

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.

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- **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%

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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

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· **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/m³, 1 ppm
TLV (United States) (6.7) NIC-3.34 mg/m³, (1) NIC-0.5 ppm

108-95-2 phenol

PEL (United States) 19 mg/m³, 5 ppm
Skin
REL (United States) Short-term value: C60* mg/m³, C 15.6* ppm
Long-term value: 19 mg/m³, 5 ppm
*15-min; Skin
TLV (United States) 19 mg/m³, 5 ppm
Skin; BEI

7681-49-4 sodium fluoride

PEL (United States) 2.5 mg/m³
as F
REL (United States) 2.5 mg/m³
as F
TLV (United States) 2.5 mg/m³
as F, BEI

10048-95-0 di-Natriumhydrogenarsenat-Heptahydrat

PEL (United States) 0.01 mg/m³
as As; 29CFR1910.1018
REL (United States) Short-term value: C0.002 mg/m³
as As; 15min

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

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10101-97-0 Nickel(II) sulfate hexahydrate

TLV (United States) Short-term value: 1 mg/m³
Long-term value: 0.1 mg/m³

87-86-5 pentachlorophenol

PEL (United States) 0.5 mg/m³
Skin

REL (United States) 0.5 mg/m³
Skin

TLV (United States) 0.5 mg/m³
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

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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:**

Form:	Solid
Color:	Yellow
Odor:	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

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- **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

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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.

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· **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

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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
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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
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

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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

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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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