

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 05/26/2015

Reviewed on 12/16/2013

**1 Identification**

- **Product identifier**
- **Trade name:** Lyphochek® Whole Blood Metals Control
- **Catalog or product number:** 527, 528, 529, 528X
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** SU20 Health services
- **Application of the substance / the mixture** In-vitro laboratory reagent or component
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Diagnostic Group  
9500 Jeronimo Road  
Irvine, California 92618-2017 1(949) 598-1200
- **Information department:** Technical services, customer support
- **Emergency telephone number:**  
1(800) 424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION, or ACCIDENT.

**2 Hazard(s) identification**

- **Classification of the substance or mixture**  
The product is not classified according to the Globally Harmonized System (GHS).

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- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Emergency overview:**
- **Routes of exposure:**  
Ingestion  
Inhalation  
Skin
- **Classification system**
- **NFPA ratings (scale 0-4)**  
Health = 0  
Fire = 0  
Reactivity = 0
- **Special Hazards** Contains human sourced and/or potentially infectious components.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with non-hazardous additions.

· **Listing of dangerous and non-hazardous components:**

	50-100%
Human Whole Blood	

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	Proprietary Reagent BS 10	20-35%
	Proprietary Reagent U	1.0-2.5%
CAS: 1327-53-3 EINECS: 215-481-4	diarsenic trioxide	.001-.01%
CAS: 7440-43-9 EINECS: 231-152-8	cadmium (non-pyrophoric)	.001-.01%
CAS: 7439-92-1 EINECS: 231-100-4	lead	.001-.01%
CAS: 7439-97-6 EINECS: 231-106-7	mercury	.001-.01%
CAS: 7440-28-0 EINECS: 231-138-1	thallium	.001-.01%

· **Additional information** Contains human sourced and/or potentially infectious components.

#### 4 First-aid measures

- **Description of first aid measures**
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact**  
Immediately wash with water and soap and rinse thoroughly.  
Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing** Rinse mouth with water. Seek medical attention and appropriate follow-up.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

#### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

#### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Handle as potentially infectious.
- **Environmental precautions:**  
Keep contaminated washing water and dispose of appropriately.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb liquid components with liquid-binding material.  
Pick up mechanically.  
Clean the affected area carefully; suitable cleaners are:

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Disinfectant

· **Reference to other sections** See Section 13 for disposal information.

**7 Handling and storage**

- **Handling**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** According to product specification
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Refer to package insert for additional information regarding storage conditions.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**1327-53-3 diarsenic trioxide**

PEL (United States) Long-term value: 0.01 mg/m<sup>3</sup>  
as As; 29CFR1910.1018

REL (United States) Long-term value: 0.5 mg/m<sup>3</sup>  
as Sb

TLV (United States) Long-term value: 0.01 mg/m<sup>3</sup>

**7440-43-9 cadmium (non-pyrophoric)**

PEL (United States) Long-term value: 0.005 mg/m<sup>3</sup>  
as Cd; see 29 CFR 1910.1027

REL (United States) See Pocket Guide App. A

TLV (United States) Long-term value: 0.01 0.002\* mg/m<sup>3</sup>  
as Cd; \*respirable fraction; BEI

**7439-92-1 lead**

PEL (United States) Long-term value: 0.05\* mg/m<sup>3</sup>  
\*see 29 CFR 1910.1025

REL (United States) Long-term value: 0.05\* mg/m<sup>3</sup>  
\*8-hr TWA, excl. lead arsenate; See PocketGuideApp.C

TLV (United States) Long-term value: 0.05\* mg/m<sup>3</sup>  
\*and inorganic compounds, as Pb; BEI

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**7439-97-6 mercury**

PEL (United States)	Long-term value: 0.1 mg/m <sup>3</sup> as Hg; see OSHA standard interpretation memo
REL (United States)	Short-term value: C 0.1 mg/m <sup>3</sup> Long-term value: 0.05* mg/m <sup>3</sup> as Hg; *Vapor; Skin
TLV (United States)	Long-term value: 0.025 mg/m <sup>3</sup> as Hg; Skin; BEI

**7440-28-0 thallium**

PEL (United States)	Long-term value: 0.1 mg/m <sup>3</sup> as Tl; Skin
REL (United States)	Long-term value: 0.1 mg/m <sup>3</sup> as Tl; Skin
TLV (United States)	Long-term value: 0.02* mg/m <sup>3</sup> as Tl; *inhalable fraction; Skin

**· Ingredients with biological limit values:**

**7440-43-9 cadmium (non-pyrophoric)**

BEI (United States)	5 µg/g creatinine Medium: urine Time: not critical Parameter: Cadmium (background)
	5 µg/L Medium: blood Time: not critical Parameter: Cadmium (background)

**7439-92-1 lead**

BEI (United States)	30 µg/100 ml Medium: blood Time: not critical Parameter: Lead
	10 µg/100 ml Medium: blood Time: not critical Parameter: Lead (women of child bearing potential)

**7439-97-6 mercury**

BEI (United States)	35 µg/g creatinine Medium: urine Time: prior to shift Parameter: Total inorganic mercury (background)
	15 µg/L Medium: blood Time: end of shift at end of workweek Parameter: Total inorganic mercury (background)

**· Additional information:** The lists that were valid during the creation were used as basis.

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- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
The usual precautionary measures for handling chemicals should be followed.  
Follow the usual biosafety practices for handling potentially infectious materials.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.  
Synthetic gloves
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Solid
<b>Color:</b>	Red
<b>Odor:</b>	Light
- **pH-value at 20 °C:** 7.3-7.7
- **Change in condition**

<b>Melting point/Melting range:</b>	undetermined
<b>Boiling point/Boiling range:</b>	undetermined
- **Flash point:** Not applicable
- **Danger of explosion:** Product does not present an explosion hazard.
- **Density:** Not determined
- **Solubility in / Miscibility with Water:** Soluble
- **Solvent content:**

<b>Organic solvents:</b>	0.0 %
<b>Solids content:</b>	100.0 %
- **Other information** No further relevant information available.

**10 Stability and reactivity**

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

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- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

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

1327-53-3	diarsenic trioxide	1
7440-43-9	cadmium (non-pyrophoric)	1
7439-92-1	lead	2B
7439-97-6	mercury	3

· **NTP (National Toxicology Program)**

1327-53-3	diarsenic trioxide	K
7440-43-9	cadmium (non-pyrophoric)	K
7439-92-1	lead	R

· **OSHA-Ca (Occupational Safety & Health Administration)**

7440-43-9	cadmium (non-pyrophoric)	
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**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation** Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b><br>· <b>ADR, ADN, IMDG, IATA</b>                                    | Void            |
| · <b>UN proper shipping name</b><br>· <b>ADR, ADN, IMDG, IATA</b>                      | Void            |
| · <b>Transport hazard class(es)</b><br>· <b>ADR, ADN, IMDG, IATA</b><br>· <b>Class</b> | Void            |
| · <b>Packing group</b><br>· <b>ADR, IMDG, IATA</b>                                     | Void            |
| · <b>Environmental hazards:</b><br>· <b>Marine pollutant:</b>                          | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>       | Not applicable. |

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendants and Reauthorization Act of 1986 - USA)**

· **Section 302/304 (40CFR355.30 / 40CFR355.40):**

1327-53-3	diarsenic trioxide
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· **Section 313 (40CFR372.65):**

1327-53-3	diarsenic trioxide
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7440-43-9	cadmium (non-pyrophoric)
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7439-92-1	lead
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7439-97-6	mercury
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7440-28-0	thallium
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**· TSCA (Toxic Substances Control Act):**

	Proprietary Reagent BS 10
1327-53-3	diarsenic trioxide
7440-43-9	cadmium (non-pyrophoric)
7439-92-1	lead
7439-97-6	mercury
7440-28-0	thallium

**· California Proposition 65:**

**· Chemicals known to cause cancer:**

1327-53-3	diarsenic trioxide
7440-43-9	cadmium (non-pyrophoric)
7439-92-1	lead

**· Developmental Toxicity**

1327-53-3	diarsenic trioxide
7440-43-9	cadmium (non-pyrophoric)
7439-92-1	lead
7439-97-6	mercury

**· Carcinogenic categories**

**· EPA (Environmental Protection Agency)**

7440-43-9	cadmium (non-pyrophoric)	B1
7439-92-1	lead	B2
7439-97-6	mercury	D

**· TLV (Threshold Limit Value established by ACGIH)**

	Proprietary Reagent BS 10	A4
1327-53-3	diarsenic trioxide	A1
7440-43-9	cadmium (non-pyrophoric)	A2
7439-92-1	lead	A3
7439-97-6	mercury	A4

**· MAK (German Maximum Workplace Concentration)**

1327-53-3	diarsenic trioxide	1
7440-43-9	cadmium (non-pyrophoric)	1
7439-92-1	lead	2
7439-97-6	mercury	3B

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

7440-43-9	cadmium (non-pyrophoric)
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**· National regulations**

**· Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**16 Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** Environmental Health and Safety.

· **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· **Date of preparation / last revision** 05/26/2015 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

· **\* Data compared to the previous version altered.**

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