



05/26/2015

**Kit Components**

Product code	Description
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<b>402X</b>	<b>Lyphochek® Urine Metals Control</b>
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Components:

400	Lyphochek® Urine Metals Control, Level 1
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405	Lyphochek® Urine Metals Control, Level 2
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# Safety Data Sheet

acc. to OSHA HCS


Printing date 05/26/2015

Reviewed on 05/26/2015

## 1 Identification

- **Product identifier**
- **Trade name:** Lyphochek® Urine Metals Control, Level 1
- **Catalog or product number:** 400
- **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**  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2A H319 Causes serious eye irritation.
  - **Label elements**
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
- 

GHS07
- **Signal word** Warning
  - **Hazard statements**  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.
  - **Precautionary statements**  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P273 Avoid release to the environment.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a poison center/doctor if you feel unwell.  
P363 Wash contaminated clothing before reuse.
  - **Emergency overview:**
  - **Routes of exposure:**  
Inhalation  
Ingestion  
Skin

(Contd. on page 2)

QUS

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 1)

- **Classification system**
- **NFPA ratings (scale 0-4)**  
Health = 1  
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:**

	Human Urine	50-100%
CAS: 16674-78-5	Magnesium Acetate Tetrahydrate	20-35%
CAS: 495-69-2 EINECS: 207-806-3	hippuric acid	5-10%
CAS: 90-64-2 EINECS: 202-007-6	mandelic acid	5-10%
CAS: 611-73-4 EINECS: 210-278-7	benzoylformic acid	2.5-5%
CAS: 76-03-9 EINECS: 200-927-2	trichloroacetic acid	1.0-2.5%
CAS: 108-95-2 EINECS: 203-632-7	phenol	0.1-1.0%
CAS: 7681-49-4 EINECS: 231-667-8	sodium fluoride	0.1-1.0%
CAS: 10048-95-0 EINECS: 231-902-4	di-Natriumhydrogenarsenat-Heptahydrat	0.01-0.1%
CAS: 7446-08-4 EINECS: 231-194-7	selenium dioxide	.001-.01%
CAS: 7487-94-7 EINECS: 231-299-8	mercury dichloride	.001-.01%
CAS: 28300-74-5	Potassium antimonyl tartrate trihydrate	.001-.01%
CAS: 10108-64-2 EINECS: 233-296-7	cadmium chloride	.001-.01%
CAS: 7758-95-4 EINECS: 231-845-5	lead dichloride	.001-.01%
CAS: 87-86-5 EINECS: 201-778-6	pentachlorophenol	.001-.01%
CAS: 563-68-8 EINECS: 209-257-5	thallium acetate	.001-.01%

(Contd. on page 3)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 05/26/2015

Reviewed on 05/26/2015

Trade name: **Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 2)

· **Additional information** Contains components derived from human urine.

### 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.
- **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**
  - Skin irritation
  - Eye irritation
  - Respiratory irritation
- **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:** Wear self-contained respiratory protective device.

### 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:
    - 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.

(Contd. on page 4)

-QUS-

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 3)

- **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:**

**76-03-9 trichloroacetic acid**

REL (United States) 7 mg/m<sup>3</sup>, 1 ppm  
TLV (United States) (6.7) NIC-3.34 mg/m<sup>3</sup>, (1) NIC-0.5 ppm

**108-95-2 phenol**

PEL (United States) 19 mg/m<sup>3</sup>, 5 ppm  
Skin  
REL (United States) Short-term value: C60\* mg/m<sup>3</sup>, C 15.6\* ppm  
Long-term value: 19 mg/m<sup>3</sup>, 5 ppm  
\*15-min; Skin  
TLV (United States) 19 mg/m<sup>3</sup>, 5 ppm  
Skin; BEI

**7681-49-4 sodium fluoride**

PEL (United States) 2.5 mg/m<sup>3</sup>  
as F  
REL (United States) 2.5 mg/m<sup>3</sup>  
as F  
TLV (United States) 2.5 mg/m<sup>3</sup>  
as F, BEI

**10048-95-0 di-Natriumhydrogenarsenat-Heptahydrat**

PEL (United States) 0.01 mg/m<sup>3</sup>  
as As; 29CFR1910.1018  
REL (United States) Short-term value: C0.002 mg/m<sup>3</sup>  
as As; 15min  
TLV (United States) 0.01 mg/m<sup>3</sup>  
as As; BEI

**7446-08-4 selenium dioxide**

PEL (United States) 0.2 mg/m<sup>3</sup>  
as Se  
REL (United States) 0.2 mg/m<sup>3</sup>  
as Se  
TLV (United States) 0.2 mg/m<sup>3</sup>  
as Se

(Contd. on page 5)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 4)

**7487-94-7 mercury dichloride**

PEL (United States) Short-term value: C 0.1 mg/m<sup>3</sup>  
as Hg  
REL (United States) Short-term value: C 0.1 mg/m<sup>3</sup>  
as Hg; Skin  
TLV (United States) 0.025 mg/m<sup>3</sup>  
as Hg; Skin; BEI

**28300-74-5 Potassium antimonyl tartrate trihydrate**

PEL (United States) 0.5 mg/m<sup>3</sup>  
as Sb  
REL (United States) 0.5 mg/m<sup>3</sup>  
as Sb  
TLV (United States) 0.5 mg/m<sup>3</sup>  
as Sb

**10108-64-2 cadmium chloride**

PEL (United States) 0.005 mg/m<sup>3</sup>  
as Cd; see 29 CFR 1910.1027  
REL (United States) as Cd; LFC (LOQ 0.1 mg/m<sup>3</sup>)  
TLV (United States) 0.01\* 0.002\*\* mg/m<sup>3</sup>  
as Cd; \*inhalable \*\*respirable fraction; BEI

**7758-95-4 lead dichloride**

PEL (United States) 0.05 mg/m<sup>3</sup>  
as Pb; See 29 CFR 1910.1025  
REL (United States) 0.05\* mg/m<sup>3</sup>  
as Pb; \*8-hr TWA, Blood Pb<0.06mg/100g whole blood  
TLV (United States) 0.05 mg/m<sup>3</sup>  
as Pb; BEI

**87-86-5 pentachlorophenol**

PEL (United States) 0.5 mg/m<sup>3</sup>  
Skin  
REL (United States) 0.5 mg/m<sup>3</sup>  
Skin  
TLV (United States) 0.5 mg/m<sup>3</sup>  
Skin; BEI

**563-68-8 thallium acetate**

PEL (United States) 0.1 mg/m<sup>3</sup>  
as Tl; Skin  
REL (United States) vgl. Abschn. IIb  
TLV (United States) 0.1 mg/m<sup>3</sup>  
as Tl; Skin

**Ingredients with biological limit values:**

**108-95-2 phenol**

(Contd. on page 6)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 5)

*BEI (United States)* 250 mg/g creatinine  
Medium: urine  
Time: end of shift  
Parameter: Phenol with hydrolysis (background, nonspecific)

**7681-49-4 sodium fluoride**

*BEI (United States)* 2 mg/L  
Medium: urine  
Time: prior to shift  
Parameter: Fluoride (background, nonspecific)

3 mg/L  
Medium: urine  
Time: end of shift  
Parameter: Fluoride (background, nonspecific)

**10048-95-0 di-Natriumhydrogenarsenat-Heptahydrat**

*BEI (United States)* 35 µg As/L  
Medium: urine  
Time: end of workweek  
Parameter: Inorganic arsenic plus methylated metabolites

**7487-94-7 mercury dichloride**

*BEI (United States)* 35 µg/L  
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)

**7758-95-4 lead dichloride**

*BEI (United States)* 30 µg/100 ml  
Medium: blood  
Time: not critical  
Parameter: Lead

**87-86-5 pentachlorophenol**

*BEI (United States)* 2 mg/g creatinine  
Medium: urine  
Time: prior to last shift of workweek  
Parameter: Total pentachlorophenol (background)

5 mg/L  
Medium: plasma  
Time: end of shift  
Parameter: Free pentachlorophenol (background)

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

(Contd. on page 7)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 6)

- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
Follow the usual biosafety practices for handling potentially infectious materials.  
The usual precautionary measures for handling chemicals should be followed.
- **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>	Yellow
<b>Odor:</b>	Light
- **pH-value at 20 °C:** 4.9-5.1
- **Change in condition**
  - Melting point/Melting range:** undetermined
  - Boiling point/Boiling range:** 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.

(Contd. on page 8)



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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 7)

- **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:**

· **LD/LC50 values for hazardous components per OSHA criteria:**

**108-95-2 phenol**

Oral	LD50	300 mg/kg (mus)
Dermal	LD50	670 mg/kg (rat)
Inhalative	LC50/4 h	316 mg/l (rat)

- **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 shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

· **Carcinogenic categories**

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

76-03-9	trichloroacetic acid	3
108-95-2	phenol	3
7681-49-4	sodium fluoride	3
10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	1
7446-08-4	selenium dioxide	3
7487-94-7	mercury dichloride	3
10108-64-2	cadmium chloride	1
10026-24-1	Cobalt(II) sulfate heptahydrate	2B
7758-95-4	lead dichloride	2A
87-86-5	pentachlorophenol	2B

· **NTP (National Toxicology Program)**

10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	K
7446-08-4	selenium dioxide	R
10108-64-2	cadmium chloride	K
7758-95-4	lead dichloride	R

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

10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	
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(Contd. on page 9)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 8)

10108-64-2 cadmium chloride

**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.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): hazardous for water.  
Do not allow product to reach ground water, water course or sewage system.  
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **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.  
Hand over to hazardous waste disposers.
- **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>                  | Void |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>  | Void |
| · <b>UN proper shipping name</b>    | Void |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>  | Void |
| · <b>Transport hazard class(es)</b> | Void |
| · <b>ADR, ADN, IMDG, IATA</b>       | Void |
| · <b>Class</b>                      | Void |
| · <b>Packing group</b>              | Void |
| · <b>DOT, ADR, IMDG, IATA</b>       | Void |

(Contd. on page 10)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 9)

- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** -

**15 Regulatory information**

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

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

108-95-2	phenol
7487-94-7	mercury dichloride

· **Section 313 (40CFR372.65):**

108-95-2	phenol
7446-08-4	selenium dioxide
7487-94-7	mercury dichloride
28300-74-5	Potassium antimonyl tartrate trihydrate
10108-64-2	cadmium chloride
10026-24-1	Cobalt(II) sulfate heptahydrate
7758-95-4	lead dichloride
87-86-5	pentachlorophenol
563-68-8	thallium acetate

· **TSCA (Toxic Substances Control Act):**

495-69-2	hippuric acid
90-64-2	mandelic acid
76-03-9	trichloroacetic acid
108-95-2	phenol
7681-49-4	sodium fluoride
7446-08-4	selenium dioxide
7487-94-7	mercury dichloride
10108-64-2	cadmium chloride
7758-95-4	lead dichloride
87-86-5	pentachlorophenol
563-68-8	thallium acetate

· **California Proposition 65:**

· **Chemicals known to cause cancer:**

10108-64-2	cadmium chloride
10026-24-1	Cobalt(II) sulfate heptahydrate

(Contd. on page 11)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 10)

7758-95-4	lead dichloride
87-86-5	pentachlorophenol

**· Developmental Toxicity**

7487-94-7	mercury dichloride
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**· Carcinogenic categories**

**· EPA (Environmental Protection Agency)**

76-03-9	trichloroacetic acid	C
108-95-2	phenol	I
10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	A
7446-08-4	selenium dioxide	D
7487-94-7	mercury dichloride	C
10108-64-2	cadmium chloride	B1
7758-95-4	lead dichloride	B2
87-86-5	pentachlorophenol	B2

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

76-03-9	trichloroacetic acid	A3
108-95-2	phenol	A4
7681-49-4	sodium fluoride	A4
10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	A1
7487-94-7	mercury dichloride	A4
10108-64-2	cadmium chloride	A2
7758-95-4	lead dichloride	A3
87-86-5	pentachlorophenol	A3

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

108-95-2	phenol	3B
10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	1
7446-08-4	selenium dioxide	3
7487-94-7	mercury dichloride	3
28300-74-5	Potassium antimonyl tartrate trihydrate	2
10108-64-2	cadmium chloride	2
7758-95-4	lead dichloride	2
87-86-5	pentachlorophenol	2

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

10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat
10108-64-2	cadmium chloride

**· National regulations**

**· Technical instructions (air):**

Class	Share in %
I	0.1-1.0
III	0.1-1.0

(Contd. on page 12)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 1**

(Contd. of page 11)

- **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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

DOT: US Department of Transportation

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

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

# Safety Data Sheet

acc. to OSHA HCS



Printing date 05/26/2015

Reviewed on 05/26/2015

## 1 Identification

- **Product identifier**
- **Trade name:** Lyphochek® Urine Metals Control, Level 2
- **Catalog or product number:** 405
- **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**  
Skin Corr. 1B H314 Causes severe skin burns and eye damage.  
Eye Dam. 1 H318 Causes serious eye damage.  
Muta. 2 H341 Suspected of causing genetic defects.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**  
   
GHS05 GHS08
- **Signal word** Danger
- **Hazard-determining components of labeling:**  
trichloroacetic acid  
phenol
- **Hazard statements**  
H314 Causes severe skin burns and eye damage.  
H341 Suspected of causing genetic defects.  
H373 May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P310 If swallowed: Immediately call a poison center/doctor.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a poison center/doctor if you feel unwell.  
P363 Wash contaminated clothing before reuse.

(Contd. on page 2)

QUS

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 1)

- **Emergency overview:**
- **Routes of exposure:**  
Inhalation  
Ingestion  
Skin
- **Classification system**
- **NFPA ratings (scale 0-4)**  
Health = 1  
Fire = 0  
Reactivity = 0
- **Special Hazards** Contains components derived from human urine.
- **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:**

CAS: 16674-78-5	Magnesium Acetate Tetrahydrate	35-50%
	Human Urine	20-35%
CAS: 495-69-2 EINECS: 207-806-3	hippuric acid	10-20%
CAS: 90-64-2 EINECS: 202-007-6	mandelic acid	5-10%
CAS: 611-73-4 EINECS: 210-278-7	benzoylformic acid	5-10%
CAS: 76-03-9 EINECS: 200-927-2	trichloroacetic acid	2.5-5%
CAS: 108-95-2 EINECS: 203-632-7	phenol	1.0-2.5%
CAS: 7681-49-4 EINECS: 231-667-8	sodium fluoride	0.1-1.0%
CAS: 10048-95-0 EINECS: 231-902-4	di-Natriumhydrogenarsenat-Heptahydrat	0.01-0.1%
CAS: 7446-08-4 EINECS: 231-194-7	selenium dioxide	.001-.01%
CAS: 7487-94-7 EINECS: 231-299-8	mercury dichloride	.001-.01%
CAS: 563-68-8 EINECS: 209-257-5	thallium acetate	.001-.01%
CAS: 7758-95-4 EINECS: 231-845-5	lead dichloride	.001-.01%

(Contd. on page 3)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 2)

CAS: 28300-74-5	Potassium antimonyl tartrate trihydrate	.001-.01%
CAS: 10108-64-2 EINECS: 233-296-7	cadmium chloride	.001-.01%
CAS: 10026-24-1 EINECS: 233-334-2	Cobalt(II) sulfate heptahydrate	.001-.01%
CAS: 10101-97-0 EINECS: 232-104-9	Nickel(II) sulfate hexahydrate	.001-.01%
CAS: 87-86-5 EINECS: 201-778-6	pentachlorophenol	.001-.01%

· **Additional information** Contains components derived from human urine.

**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.
- **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**

- Skin irritation
- Eye irritation
- Respiratory irritation

· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**5 Fire-fighting measures**

· **Extinguishing media**

· **Suitable extinguishing agents**

CO2, 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:** Wear self-contained respiratory protective device.

**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:

Disinfectant

(Contd. on page 4)



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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 3)

· **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:**

**76-03-9 trichloroacetic acid**

REL (United States) 7 mg/m<sup>3</sup>, 1 ppm  
TLV (United States) (6.7) NIC-3.34 mg/m<sup>3</sup>, (1) NIC-0.5 ppm

**108-95-2 phenol**

PEL (United States) 19 mg/m<sup>3</sup>, 5 ppm  
Skin  
REL (United States) Short-term value: C60\* mg/m<sup>3</sup>, C 15.6\* ppm  
Long-term value: 19 mg/m<sup>3</sup>, 5 ppm  
\*15-min; Skin  
TLV (United States) 19 mg/m<sup>3</sup>, 5 ppm  
Skin; BEI

**7681-49-4 sodium fluoride**

PEL (United States) 2.5 mg/m<sup>3</sup>  
as F  
REL (United States) 2.5 mg/m<sup>3</sup>  
as F  
TLV (United States) 2.5 mg/m<sup>3</sup>  
as F, BEI

**10048-95-0 di-Natriumhydrogenarsenat-Heptahydrat**

PEL (United States) 0.01 mg/m<sup>3</sup>  
as As; 29CFR1910.1018  
REL (United States) Short-term value: C0.002 mg/m<sup>3</sup>  
as As; 15min

(Contd. on page 5)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 4)

TLV (United States)	0.01 mg/m <sup>3</sup> as As; BEI
<b>7446-08-4 selenium dioxide</b>	
PEL (United States)	0.2 mg/m <sup>3</sup> as Se
REL (United States)	0.2 mg/m <sup>3</sup> as Se
TLV (United States)	0.2 mg/m <sup>3</sup> as Se
<b>7487-94-7 mercury dichloride</b>	
PEL (United States)	Short-term value: C 0.1 mg/m <sup>3</sup> as Hg
REL (United States)	Short-term value: C 0.1 mg/m <sup>3</sup> as Hg; Skin
TLV (United States)	0.025 mg/m <sup>3</sup> as Hg; Skin; BEI
<b>563-68-8 thallium acetate</b>	
PEL (United States)	0.1 mg/m <sup>3</sup> as Tl; Skin
REL (United States)	vgl. Abschn. IIb
TLV (United States)	0.1 mg/m <sup>3</sup> as Tl; Skin
<b>7758-95-4 lead dichloride</b>	
PEL (United States)	0.05 mg/m <sup>3</sup> as Pb; See 29 CFR 1910.1025
REL (United States)	0.05* mg/m <sup>3</sup> as Pb; *8-hr TWA, Blood Pb < 0.06 mg/100g whole blood
TLV (United States)	0.05 mg/m <sup>3</sup> as Pb; BEI
<b>28300-74-5 Potassium antimonyl tartrate trihydrate</b>	
PEL (United States)	0.5 mg/m <sup>3</sup> as Sb
REL (United States)	0.5 mg/m <sup>3</sup> as Sb
TLV (United States)	0.5 mg/m <sup>3</sup> as Sb
<b>10108-64-2 cadmium chloride</b>	
PEL (United States)	0.005 mg/m <sup>3</sup> as Cd; see 29 CFR 1910.1027
REL (United States)	as Cd; LFC (LOQ 0.1 mg/m <sup>3</sup> )
TLV (United States)	0.01* 0.002** mg/m <sup>3</sup> as Cd; *inhalable **respirable fraction; BEI
<b>10026-24-1 Cobalt(II) sulfate heptahydrate</b>	
TLV (United States)	.02 mg/m <sup>3</sup>

(Contd. on page 6)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 5)

**10101-97-0 Nickel(II) sulfate hexahydrate**

TLV (United States) Short-term value: 1 mg/m<sup>3</sup>  
Long-term value: 0.1 mg/m<sup>3</sup>

**87-86-5 pentachlorophenol**

PEL (United States) 0.5 mg/m<sup>3</sup>  
Skin

REL (United States) 0.5 mg/m<sup>3</sup>  
Skin

TLV (United States) 0.5 mg/m<sup>3</sup>  
Skin; BEI

**Ingredients with biological limit values:**

**108-95-2 phenol**

BEI (United States) 250 mg/g creatinine  
Medium: urine  
Time: end of shift  
Parameter: Phenol with hydrolysis (background, nonspecific)

**7681-49-4 sodium fluoride**

BEI (United States) 2 mg/L  
Medium: urine  
Time: prior to shift  
Parameter: Fluoride (background, nonspecific)

3 mg/L  
Medium: urine  
Time: end of shift  
Parameter: Fluoride (background, nonspecific)

**10048-95-0 di-Natriumhydrogenarsenat-Heptahydrat**

BEI (United States) 35 µg As/L  
Medium: urine  
Time: end of workweek  
Parameter: Inorganic arsenic plus methylated metabolites

**7487-94-7 mercury dichloride**

BEI (United States) 35 µg/L  
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)

**7758-95-4 lead dichloride**

BEI (United States) 30 µg/100 ml  
Medium: blood  
Time: not critical  
Parameter: Lead

(Contd. on page 7)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 6)

**87-86-5 pentachlorophenol**

BEI (United States)	2 mg/g creatinine Medium: urine Time: prior to last shift of workweek Parameter: Total pentachlorophenol (background)
	5 mg/L Medium: plasma Time: end of shift Parameter: Free pentachlorophenol (background)

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

· **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>	Yellow
<b>Odor:</b>	Light

· **pH-value at 20 °C:** 4.9-5.1

· **Change in condition**

**Melting point/Melting range:** undetermined  
**Boiling point/Boiling range:** undetermined

· **Flash point:** Not applicable

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density:** Not determined

· **Solubility in / Miscibility with**

**Water:** Soluble

(Contd. on page 8)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 7)

- **Solvent content:**
- Organic solvents:** 0.0 %
- **Solids content:** 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.
- **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:**
- **LD/LC50 values for hazardous components per OSHA criteria:**

**108-95-2 phenol**

Oral	LD50	300 mg/kg (mus)
Dermal	LD50	670 mg/kg (rat)
Inhalative	LC50/4 h	316 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:**  
Strong caustic effect on skin and mucous membranes.  
Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant

· **Carcinogenic categories**

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

76-03-9	trichloroacetic acid	3
108-95-2	phenol	3
7681-49-4	sodium fluoride	3
10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	1
7446-08-4	selenium dioxide	3
7487-94-7	mercury dichloride	3
7758-95-4	lead dichloride	2A

(Contd. on page 9)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 8)

10108-64-2	cadmium chloride	1
10026-24-1	Cobalt(II) sulfate heptahydrate	2B
10101-97-0	Nickel(II) sulfate hexahydrate	1
87-86-5	pentachlorophenol	2B

**· NTP (National Toxicology Program)**

10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	K
7446-08-4	selenium dioxide	R
7758-95-4	lead dichloride	R
10108-64-2	cadmium chloride	K

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

10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	
10108-64-2	cadmium chloride	

**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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): hazardous for water.  
Do not allow product to reach ground water, water course or sewage system.  
Also poisonous for fish and plankton in water bodies.  
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **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.  
Hand over to hazardous waste disposers.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

(Contd. on page 10)

QUS

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 9)

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

· UN-Number · DOT, ADR, IMDG, IATA	UN1759
· UN proper shipping name · DOT, IATA · ADR · IMDG	CORROSIVE SOLID, N.O.S. (TRICHLOROACETIC ACID) 1759 CORROSIVE SOLID, N.O.S. (TRICHLOROACETIC ACID) CORROSIVE SOLID, N.O.S. (trichloroacetic acid)
· Transport hazard class(es) · Label · ADR, IMDG, IATA · Class · Label	8 8 Corrosive substances 8
· Packing group · DOT, ADR, IMDG, IATA	III
· Environmental hazards: · Marine pollutant: · Special marking (ADR):	No Symbol (fish and tree)
· Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups	Warning: Corrosive substances 80 F-A,S-B Acids
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN1759, CORROSIVE SOLID, N.O.S. (TRICHLOROACETIC ACID), ENVIRONMENTALLY HAZARDOUS, 8, III

**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):**

108-95-2	phenol
7487-94-7	mercury dichloride

· **Section 313 (40CFR372.65):**

108-95-2	phenol
7446-08-4	selenium dioxide
7487-94-7	mercury dichloride
563-68-8	thallium acetate

(Contd. on page 11)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 10)

7758-95-4	lead dichloride
28300-74-5	Potassium antimonyl tartrate trihydrate
10108-64-2	cadmium chloride
10026-24-1	Cobalt(II) sulfate heptahydrate
10101-97-0	Nickel(II) sulfate hexahydrate
87-86-5	pentachlorophenol

**· TSCA (Toxic Substances Control Act):**

495-69-2	hippuric acid
90-64-2	mandelic acid
76-03-9	trichloroacetic acid
108-95-2	phenol
7681-49-4	sodium fluoride
7446-08-4	selenium dioxide
7487-94-7	mercury dichloride
563-68-8	thallium acetate
7758-95-4	lead dichloride
10108-64-2	cadmium chloride
87-86-5	pentachlorophenol

**· California Proposition 65:**

**· Chemicals known to cause cancer:**

7758-95-4	lead dichloride
10108-64-2	cadmium chloride
10026-24-1	Cobalt(II) sulfate heptahydrate
10101-97-0	Nickel(II) sulfate hexahydrate
87-86-5	pentachlorophenol

**· Developmental Toxicity**

7487-94-7	mercury dichloride
-----------	--------------------

**· Carcinogenic categories**

**· EPA (Environmental Protection Agency)**

76-03-9	trichloroacetic acid	C
108-95-2	phenol	I
10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	A
7446-08-4	selenium dioxide	D
7487-94-7	mercury dichloride	C
7758-95-4	lead dichloride	B2
10108-64-2	cadmium chloride	B1
87-86-5	pentachlorophenol	B2

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

76-03-9	trichloroacetic acid	A3
108-95-2	phenol	A4

(Contd. on page 12)



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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 11)

7681-49-4	sodium fluoride	A4
10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	A1
7487-94-7	mercury dichloride	A4
7758-95-4	lead dichloride	A3
10108-64-2	cadmium chloride	A2
87-86-5	pentachlorophenol	A3

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

108-95-2	phenol	3B
10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat	1
7446-08-4	selenium dioxide	3
7487-94-7	mercury dichloride	3
7758-95-4	lead dichloride	2
28300-74-5	Potassium antimonyl tartrate trihydrate	2
10108-64-2	cadmium chloride	2
87-86-5	pentachlorophenol	2

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

10048-95-0	di-Natriumhydrogenarsenat-Heptahydrat
10108-64-2	cadmium chloride

**· National regulations**

**· Technical instructions (air):**

Class	Share in %
I	1.0-2.5
III	0.1-1.0

**· Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

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

**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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

(Contd. on page 13)

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

Printing date 05/26/2015

Reviewed on 05/26/2015

**Trade name: Lyphochek® Urine Metals Control, Level 2**

(Contd. of page 12)

ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B  
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1  
Muta. 2: Germ cell mutagenicity, Hazard Category 2  
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

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

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