

KIT SAFETY DATA SHEET



Kit Product Name Lyphocheck Urine Metals Control

Kit Catalogue Number(s) 402X

Revision date 11-Jun-2021

Kit Contents

Catalogue Number(s)	Product Name
400	Lyphocheck Urine Metals Control, Level 1
405	Lyphocheck Urine Metals Control, Level 2



SAFETY DATA SHEET

According to WHS Regulations

Revision date 11-Jun-2021

Revision Number 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product Name Lyphochek Urine Metals Control, Level 1

Catalogue Number(s) 400

Other means of identification

Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended use In vitro diagnostic

Uses advised against No information available

Details of manufacturer or importer

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 Pty Ltd
Level 5
446 Victoria Road,
Gladesville NSW 2111
Australia

For further information, please contact

Technical Service +61 2 9914 2800 or 1800 224 354
sales.australia@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Australia: 61-290372994

Emergency telephone number No information available

SECTION 2: Hazards identification

GHS Classification

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)

Label elements

Exclamation mark



Signal word

Warning

Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

Harmful to aquatic life with long lasting effects Harmful to aquatic life Contains components derived from human urine

SECTION 3: Composition/information on ingredients**Substance**

Not applicable

Mixture

Chemical name	CAS No	Weight-%
Trichloroacetic acid	76-03-9	1 - 2.5
Phenol	108-95-2	0.3 - 0.999
Sodium fluoride	7681-49-4	0.1 - 0.299
Mercury chloride (HgCl ₂)	7487-94-7	0.001 - 0.01
Thallium(I) acetate	563-68-8	< 0.001
Pentachlorophenol	87-86-5	< 0.001
Lead chloride (PbCl ₂)	7758-95-4	< 0.001
Cadmium chloride	10108-64-2	< 0.001
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3, O4)]di-, dipotassium, trihydrate, stereoisomer	28300-74-5	< 0.001
Non-hazardous ingredients	Proprietary	Balance

SECTION 4: First aid measures**Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance. Contains components derived from human urine.

Emergency telephone number

Poisons Information Centre, Australia: 13 11 26

Poisons Information Centre, New Zealand: 0800 764 766

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical

attention if irritation develops and persists.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms May cause redness and tearing of the eyes. Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to doctors Contains human source material and / or potentially infectious components.

SECTION 5: Firefighting measures

Suitable Extinguishing Media

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

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical None known.

Special protective actions for fire-fighters

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

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Do not allow into any sewer, on the ground or into any body of water.

Methods for cleaning up Clean contaminated surface thoroughly. Use: Disinfectant.

Precautions to prevent secondary hazards

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

SECTION 7: Handling and storage

Precautions for safe handling**Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.

General hygiene considerations

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Follow universal and standard precautions for handling potentially infectious materials.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store according to product and label instructions.

Incompatible materials

Strong acids. Strong bases. Strong oxidising agents.

SECTION 8: Exposure controls/personal protection**Control parameters****Exposure Limits**

Chemical name	Australia	ACGIH TLV
Trichloroacetic acid 76-03-9	1 ppm 6.7 mg/m ³	TWA: 0.5 ppm
Phenol 108-95-2	1 ppm 4 mg/m ³	TWA: 5 ppm S*
Sodium fluoride 7681-49-4	2.5 mg/m ³	TWA: 2.5 mg/m ³ F
Mercury chloride (HgCl ₂) 7487-94-7	0.003 ppm 0.025 mg/m ³	TWA: 0.025 mg/m ³ Hg S*
Thallium(I) acetate 563-68-8	0.1 mg/m ³	TWA: 0.02 mg/m ³ TI inhalable particulate matter S*
Pentachlorophenol 87-86-5	0.5 mg/m ³	STEL: 1 mg/m ³ inhalable fraction and vapor TWA: 0.5 mg/m ³ inhalable fraction and vapor S*
Lead chloride (PbCl ₂) 7758-95-4	0.05 mg/m ³	TWA: 0.05 mg/m ³ Pb
Cadmium chloride 10108-64-2	0.01 mg/m ³	TWA: 0.01 mg/m ³ Cd TWA: 0.002 mg/m ³ Cd respirable particulate matter
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3, O4)]di-, dipotassium, trihydrate, stereoisomer 28300-74-5	0.5 mg/m ³	TWA: 0.5 mg/m ³ Sb

Biological occupational exposure limits

Chemical name	Australia	ACGIH
Phenol 108-95-2	-	250 mg/g creatinine - urine (Phenol with hydrolysis) - end of shift
Sodium fluoride 7681-49-4	-	2 mg/L - urine (Fluoride) - prior to shift 3 mg/L - urine (Fluoride) - end of shift
Mercury chloride (HgCl ₂) 7487-94-7	-	35 µg/g creatinine - urine (Total inorganic mercury) - prior to shift 15 µg/L - blood (Total inorganic

		mercury) - end of shift at end of workweek
Pentachlorophenol 87-86-5	-	- urine (Pentachlorophenol with hydrolysis) - prior to last shift of workweek
Lead chloride (PbCl ₂) 7758-95-4	-	200 µg/L - blood (Lead) - not critical
Cadmium chloride 10108-64-2	-	5 µg/g creatinine - urine (Cadmium) - not critical 5 µg/L - blood (Cadmium) - not critical

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. Impervious 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.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state Solid
Appearance powder or cake, lyophilised
Colour yellow
Odour Slight.
Odour threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.9-5.1	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Soluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable	

Oxidising properties Not applicable

Other information

Molecular weight Not applicable

VOC Content (%) Not applicable

SECTION 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 Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

Acute toxicity

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation.

Skin contact Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea

Symptoms Redness. May cause redness and tearing of the eyes.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (dermal)

92,145.60 mg/kg

Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Trichloroacetic acid	= 3320 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Phenol	= 340 mg/kg (Rat) = 317 mg/kg (Rat)	= 630 mg/kg (Rabbit)	= 316 mg/m ³ (Rat) 4 h
Sodium fluoride	= 52 mg/kg (Rat)	= 175 mg/kg (Rat)	-
Mercury chloride (HgCl ₂)	= 1 mg/kg (Rat)	= 41 mg/kg (Rabbit) = 41 mg/kg (Rat)	-
Thallium(I) acetate	= 41.3 mg/kg (Rat)	-	-
Pentachlorophenol	= 27 mg/kg (Rat)	= 40 mg/kg (Rabbit) = 26 mg/kg (Rat)	-
Lead chloride (PbCl ₂)	> 1947 mg/kg (Rat)	-	-
Cadmium chloride	= 88 mg/kg (Rat)	-	-
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedi oato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer	= 115 mg/kg (Rat)	-	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Classification based on data available for ingredients. Irritating to skin.

Product Information

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes serious eye irritation.

Product Information

Respiratory or skin sensitisation

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

Product Information

Germ cell mutagenicity

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

Product Information

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	Australia
Pentachlorophenol - 87-86-5	Carc. 2
Lead chloride (PbCl ₂) - 7758-95-4	Carc. 2
Cadmium chloride - 10108-64-2	Carc. 1B

Product Information

Reproductive toxicity

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

Product Information

STOT - single exposure

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

Product Information

STOT - repeated exposure

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

Product Information

Aspiration hazard

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

SECTION 12: Ecological information**Ecotoxicity****Ecotoxicity**

Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Phenol	EC50: 0.0188 - 0.1044mg/L (96h, <i>Pseudokirchneriella subcapitata</i>) EC50: 187 - 279mg/L (72h, <i>Desmodesmus subspicatus</i>) EC50: =46.42mg/L (96h, <i>Pseudokirchneriella subcapitata</i>)	LC50: 11.9 - 25.3mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 11.9 - 50.5mg/L (96h, <i>Pimephales promelas</i>) LC50: 20.5 - 25.6mg/L (96h, <i>Pimephales promelas</i>) LC50: 23.4 - 36.6mg/L (96h, <i>Oryzias latipes</i>) LC50: 33.9 - 43.3mg/L (96h, <i>Oryzias latipes</i>) LC50: 34.09 - 47.64mg/L (96h, <i>Poecilia reticulata</i>) LC50: 4.23 - 7.49mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 5.0 - 12.0mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 5.449 - 6.789mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 7.5 - 14mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.00175mg/L (96h, <i>Cyprinus carpio</i>) LC50: =11.5mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =13.5mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =27.8mg/L (96h, <i>Brachydanio rerio</i>) LC50: =31mg/L (96h, <i>Poecilia reticulata</i>) LC50: =32mg/L (96h, <i>Pimephales promelas</i>)	-	EC50: 10.2 - 15.5mg/L (48h, <i>Daphnia magna</i>) EC50: 4.24 - 10.7mg/L (48h, <i>Daphnia magna</i>)
Sodium fluoride	EC50: =272mg/L (96h, <i>Pseudokirchneriella subcapitata</i>) EC50: =850mg/L (72h, <i>Desmodesmus subspicatus</i>)	LC50: 38 - 68mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =180mg/L (96h, <i>Pimephales promelas</i>) LC50: =830mg/L (96h, <i>Lepomis macrochirus</i>) LC50: >530mg/L (96h, <i>Lepomis macrochirus</i>)	-	EC50: =338mg/L (48h, <i>Daphnia magna</i>) EC50: =98mg/L (48h, <i>Daphnia magna</i>)
Mercury chloride (HgCl ₂)	-	LC50: 0.014 - 0.019mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	EC50: =0.0015mg/L (48h, <i>Daphnia magna</i>) EC50: >0.012mg/L (48h,

		LC50: 0.02 - 0.26mg/L (96h, Cyprinus carpio) LC50: 0.096 - 0.133mg/L (96h, Lepomis macrochirus) LC50: 0.1 - 0.182mg/L (96h, Pimephales promelas) LC50: 0.13 - 0.19mg/L (96h, Oncorhynchus mykiss) LC50: 5.933 - 10.34mg/L (96h, Poecilia reticulata) LC50: =0.041mg/L (96h, Poecilia reticulata) LC50: =0.155mg/L (96h, Pimephales promelas) LC50: =0.4mg/L (96h, Lepomis macrochirus) LC50: =4.425mg/L (96h, Cyprinus carpio)		Daphnia magna)
Pentachlorophenol	EC50: 0.005 - 0.3mg/L (96h, Pseudokirchneriella subcapitata) EC50: =0.1mg/L (72h, Pseudokirchneriella subcapitata) EC50: =0.183mg/L (72h, Desmodesmus subspicatus)	LC50: 0.031 - 0.038mg/L (96h, Oncorhynchus mykiss) LC50: 0.079 - 0.187mg/L (96h, Pimephales promelas) LC50: 0.102 - 0.128mg/L (96h, Oncorhynchus mykiss) LC50: 0.103 - 0.129mg/L (96h, Lepomis macrochirus) LC50: 0.11 - 0.49mg/L (96h, Pimephales promelas) LC50: 0.170 - 0.3mg/L (96h, Oryzias latipes) LC50: =0.36mg/L (96h, Poecilia reticulata)	-	EC50: 0.138 - 0.307mg/L (48h, Daphnia magna)
Cadmium chloride	EC50: =3.7mg/L (96h, Chlorella vulgaris)	LC50: =0.0409mg/L (96h, Pimephales promelas)	-	EC50: 0.012 - 0.054mg/L (48h, Daphnia magna)
Product Information				

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Phenol	1.5
Pentachlorophenol	5.01

Mobility

Mobility in soil No information available.

Mobility No information available.

Other adverse effects

Other adverse effects No information available.

Endocrine Disruptor Information

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Pentachlorophenol	Group III Chemical	-	-

SECTION 13: Disposal considerations**Waste treatment methods**

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

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

ADG Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code

No information available

SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Australia**

See section 8 for national exposure control parameters

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 7

National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Phenol - 108-95-2	10 tonne/yr Threshold category 1
Sodium fluoride - 7681-49-4	10 tonne/yr Threshold category 1 400 tonne/yr Threshold category 2a 1 tonne/h Threshold category 2a 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b
Mercury chloride (HgCl ₂) - 7487-94-7	5 kg/yr Threshold category 1b 20 MW Threshold category 2b 60000 MWH Threshold category 2b 2000 tonne/yr Threshold category 2b
Pentachlorophenol - 87-86-5	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total

	1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total
Lead chloride (PbCl ₂) - 7758-95-4	10 tonne/yr Threshold category 1 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b
Cadmium chloride - 10108-64-2	10 tonne/yr Threshold category 1 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer - 28300-74-5	10 tonne/yr Threshold category 1

International Inventories

Contact supplier for inventory compliance status

International Regulations**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants**

Chemical name	Annex
Pentachlorophenol - 87-86-5	A

The Rotterdam Convention

Chemical name	Chemicals Subject to Prior Informed Consent (PIC)
Mercury chloride (HgCl ₂) - 7487-94-7	Rotterdam
Pentachlorophenol - 87-86-5	Rotterdam

SECTION 16: Other information**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety**Revision date** 11-Jun-2021**Revision Note** Significant changes throughout SDS. Review all sections.**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		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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



SAFETY DATA SHEET

According to WHS Regulations

Revision date 11-Jun-2021

Revision Number 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product Name Lyphochek Urine Metals Control, Level 2

Catalogue Number(s) 405

Other means of identification

Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended use In vitro diagnostic

Uses advised against No information available

Details of manufacturer or importer

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 Pty Ltd
Level 5
446 Victoria Road,
Gladesville NSW 2111
Australia

For further information, please contact

Technical Service +61 2 9914 2800 or 1800 224 354
sales.australia@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Australia: 61-290372994

Emergency telephone number No information available

SECTION 2: Hazards identification

GHS Classification

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Germ cell mutagenicity	Category 2 - (H341)

Label elements

Health hazard
Corrosion

**Signal word**

Danger

Hazard statements

H315 - Causes skin irritation

H318 - Causes serious eye damage

H341 - Suspected of causing genetic defects

Precautionary Statements - Prevention

Use personal protective equipment as required

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Immediately call a POISON CENTER or doctor/physician

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

May be harmful if swallowed Toxic to aquatic life with long lasting effects Toxic to aquatic life Contains components derived from human urine

SECTION 3: Composition/information on ingredients**Substance**

Not applicable

Mixture

Chemical name	CAS No	Weight-%
Trichloroacetic acid	76-03-9	2.5 - 5
Phenol	108-95-2	1 - 2.5
Sodium fluoride	7681-49-4	0.3 - 0.999
Thallium(I) acetate	563-68-8	0.001 - 0.01
Mercury chloride (HgCl ₂)	7487-94-7	0.001 - 0.01
Lead chloride (PbCl ₂)	7758-95-4	0.001 - 0.01
Copper(2+) chloride dihydrate	10125-13-0	0.001 - 0.01
Pentachlorophenol	87-86-5	< 0.001
Cadmium chloride	10108-64-2	< 0.001
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer	28300-74-5	< 0.001
Non-hazardous ingredients	Proprietary	Balance

SECTION 4: First aid measures**Description of first aid measures**

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. Contains components derived from human urine.
Emergency telephone number	Poisons Information Centre, Australia: 13 11 26 Poisons Information Centre, New Zealand: 0800 764 766
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to doctors Contains human source material and / or potentially infectious components.

SECTION 5: Firefighting measures**Suitable Extinguishing Media**

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

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical None known.

Special protective actions for fire-fighters

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

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Do not allow into any sewer, on the ground or into any body of water.

Methods for cleaning up Clean contaminated surface thoroughly. Use: Disinfectant.

Precautions to prevent secondary hazards

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

SECTION 7: Handling and storage**Precautions for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash it before reuse.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Follow universal and standard precautions for handling potentially infectious materials.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store according to product and label instructions.

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

SECTION 8: Exposure controls/personal protection**Control parameters****Exposure Limits**

Chemical name	Australia	ACGIH TLV
Trichloroacetic acid 76-03-9	1 ppm 6.7 mg/m ³	TWA: 0.5 ppm
Phenol 108-95-2	1 ppm 4 mg/m ³	TWA: 5 ppm S*
Sodium fluoride 7681-49-4	2.5 mg/m ³	TWA: 2.5 mg/m ³ F
Thallium(I) acetate 563-68-8	0.1 mg/m ³	TWA: 0.02 mg/m ³ TI inhalable particulate matter S*
Mercury chloride (HgCl ₂) 7487-94-7	0.003 ppm 0.025 mg/m ³	TWA: 0.025 mg/m ³ Hg S*
Lead chloride (PbCl ₂) 7758-95-4	0.05 mg/m ³	TWA: 0.05 mg/m ³ Pb
Copper(2+) chloride dihydrate 10125-13-0		TWA: 1 mg/m ³ Cu dust and mist
Pentachlorophenol 87-86-5	0.5 mg/m ³	STEL: 1 mg/m ³ inhalable fraction and vapor TWA: 0.5 mg/m ³ inhalable fraction and vapor S*
Cadmium chloride 10108-64-2	0.01 mg/m ³	TWA: 0.01 mg/m ³ Cd TWA: 0.002 mg/m ³ Cd respirable particulate matter

Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3, O4)]di-, dipotassium, trihydrate, stereoisomer 28300-74-5	0.5 mg/m ³	TWA: 0.5 mg/m ³ Sb
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Biological occupational exposure limits

Chemical name	Australia	ACGIH
Phenol 108-95-2	-	250 mg/g creatinine - urine (Phenol with hydrolysis) - end of shift
Sodium fluoride 7681-49-4	-	2 mg/L - urine (Fluoride) - prior to shift 3 mg/L - urine (Fluoride) - end of shift
Mercury chloride (HgCl ₂) 7487-94-7	-	35 µg/g creatinine - urine (Total inorganic mercury) - prior to shift 15 µg/L - blood (Total inorganic mercury) - end of shift at end of workweek
Lead chloride (PbCl ₂) 7758-95-4	-	200 µg/L - blood (Lead) - not critical
Pentachlorophenol 87-86-5	-	- urine (Pentachlorophenol with hydrolysis) - prior to last shift of workweek
Cadmium chloride 10108-64-2	-	5 µg/g creatinine - urine (Cadmium) - not critical 5 µg/L - blood (Cadmium) - not critical

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.
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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. Impervious 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.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state	Solid
Appearance	powder or cake, lyophilised
Colour	yellow
Odour	Slight.
Odour threshold	No information available

Property	Values	Remarks • Method
pH	4.9-5.1	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known

Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Soluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	Not applicable	
Oxidising properties	Not applicable	
<u>Other information</u>		
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

SECTION 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 Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

Acute toxicity

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes. (based on components).
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May be harmful if swallowed.
Symptoms	Redness. Burning. May cause blindness. May cause redness and tearing of the eyes.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	2,453.90 mg/kg
ATEmix (dermal)	8,669.70 mg/kg
ATEmix (inhalation-dust/mist)	13.40 mg/l

Product Information**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Trichloroacetic acid	= 3320 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Phenol	= 340 mg/kg (Rat) = 317 mg/kg (Rat)	= 630 mg/kg (Rabbit)	= 316 mg/m ³ (Rat) 4 h
Sodium fluoride	= 52 mg/kg (Rat)	= 175 mg/kg (Rat)	-
Thallium(I) acetate	= 41.3 mg/kg (Rat)	-	-
Mercury chloride (HgCl ₂)	= 1 mg/kg (Rat)	= 41 mg/kg (Rabbit) = 41 mg/kg (Rat)	-
Lead chloride (PbCl ₂)	> 1947 mg/kg (Rat)	-	-
Pentachlorophenol	= 27 mg/kg (Rat)	= 40 mg/kg (Rabbit) = 26 mg/kg (Rat)	-
Cadmium chloride	= 88 mg/kg (Rat)	-	-
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioate(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer	= 115 mg/kg (Rat)	-	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Irritating to skin.

Product Information

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Information

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

Product Information

Germ cell mutagenicity Contains a known or suspected mutagen. Classification based on data available for ingredients. Suspected of causing genetic defects.

Product Information

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	Australia
Lead chloride (PbCl ₂) - 7758-95-4	Carc. 2
Pentachlorophenol - 87-86-5	Carc. 2
Cadmium chloride - 10108-64-2	Carc. 1B

Reproductive toxicity

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

Product Information

STOT - single exposure

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

Product Information

STOT - repeated exposure

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

Product Information**Aspiration hazard**

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

SECTION 12: Ecological information**Ecotoxicity****Ecotoxicity**

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Unknown aquatic toxicity

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Phenol	EC50: 0.0188 - 0.1044mg/L (96h, Pseudokirchneriella subcapitata) EC50: 187 - 279mg/L (72h, Desmodesmus subspicatus) EC50: =46.42mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 11.9 - 25.3mg/L (96h, Lepomis macrochirus) LC50: 11.9 - 50.5mg/L (96h, Pimephales promelas) LC50: 20.5 - 25.6mg/L (96h, Pimephales promelas) LC50: 23.4 - 36.6mg/L (96h, Oryzias latipes) LC50: 33.9 - 43.3mg/L (96h, Oryzias latipes) LC50: 34.09 - 47.64mg/L (96h, Poecilia reticulata) LC50: 4.23 - 7.49mg/L (96h, Oncorhynchus mykiss) LC50: 5.0 - 12.0mg/L (96h, Oncorhynchus mykiss) LC50: 5.449 - 6.789mg/L (96h, Oncorhynchus mykiss) LC50: 7.5 - 14mg/L (96h, Oncorhynchus mykiss) LC50: =0.00175mg/L (96h, Cyprinus carpio)	-	EC50: 10.2 - 15.5mg/L (48h, Daphnia magna) EC50: 4.24 - 10.7mg/L (48h, Daphnia magna)

		LC50: =11.5mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =13.5mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =27.8mg/L (96h, <i>Brachydanio rerio</i>) LC50: =31mg/L (96h, <i>Poecilia reticulata</i>) LC50: =32mg/L (96h, <i>Pimephales promelas</i>)		
Sodium fluoride	EC50: =272mg/L (96h, <i>Pseudokirchneriella subcapitata</i>) EC50: =850mg/L (72h, <i>Desmodesmus subspicatus</i>)	LC50: 38 - 68mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =180mg/L (96h, <i>Pimephales promelas</i>) LC50: =830mg/L (96h, <i>Lepomis macrochirus</i>) LC50: >530mg/L (96h, <i>Lepomis macrochirus</i>)	-	EC50: =338mg/L (48h, <i>Daphnia magna</i>) EC50: =98mg/L (48h, <i>Daphnia magna</i>)
Mercury chloride (HgCl ₂)	-	LC50: 0.014 - 0.019mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 0.02 - 0.26mg/L (96h, <i>Cyprinus carpio</i>) LC50: 0.096 - 0.133mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 0.1 - 0.182mg/L (96h, <i>Pimephales promelas</i>) LC50: 0.13 - 0.19mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 5.933 - 10.34mg/L (96h, <i>Poecilia reticulata</i>) LC50: =0.041mg/L (96h, <i>Poecilia reticulata</i>) LC50: =0.155mg/L (96h, <i>Pimephales promelas</i>) LC50: =0.4mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =4.425mg/L (96h, <i>Cyprinus carpio</i>)	-	EC50: =0.0015mg/L (48h, <i>Daphnia magna</i>) EC50: >0.012mg/L (48h, <i>Daphnia magna</i>)
Pentachlorophenol	EC50: 0.005 - 0.3mg/L (96h, <i>Pseudokirchneriella subcapitata</i>) EC50: =0.1mg/L (72h, <i>Pseudokirchneriella subcapitata</i>) EC50: =0.183mg/L (72h, <i>Desmodesmus subspicatus</i>)	LC50: 0.031 - 0.038mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 0.079 - 0.187mg/L (96h, <i>Pimephales promelas</i>) LC50: 0.102 - 0.128mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 0.103 - 0.129mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 0.11 - 0.49mg/L (96h, <i>Pimephales promelas</i>) LC50: 0.170 - 0.3mg/L (96h, <i>Oryzias latipes</i>) LC50: =0.36mg/L (96h, <i>Poecilia reticulata</i>)	-	EC50: 0.138 - 0.307mg/L (48h, <i>Daphnia magna</i>)
Cadmium chloride	EC50: =3.7mg/L (96h, <i>Chlorella vulgaris</i>)	LC50: =0.0409mg/L (96h, <i>Pimephales promelas</i>)	-	EC50: 0.012 - 0.054mg/L (48h, <i>Daphnia magna</i>)
Product Information				

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Phenol	1.5
Pentachlorophenol	5.01

Mobility

Mobility in soil No information available.

Mobility No information available.

Other adverse effects

Other adverse effects No information available.

Endocrine Disruptor Information

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Pentachlorophenol	Group III Chemical	-	-

SECTION 13: Disposal considerations**Waste treatment methods**

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

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

ADG Not regulated

IATA Not regulated

UN number or ID number 1759

Packing group III

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL and the IBC Code
No information available

SECTION 15: Regulatory information

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

National regulations**Australia**

See section 8 for national exposure control parameters

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 7

National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Phenol - 108-95-2	10 tonne/yr Threshold category 1
Sodium fluoride - 7681-49-4	10 tonne/yr Threshold category 1 400 tonne/yr Threshold category 2a 1 tonne/h Threshold category 2a 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b
Mercury chloride (HgCl ₂) - 7487-94-7	5 kg/yr Threshold category 1b 20 MW Threshold category 2b 60000 MWH Threshold category 2b 2000 tonne/yr Threshold category 2b
Lead chloride (PbCl ₂) - 7758-95-4	10 tonne/yr Threshold category 1 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b
Copper(2+) chloride dihydrate - 10125-13-0	10 tonne/yr Threshold category 1 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b
Pentachlorophenol - 87-86-5	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total
Cadmium chloride - 10108-64-2	10 tonne/yr Threshold category 1 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer - 28300-74-5	10 tonne/yr Threshold category 1

International Inventories

Contact supplier for inventory compliance status

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants

Chemical name	Annex
Pentachlorophenol - 87-86-5	A

The Rotterdam Convention

Chemical name	Chemicals Subject to Prior Informed Consent (PIC)
Mercury chloride (HgCl ₂) - 7487-94-7	Rotterdam
Pentachlorophenol - 87-86-5	Rotterdam

SECTION 16: Other information

Prepared By Bio-Rad Laboratories, Environmental Health and Safety

Revision date 11-Jun-2021

Revision Note Significant changes throughout SDS. Review all sections.

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		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AELG(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCID)
Japan GHS Classification
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

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End of Safety Data Sheet