SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Revision date 10-Feb-2022 **Revision Number** 1

1. IDENTIFICATION

Product identifier
Product Name Liquichek Hematology-16 Control

Other means of identification
Catalogue Number(s) 760, 761, 762, 763, 760X

Registration Number(s) No information available

Recommended use of the chemical and restrictions on use
Recommended use In vitro diagnostic

Supplier's details

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 Pvt. Ltd.
Bio-Rad House
86-87, Udyog Vihar Phase IV Gurgaon
122005
Haryana India

Bio-Rad Laboratories (Pty) Ltd.
34 Bolton Road
Parkwood, Johannesburg 2193
South Africa

Technical Service India: 91-124-4029300 or 1-800-180-1224
South Africa: 27-11-442-85-08
India: support.india@bio-rad.com
South Africa: cdg_techsupport_eemea@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC India: 000-800-100-7141
CHEMTREC South Africa: 0-800-983-611

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Acute aquatic toxicity	Category 3

GHS Label elements, including precautionary statements

Hazard statements
Harmful to aquatic life

Precautionary Statements - Prevention
Avoid release to the environment
Precautionary Statements - Response

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other hazards which do not result in classification
No information available

Contains human source material and / or potentially infectious components

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

Chemical name	CAS No	Weight-%
Human Red Blood Cells NO-CAS-19	NO-CAS-19	59.73
Water 7732-18-5	7732-18-5	33.351
Ethyl alcohol 64-17-5	64-17-5	2.52
Lactose, monohydrate 64044-51-5	64044-51-5	2.5
Sodium chloride 7647-14-5	7647-14-5	0.7
Albumins, blood serum 9048-46-8	9048-46-8	0.4
4-Morpholinepropanesulfonic acid 1132-61-2	1132-61-2	0.2
Methanol 67-56-1	67-56-1	0.14
Isopropyl alcohol 67-63-0	67-63-0	0.14
Glucose 50-99-7	50-99-7	0.1
Citric acid 77-92-9	77-92-9	0.075
Sodium hydroxide 1310-73-2	1310-73-2	0.07
Trade secret	-	0 - 10%
Trade secret	-	0 - 10%
Magnesium nitrate 10377-60-3	10377-60-3	0.0108
Trade secret	-	0 - 10%
Inosine 58-63-9	58-63-9	0.008
Adenine 73-24-5	73-24-5	0.004
Animal Source Material NO-CAS-61	NO-CAS-61	0.001
5-Chloro-2-methyl-3(2H)-isothiazolone, mixture with 2-methyl-3(2H)-isothiazolone 55965-84-9	55965-84-9	0.00072
Magnesium chloride 7786-30-3	7786-30-3	0.00048

4. FIRST AID MEASURES

Description of necessary first aid measures

Inhalation Remove to fresh air.

Skin contact Wash skin with soap and water.

Eye contact Call a physician.

Ingestion Call a physician.

For emergency responders

Self-protection of the first aider No information available.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media

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

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Specific hazards arising from the chemical No information available.

Special protective actions for fire-fighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

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 Clean contaminated surface thoroughly.

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

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	Ontario	European Union
Ethyl alcohol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m³	STEL: 1000 ppm	-
Methanol 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m³ (vacated) S*	TWA: 200 ppm STEL: 250 ppm Skin	TWA: 200 ppm TWA: 260 mg/m³ *
Isopropyl alcohol 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m³	TWA: 200 ppm STEL: 400 ppm	-
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m³	TWA: 2 mg/m³ (vacated) Ceiling: 2 mg/m³	CEV: 2 mg/m³	-

Chemical name	China	Japan Society of Occupational Health	OEL	Australia	Taiwan
Ethyl alcohol 64-17-5	-	-	TWA: 1000 ppm	1000 ppm 1880 mg/m³	TWA: 1000 ppm TWA: 1880 mg/m³ STEL: 1000 ppm STEL: 1880 mg/m³
Methanol 67-56-1	TWA: 25 mg/m³ STEL: 50 mg/m³ Skin*	TWA: 200 ppm TWA: 260 mg/m³ S*	TWA: 200 ppm STEL: 250 ppm Skin*	200 ppm 262 mg/m³ 250 ppm STEL 328 mg/m³ STEL	TWA: 200 ppm TWA: 262 mg/m³ STEL: 250 ppm STEL: 327.5 mg/m³ Skin*
Isopropyl alcohol 67-63-0	TWA: 350 mg/m³ STEL: 700 mg/m³	Ceiling: 400 ppm Ceiling: 980 mg/m³	TWA: 200 ppm STEL: 400 ppm	400 ppm 983 mg/m³ 500 ppm STEL 1230 mg/m³ STEL	TWA: 400 ppm TWA: 983 mg/m³ STEL: 500 ppm STEL: 1228.75 mg/m³
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m³ Ceiling	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	2 mg/m³ Peak	TWA: 2 mg/m³ STEL: 4 mg/m³
5-Chloro-2-methyl-3(2H)-isothiazolone, mixture with 2-methyl-3(2H)-isothiazolone 55965-84-9	-	-	TWA: 0.1 mg/m³	-	-

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).

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 Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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

Property	**Values**	**Remarks • Method**
pH	7.2	
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapour pressure		No information available
Vapour density		No information available
Relative density		No information available
Solubility(ies)		
Water solubility	Miscible in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic viscosity		

Other information

Oxidising properties Not applicable

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.

11. TOXICOLOGICAL INFORMATION

Information on the 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

2.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
5.02 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
5.02 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
5.02 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
2.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (inhalation-dust/mist) 4,948.40 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/m³ (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/m³ (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 and also chronic effects from short and long term exposure

Skin corrosion/irritation No information available.

Serious eye damage/irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

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

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

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

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Toxicity

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

Ecotoxicity

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)*	*EC50: 340.7 - 469.2mg/L (48h, Daphnia magna)*

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

Persistence and degradability

No information available.

Bioaccumulative potential

There is no data for this product.

Mobility

Mobility in soil No information available.

Mobility No information available.

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

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues/unused Dispose of in accordance with local regulations. Dispose of waste in accordance with

products	environmental legislation.
Contaminated packaging	Do not reuse empty containers.

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
RID	Not regulated
ADR	Not regulated
ADN	Not regulated
Special precautions for user	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

15. REGULATORY INFORMATION

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

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

International Inventories
Contact supplier for inventory compliance status

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		

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