SAFETY DATA SHEET

Australian statement of hazardous nature : Classified as hazardous according to criteria of Safe Work Australia

Section 1 - Identification

Product Name **pHR Reference Fill Solution Bridge**

Product Code	**RCPHR-60**
Address	ThermoFisher Scientific Australia Pty Ltd 5 Caribbean Drive, Scoresby VICTORIA 3179, Australia
Emergency Tel.	**CHEMTREC®** **03 9757 4559 or +613 9757 4559**
Telephone / Fax Numbers	Tel: 1300 735 292 Fax: 1800 067 639
E-mail address	auinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards
No hazards identified

Health hazards

Acute Oral Toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Reproductive Toxicity	Category 1B

Environmental hazards
No hazards identified

Label Elements


Exclamation Mark


Health Hazard

Signal Word **Danger**

Hazard Statements
H319 - Causes serious eye irritation

H302 - Harmful if swallowed
H315 - Causes skin irritation
H360 - May damage fertility or the unborn child

Precautionary Statements
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear eye protection/ face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P321 - Specific treatment (see supplemental instructions on the administration of antidotes on this label)
P330 - Rinse mouth
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P403 - Store in a well-ventilated place
P501 - Dispose of contents/ container to an approved waste disposal plant

Other information
No information available

Section 3 - Composition and Information on Ingredients

Component	CAS-No	Weight %
Water	7732-18-5	50 - 60
Potassium Iodide	7681-11-0	40 - 50
Potassium Hydroxide	1310-58-3	1 - 10
Boric Acid	10043-35-3	0.1 - 1.0
Iodine	7553-56-2	0.1 - 1.0

Section 4 - First Aid Measures

Inhalation — Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion — Clean mouth with water and drink afterwards plenty of water.

Skin Contact — Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Eye Contact — Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

General Advice — If symptoms persist, call a physician.

Self-Protection of the First Aider — Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

First Aid Facilities — Eyewash, safety shower and washroom.

Most important symptoms and effects — None reasonably foreseeable.

Notes to Physician — Treat symptomatically.

Section 5 - Fire Fighting Measures

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

Extinguishing media which must not be used for safety reasons
No information available.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment and precautions for fire fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Emergency procedures
Ensure adequate ventilation. Use personal protective equipment as required.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional Ecological Information. Vapors may accumulate to form explosive concentrations.

Methods for Containment and Clean Up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Reference to Other Sections
Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling
Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Conditions for Safe Storage, Including any Incompatibilities
Keep container tightly closed in a dry and well-ventilated place.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits
DE - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011 **ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace. **UK** - EH40/2005 Work Exposure Limits, Third edition. Published 2018.

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Potassium Iodide			TWA: 0.01 ppm		
Potassium Hydroxide		Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	STEL: 2 mg/m³ 15 min	
Boric Acid			TWA: 2 mg/m³ STEL: 6 mg/m³		TWA: 0.5 mg/m³ (8 Stunden). AGW - exposure factor 2 TWA: 10 mg/m³ (8 Stunden). MAK when boric acid and tetraborates are present together, the MAK value is 0.75 mg boron/m³

					Höhepunkt: 10 mg/m³
Iodine		Ceiling: 0.1 ppm Ceiling: 1 mg/m³	TWA: 0.01 ppm STEL: 0.1 ppm	STEL: 0.1 ppm 15 min STEL: 1.1 mg/m³ 15 min	Haut

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Exposure Controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Disposable gloves	See manufacturers recommendations	-	AS/NZS 2161	(minimum requirement)

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Repiratory Protection Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of repiratory protective devices (or AUS/NZ equivalent)
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Dark brown	
Physical State	Liquid	
Odor	None Odorless	
Odor Threshold	No data available	
pH	7.0 (6.4 - 7.6)	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	100 °C / 212 °F	
Flash Point	No data available	**Method -** No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	

Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	No data available	
Bulk Density	Not applicable	Liquid
Water Solubility	No information available	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Other information

Section 10 - Stability and Reactivity

Reactivity None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Heat, flames and sparks.

Incompatible Materials None known.

Hazardous Decomposition Products None under normal use conditions.

Hazardous Polymerization No information available.

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Oral	No data available
Dermal	No data available
Inhalation	No data available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	LD50 > 90 mL/kg (Rat)		
Potassium Hydroxide	LD50 = 284 mg/kg (Rat)		
Boric Acid	LD50 = 2660 mg/kg (Rat)	LD50 > 2000 mg/kg (Rabbit)	LC50 > 0.16 mg/L (Rat) 4 h
Iodine	LD50 = 14 g/kg (Rat)		

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory	No data available
Skin	No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and delayed No information available

Section 12 - Ecological Information

Ecotoxicity effects .

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Potassium Iodide	LC50: > 100 mg/L, 96h static (Danio rerio)			
Potassium Hydroxide	LC50: = 80 mg/L, 96hr static (Gambusia affinis)			
Boric Acid	LC50: = 1020 mg/L, 72h flow-through (Carassius auratus)	EC50: 115 - 153 mg/L, 48h (Daphnia magna)		
Iodine	LC50: = 1.67 mg/L, 96h static (Oncorhynchus mykiss)			

Persistence and Degradability No information available
Bioaccumulative Potential No information available

Mobility No information available.
Endocrine Disruptor Information .? is a suspected endocrine disruptor
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste from Residues/Unused Products Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

Other Information Chemical wastes should be disposed through a licensed commercial waste collection service. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

Section 14 - Transport Information

IMDG/IMO Not regulated

ADG Not regulated

IATA Not regulated

Environmental hazards No hazards identified

Special Precautions No special precautions required

Additional information None known

Section 15 - Regulatory Information

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

International Inventories X = listed

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	KECL
Water	X	X	231-791-2	-	X	X	-	X	X	X	KE-35400
Potassium Iodide	X	X	231-659-4	-	X	X	-	X	X	X	KE-29149
Potassium Hydroxide	X	X	215-181-3	-	X	X	-	X	X	X	KE-29139
Boric Acid	X	X	233-139-2	-	X	X	-	X	X	X	KE-03499
Iodine	X	X	231-442-4	-	X	X	-	X	X	X	KE-21023

Standard for the Uniform Scheduling of Medicines and Poisons

Prohibition or notification/licensing requirements Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

Section 16 - Other Information

Legend

AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
CAS - Chemical Abstracts Service
TWA - Time Weighted Average
ACGIH - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC)
IARC - International Agency for Research on Cancer
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
MARPOL - International Convention for the Prevention of Pollution from Ships
ADG Australian Code for the Transport of Dangerous Goods by Road and Rail
NZS 5433:2012 - Transport of Dangerous Goods on Land
OECD - Organisation for Economic Co-operation and Development
LD50 - Lethal Dose 50%
LC50 - Lethal Concentration 50%
EC50 - Effective Concentration 50%
ATE - Acute Toxicity Estimate
WEL - Workplace Exposure Limit
RPE - Respiratory Protective Equipment
DNEL - Derived No Effect Level
NOEC - No Observed Effect Concentration
POW - Partition coefficient Octanol:Water
BCF - Bioconcentration factor
vPvB - very Persistent, very Bioaccumulative
PBT - Persistent, Bioaccumulative, Toxic
VOC (volatile organic compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and

hygiene.

Revision Date	19-Feb-2021
Revision Summary	Not applicable

This safety data sheet complies with the requirements of Safe Work Australia WHS Regulation

Disclaimer

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End of Safety Data Sheet