



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
GB/T 16483-2008, GB/T 17519-2013

Product Name Liquichek Hematology-16 Control

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

Pure substance/mixture Mixture

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

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ctsthailand@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Hong Kong: 800-968-793

Recommended use of the chemical and restrictions on use

Recommended use In vitro diagnostic

SECTION 2: Hazards identification

Emergency Overview

No significant adverse health effects

Appearance Opaque

Physical state Liquid

Odour Odourless

Classification of the substance or mixture

Not classified

Label elements

Hazard statements

Not classified

Revision date 10-Feb-2022

Physical and chemical hazards

Not applicable.

Health hazards

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

Environmental hazards

Not applicable

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

Substance

Not applicable.

Mixture

Not classified.

Chemical name	Weight-%	CAS No
Human Red Blood Cells	50 - 100	NO-CAS-19
Water	20 - 35	7732-18-5
Ethyl alcohol	2.5 - 5	64-17-5
Lactose, monohydrate	2.5 - 5	64044-51-5
Sodium chloride	0.3 - 0.999	7647-14-5
Albumins, blood serum	0.3 - 0.999	9048-46-8
4-Morpholinepropanesulfonic acid	0.1 - 0.299	1132-61-2
Methanol	0.1 - 0.299	67-56-1
Isopropyl alcohol	0.1 - 0.299	67-63-0
Glucose	0.1 - 0.299	50-99-7
Citric acid	0.01 - 0.099	77-92-9
Sodium hydroxide	0.01 - 0.099	1310-73-2
Trade secret	0.01 - 0.099	-
Trade secret	0.01 - 0.099	-
Magnesium nitrate	0.01 - 0.099	10377-60-3
Trade secret	0.01 - 0.099	-
Inosine	0.001 - 0.01	58-63-9
Adenine	0.001 - 0.01	73-24-5
Animal Source Material	0.001 - 0.01	NO-CAS-61
5-Chloro-2-methyl-3(2H)-isothiazolone, mixture with 2-methyl-3(2H)-isothiazolone	< 0.001	55965-84-9
Magnesium chloride	< 0.001	7786-30-3

SECTION 4: First aid measures

Description of necessary first aid measures

Revision date 10-Feb-2022

General advice	No hazards which require special first aid measures.
Inhalation	Remove to fresh air.
Eye contact	Contains human source material and / or potentially infectious components. Call a doctor.
Skin contact	Wash skin with soap and water.
Ingestion	Call a doctor. Contains human source material and / or potentially infectious components.
<u>Most important symptoms and effects, both acute and delayed</u>	No information available.
<u>For emergency responders</u>	No information available.
<u>Note to doctors</u>	Contains human source material and / or potentially infectious components.

SECTION 5: Firefighting measures

Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
<u>Specific hazards arising from the chemical</u>	No information available.
<u>Special protective actions for fire-fighters</u>	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.
<u>Environmental precautions</u>	See Section 12 for additional Ecological Information.
<u>Methods and material for containment and cleaning up</u>	Do not allow into any sewer, on the ground or into any body of water. Clean contaminated surface thoroughly. Use: Disinfectant.
<u>Precautions to prevent secondary hazards</u>	Clean contaminated objects and areas thoroughly observing environmental regulations.

SECTION 7: Handling and storage

<u>Precautions for safe handling</u>	Handle in accordance with good industrial hygiene and safety practice. Follow universal and standard precautions for handling potentially infectious materials. See Section 8 for information on appropriate personal protective equipment.
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Revision date 10-Feb-2022

Conditions for safe storage, including any incompatibilities Store according to product and label instructions.

Incompatible materials None known based on information supplied.

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

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

Chemical name	China	ACGIH TLV
Ethyl alcohol - 64-17-5	-	STEL: 1000 ppm
Methanol - 67-56-1	TWA: 25 mg/m ³ STEL: 50 mg/m ³ Skin*	STEL: 250 ppm TWA: 200 ppm S*
Isopropyl alcohol - 67-63-0	TWA: 350 mg/m ³ STEL: 700 mg/m ³	STEL: 400 ppm TWA: 200 ppm
Sodium hydroxide - 1310-73-2	Ceiling: 2 mg/m ³ Ceiling	Ceiling: 2 mg/m ³

Note See section 16 for terms and abbreviations

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	Biological standards	Monitoring and observation processes	ACGIH
Methanol - 67-56-1			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

Monitoring and observation processes

No applicable information was found.

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).

Skin and body protection Wear suitable protective clothing.

Hand protection Wear suitable gloves.

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.

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

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance Opaque

Revision date 10-Feb-2022

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Additional information

Explosive properties	Not applicable
Oxidising properties	Not applicable

SECTION 10: Stability and reactivity

Stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

Conditions to avoid None known based on information supplied.

Incompatible materials None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

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

Revision date 10-Feb-2022

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 ³ (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 ³ (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)	-	-

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.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

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

Carcinogenicity Based on available data, the classification criteria are not met.

Chemical name	China	IARC
Ethyl alcohol	-	Group 1
Isopropyl alcohol	-	Group 3
Magnesium nitrate	-	Group 2A

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

Specific target organ toxicity — single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity — repeated exposure Based on available data, the classification criteria are not met.

Revision date 10-Feb-2022

Target organ effects Liver. Respiratory system. Eyes. Skin. Central nervous system. Blood. Reproductive system.

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

SECTION 12: Ecological information

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

Revision date 10-Feb-2022

Persistence and degradability No information available.

Bioaccumulative potential 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 No information available.

SECTION 13: Disposal considerations

Waste chemicals Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IMDG Not regulated
Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

IATA Not regulated

China Not regulated

Special precautions for user
Please refer to the applicable dangerous goods regulations for additional information

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Catalogue of occupational hazard factors: Not applicable.
Catalogue of occupational diseases: Not applicable.

Chemical name	Category
Methanol	Chemical hazards
Isopropyl alcohol	Chemical hazards
Sodium hydroxide	Chemical hazards

Regulations on the Control over Safety of Hazardous Chemicals

Inventory of hazardous chemicals Not applicable.

Chemical name	Inventory of hazardous chemicals
Ethyl alcohol	Listed
Methanol	Listed

Revision date 10-Feb-2022

Product Name Liquichek Hematology-16 Control
Revision date 10-Feb-2022

(M)SDS Number

IRQD06124

Isopropyl alcohol	Listed
Sodium hydroxide	Listed
Magnesium nitrate	Listed

GB 18218-2009 Identification of major hazard installations for dangerous chemicals Not applicable

Chemical name	Threshold quantity (T)
Ethyl alcohol	500
Methanol	500

List of hazardous chemicals under priority management Not applicable

Chemical name	List of priority hazardous chemicals under work safety management
Methanol	Listed

Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used

Inventory of highly toxic goods Not applicable

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

List of toxic chemicals severely restricted for import and export in China Not applicable

Measures for the Environmental Management of New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances Contact supplier for inventory compliance status.

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

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Revision Note Reviewed existing information and made minor updates.

Abbreviations and acronyms

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) (AEGL(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

Revision date 10-Feb-2022

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

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End of Safety Data Sheet