomposition products

**Hazardous decomposition products** None known based on information supplied.

## SECTION 11: Toxicological information

### Acute toxicity

### Information on likely routes of exposure

### Product Information

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available.

**Symptoms** No information available.

#### Acute toxicity

#### **Numerical measures of toxicity**

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

**ATEmix (inhalation-dust/mist)** 1,869.0155 mg/l

#### **Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg ( Rat )	-	-
Ethyl alcohol	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h
Sodium chloride	= 3 g/kg ( Rat )	> 10 g/kg ( Rabbit )	> 42 g/m <sup>3</sup> ( Rat ) 1 h
Methanol	= 6200 mg/kg ( Rat )	= 15840 mg/kg ( Rabbit ) = 15800 mg/kg ( Rabbit )	= 22500 ppm ( Rat ) 8 h = 64000 ppm ( Rat ) 4 h
Isopropyl alcohol	= 1870 mg/kg ( Rat )	= 4059 mg/kg ( Rabbit )	= 72600 mg/m <sup>3</sup> ( Rat ) 4 h
Glucose	= 25800 mg/kg ( Rat )	-	-
Citric acid	= 3 g/kg ( Rat ) = 3000 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	-
Sodium hydroxide	= 325 mg/kg ( Rat )	= 1350 mg/kg ( Rabbit )	-
Trade secret	> 5 g/kg ( Rat )	-	-
Magnesium nitrate	= 5440 mg/kg ( Rat )	-	-
Trade secret	= 6443 mg/kg ( Rat )	-	-
Inosine	> 10 g/kg ( Rat )	-	-
Adenine	= 227 mg/kg ( Rat )	-	-
5-Chloro-2-methyl-3(2H)-isothiazolone, mixture with 2-methyl-3(2H)-isothiazolone	= 53 mg/kg ( Rat )	-	-
Magnesium chloride	= 2800 mg/kg ( Rat )	-	-

#### **Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

### Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	New Zealand	IARC
Ethyl alcohol - 64-17-5	-	Group 1
Isopropyl alcohol - 67-63-0	-	Group 3
Magnesium nitrate - 10377-60-3	-	Group 2A

### Legend

**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT - single exposure** Based on available data, the classification criteria are not met.

**Respiratory irritation** Based on available data, the classification criteria are not met.

**Narcotic effects** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### Ecotoxicity

#### Ecotoxicity

#### Aquatic ecotoxicity

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Ethyl alcohol	-	LC50: 12.0 - 16.0mL/L (96h, Oncorhynchus mykiss) LC50: 13400 - 15100mg/L (96h, Pimephales promelas) LC50: >100mg/L (96h, Pimephales promelas)	LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =10800mg/L (24h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna)
Sodium chloride	-	LC50: 4747 - 7824mg/L (96h, Oncorhynchus mykiss) LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus) LC50: 6020 - 7070mg/L (96h, Pimephales promelas) LC50: 6420 - 6700mg/L (96h, Pimephales promelas) LC50: =12946mg/L (96h, Lepomis macrochirus) LC50: =7050mg/L (96h, Pimephales promelas)	EC50: 340.7 - 469.2mg/L (48h, Daphnia magna) EC50: =1000mg/L (48h, Daphnia magna)
Methanol	-	LC50: 13500 - 17600mg/L (96h, Lepomis macrochirus) LC50: 18 - 20mL/L (96h, Oncorhynchus mykiss) LC50: 19500 - 20700mg/L (96h, Oncorhynchus mykiss) LC50: =28200mg/L (96h, Pimephales promelas) LC50: >100mg/L (96h, Pimephales promelas)	-

Isopropyl alcohol	EC50: >1000mg/L (72h, <i>Desmodesmus subspicatus</i> ) EC50: >1000mg/L (96h, <i>Desmodesmus subspicatus</i> )	LC50: =11130mg/L (96h, <i>Pimephales promelas</i> ) LC50: =9640mg/L (96h, <i>Pimephales promelas</i> ) LC50: >1400000µg/L (96h, <i>Lepomis macrochirus</i> )	EC50: =13299mg/L (48h, <i>Daphnia magna</i> )
Citric acid	-	LC50: =1516mg/L (96h, <i>Lepomis macrochirus</i> )	EC50: =120mg/L (72h, <i>Daphnia magna</i> )
Sodium hydroxide	-	LC50: =45.4mg/L (96h, <i>Oncorhynchus mykiss</i> )	-
Magnesium chloride	EC50: >82.7mg/L (72h, <i>Pseudokirchneriella subcapitata</i> )	LC50: 1970 - 3880mg/L (96h, <i>Pimephales promelas</i> ) LC50: =4210mg/L (96h, <i>Gambusia affinis</i> )	EC50: =140mg/L (48h, <i>Daphnia magna</i> ) EC50: =1400mg/L (24h, <i>Daphnia magna</i> )

**Terrestrial ecotoxicity**

Chemical name	Earthworm	Avian	Honeybees
Ethyl alcohol	Acute Toxicity: LC50 0.1 - 1 mg/cm <sup>2</sup> ( <i>Eisenia foetida</i> , 48 h filter paper)	-	-
Sodium chloride	Acute Toxicity: LC50 0.1 - 1 mg/cm <sup>2</sup> ( <i>Eisenia foetida</i> , 48 h filter paper)	-	-
Methanol	Acute Toxicity: LC50 > 1 mg/cm <sup>2</sup> ( <i>Eisenia foetida</i> , 48 h filter paper)	-	-

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

Chemical name	Partition coefficient
Ethyl alcohol	-0.32
4-Morpholinepropanesulfonic acid	-2.94
Methanol	-0.77
Isopropyl alcohol	0.05
Citric acid	-1.72

**Mobility in soil****Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****Waste treatment methods****Contaminated packaging**

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous substance (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the substance to be classified as hazardous (class 6, 8, or 9 substance).



**SECTION 14: Transport information****IATA** Not regulated**IMDG** Not regulated**Transport in bulk according to Annex II of MARPOL and the IBC Code**

No information available

**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****New Zealand**

Chemical name	New Zealand HSNO Chemical Classification
Ethyl alcohol - 64-17-5	3.1B,6.4A 3.1C,6.4A
Sodium chloride - 7647-14-5	6.1E (All),6.1E (O),6.4A
Methanol - 67-56-1	3.1B,6.1C (All),6.1C (D),6.1C (I),6.1C (O),6.4A,6.8B,6.9A (All),6.9A (I),9.3C 3.1C,6.1C (All),6.1C (D),6.1C (I),6.1C (O),6.4A,6.8B,6.9A (All),6.9A (I),9.3C 3.1C,6.1C (All),6.1C (D),6.1C (O),6.4A,6.8B,6.9A (All),6.9A (Oth),9.3C 3.1C,6.1D (All),6.1D (D),6.1D (I),6.1D (O),6.4A,6.8B,6.9A (All),6.9A (I) 6.1E (All),6.1E (D),6.1E (I),6.1E (O),6.8B,6.9B (All),6.9B (I)
Isopropyl alcohol - 67-63-0	3.1B,6.1E (All),6.1E (O),6.3B,6.4A 3.1B,6.3B,6.4A 3.1C,6.3B,6.4A
Citric acid - 77-92-9	6.1E (All),6.1E (I),6.3B,8.3A 6.3B,8.3A 8.3A 6.4A
Sodium hydroxide - 1310-73-2	6.1D (All),6.1D (D),6.1D (O),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F),9.3C 6.1D (All),6.1D (O),6.1E (D),8.1A,8.2B,8.3A,9.1D (All),9.1D (C),9.1D (F) 6.1E (All),6.1E (O),6.3A,6.4A 6.1E (All),6.1E (O),8.1A,8.2C,8.3A
Trade secret -	6.5A,6.5B,6.9A (All),6.9A (O)
Magnesium nitrate - 10377-60-3	5.1.1C,6.3B,6.4A
Trade secret -	6.1E (All),6.1E (O),6.3A,6.4A,6.8B,6.8C,6.9B (All),6.9B (O),9.1A (All),9.1A (A)
Adenine - 73-24-5	6.1D (All),6.1D (O),9.3C
Magnesium chloride - 7786-30-3	6.1E (All),6.1E (O),6.4A

**National regulations**

See Section 8 for any applicable tolerable exposure limits and environmental exposure limits

**Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes for substances requiring a controlled substance license, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information  
Controlled substance licenses are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**EPA New Zealand HSNO approval code or group standard** Not applicable

#### International Inventories

Contact supplier for inventory compliance status

#### **Legend:**

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

### **SECTION 16: Other information**

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 10-Feb-2022

**Revision Note** Reviewed existing information and made minor updates.

#### **Key or legend to abbreviations and acronyms used in the safety data sheet**

##### Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

#### **Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AELG(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of Safety Data Sheet**