

SAFETY DATA SHEET

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

Section 1 - Identification

Product Name iCAP Q/RQ Tune Solution

Product Code 47450

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 ANZinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Uses advised against

Verify requirements related to using, handling and storing these substances. This product

contains one or more substance(s) on the Illicit Drug Precursors/Reagents list. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product contains one or more substance(s) listed on the voluntary

National Code of Practice for Chemicals of Security Concern.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards

Substances/mixtures corrosive to metal Category 1

Health hazards

Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 1

Environmental hazards
No hazards identified

Label Elements



ALFAA47450 Version 2 20-Nov-2022 Page 1/10

Signal Word Danger

Hazard Statements

H290 - May be corrosive to metals

H315 - Causes skin irritation

H318 - Causes serious eye damage

Precautionary Statements

P234 - Keep only in original packaging

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

P390 - Absorb spillage to prevent material damage

P362 + P364 - Take off contaminated clothing and wash it before reuse

P406 - Store in corrosion resistant polypropylene container with a resistant inliner

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	96.4		
Nitric acid% [C ≤ 70 %]	7697-37-2	3		
Hydrochloric acid	7647-01-0	0.6		

Section 4 - First Aid Measures

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

respiration.

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 For further assistance, contact your local Poison Control Center. 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

Causes severe eye damage.

Notes to Physician Treat symptomatically.

ALFAA47450 Version 2 20-Nov-2022 Page 2/10

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.

Hazardous Decomposition Products

Nitrogen oxides (NOx), Thermal decomposition can lead to release of irritating gases and vapors.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

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

Use personal protective equipment as required. Ensure adequate ventilation.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up

Clean-up methods - small spillage

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Clean-up methods - large spillage

Typically only supplied is small quantiites as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

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. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

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

Section 8 - Exposure Controls and Personal Protection

Exposure limits

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation

ALFAA47450 Version 2 20-Nov-2022 Page 3 / 10

of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]
Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]
updated in August, 2005. Safe Work Australia **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, Fourth edition. Published 2020. **DE** - MAK and BAT values of Hazardous
Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Nitric acid% [C ≤	STEL: 4 ppm	TWA: 2 ppm	TWA: 2 ppm	STEL: 1 ppm 15 min	TWA: 1 ppm (8
70 %]	STEL: 10 mg/m ³	TWA: 5.2 mg/m ³	STEL: 4 ppm	STEL: 2.6 mg/m ³ 15 min	Stunden). AGW -
	TWA: 2 ppm	STEL: 4 ppm			TWA: 2.6 mg/m ³ (8
	TWA: 5.2 mg/m ³	STEL: 10 mg/m ³			Stunden). AGW -
Hydrochloric acid	Ceiling: 5 ppm	Ceiling: 5 ppm	Ceiling: 2 ppm	STEL: 5 ppm 15 min	TWA: 2 ppm (8
	Ceiling: 7.5 mg/m ³	Ceiling: 7.5 mg/m ³		STEL: 8 mg/m ³ 15 min	Stunden). AGW -
				TWA: 1 ppm 8 hr	exposure factor 2
				TWA: 2 mg/m ³ 8 hr	TWA: 3 mg/m ³ (8
					Stunden). AGW -
					exposure factor 2
					TWA: 2 ppm (8
					Stunden). MAK
					TWA: 3.0 mg/m ³ (8
					Stunden). MAK
					Höhepunkt: 4 ppm
					Höhepunkt: 6 mg/m ³

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

Use only under a chemical fume hood. 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 Natural rubber Nitrile rubber	Breakthrough time See manufacturers recommendations	Glove thickness	AUS/NZ Standard AS/NZS 2161	Glove comments (minimum requirement)
Neoprene				
PVC				

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

Recommended Filter type: Particulates filter conforming to EN 143 (or AUS/NZ equivalent)

Recommended half mask:- Particle filtering: EN149:2001 (or AUS/NZ equivalent)

ALFAA47450 Version 2 20-Nov-2022 Page 4/10

When RPE is used a face piece Fit Test should be conducted

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

> food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wear suitable

> > Liquid

(Air = 1.0)

Liquid

Method - No information available

gloves and eye/face protection.

No information available. **Environmental exposure controls**

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance Clear, **Physical State** Liquid

Odor Acrid

Odor Threshold No data available Not applicable Melting Point/Range No data available **Softening Point** No data available **Boiling Point/Range** Not applicable Flash Point Not applicable

No data available **Evaporation Rate** Flammability (solid,gas) Not applicable

No data available **Explosion Limits**

Vapor Pressure No data available **Vapor Density** No data available

Specific Gravity / Density 1.03 g/ml (20°C) Not applicable **Bulk Density**

Water Solubility Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

log Pow Component Nitric acid ...% [C ≤ 70 %] -2.3

Autoignition Temperature No data available No data available **Decomposition Temperature** No data available **Viscosity 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 recommended storage conditions.

Conditions to Avoid Incompatible products, Excess heat, Exposure to air or moisture over prolonged periods.

Incompatible Materials Strong bases, Reducing Agent, Organic materials, Aldehydes, Alcohols, Cyanides, Metals,

Finely powdered metals, Ammonia.

Hazardous Decomposition Products Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating gases and

Page 5/10 **ALFAA47450** Version 2 20-Nov-2022

Hazardous Polymerization Hazardous polymerization does not occur.

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Based on available data, the classification criteria are not met Oral **Dermal** Based on available data, the classification criteria are not met Inhalation Based on available data, the classification criteria are not met

Component	LD50 Oral LD50 Dermal		LC50 Inhalation
Water	-	-	·
Nitric acid% [C ≤ 70 %]			LC50 = 2500 ppm. (Rat) 1h
Hydrochloric acid	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	1.68 mg/L (Rat)1 h

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available Skin No data available

(e) germ cell mutagenicity; No data available

No data available (f) carcinogenicity;

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 No information available

delayed

Section 12 - Ecological Information

Ecotoxicity effects

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Hydrochloric acid	282 mg/L LC50 96 h Gambusia affinis mg/L LC50 48 h Leucscus idus	56mg/L EC50 72h Daphnia	-	-

Persistence and Degradability

ALFAA47450 Version 2 20-Nov-2022 Page 6/10

SAFETY DATA SHEET

Persistence Soluble in water, Persistence is unlikely, based on information available, Miscible with

water

Degradability Not relevant for inorganic substances.

Bioaccumulative Potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Nitric acid% [C ≤ 70 %]	-2.3	No data available
Mobility	The product is water soluble, and may spread	in water systems. : Will likely be mobile in

the environment due to its water solubility Highly mobile in soils

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant
Ozone Depletion Potential

This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste from Residues/Unused Do not allow into drain

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. Solutions with low pH-value must be

neutralized before discharge. Do not flush to sewer.

Section 14 - Transport Information

IMDG/IMO

UN-No UN3264

Proper Shipping NameCorrosive liquid, acidic, inorganic, n.o.s.

Technical Shipping Name Nitric acid, Hydrochloric acid

Hazard Class 8
Packing Group |

ADG

UN-No UN3264

Proper Shipping Name Corrosive liquid, acidic, inorganic, n.o.s.

Technical Shipping Name Nitric acid, Hydrochloric acid

Hazard Class 8
Packing Group

Component	Hazchem Code
Nitric acid% [C ≤ 70 %]	2R
7697-37-2 (3)	2P
	2PE
Hydrochloric acid	2RE
7647-01-0 (0.6)	2R

IATA

UN-No UN3264

Proper Shipping Name Corrosive liquid, acidic, inorganic, n.o.s.

Technical Shipping Name Nitric acid, Hydrochloric acid

Hazard Class 8
Packing Group

ALFAA47450 Version 2 20-Nov-2022 Page 7 / 10

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

National Regulations Australia

See section 8 for national exposure control parameters.

Standard for the Uniform Scheduling of Medicines and Poisons

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

Component	Standard for the Uniform Scheduling of Medicines and Poisons					
Nitric acid% [C ≤ 70 %] - 7697-37-2	Schedule 5 listed - except its salts and derivatives; in preparations except in preparations containing					
	<=0.5% of Nitric acid					
	Schedule 6 listed - except its salts and derivatives; except when included in Schedule 5, or in					
	preparations containing <=0.5% of Nitric acid					
Hydrochloric acid - 7647-01-0	Schedule 5 listed - except its salts and derivatives; in preparations except: in preparations containing					
	<=0.5% of Hydrochloric acid, or for therapeutic use					
	Schedule 6 listed - except its salts and derivatives; except: when included in Schedule 5, in					
	preparations for therapeutic use, or in preparations containing <=0.5% of Hydrochloric acid					

Australian Industrial Chemicals Introduction Scheme (AICIS)

	Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
	Water - 7732-18-5	Present	ē
	Nitric acid% [C ≤ 70 %] - 7697-37-2	Present	-
ı	Hydrochloric acid - 7647-01-0	Present	-

Australian - Illicit Drug Precursors/Reagents Substance List

Verify requirements related to using, handling and storing these substances. This product contains one or more substance(s) on the Illicit Drug Precursors/Reagents list.

Chemicals of Security Concern

This product contains one or more substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

Component	Australian - Illicit Drug Precursors/Reagents Substance List	Chemicals of Security Concern
Nitric acid% [C ≤ 70 %] - 7697-37-2	Trecursors/Neagents Substance List	Listed in Appendix A Precursors to homemade explosives -
		concentration >=30%
Hydrochloric acid - 7647-01-0	Category 3	Listed in Appendix A

Legend

Category 3 - Chemicals and apparatus that may be used in the illicit production of drugs. Purchases from this list should alert companies or organizations to seek further indicators of any suspicious orders or enquiries. No official reporting is required for items on this list unless considered warranted

Chemicals of Security Concern - for further information see http://www.chemicalsecurity.gov.au/securityconcerns

National pollutant inventory Subject to reporting requirements

ALFAA47450 Version 2 20-Nov-2022 Page 8/10

Component	National pollutant inventory
Nitric acid% [C ≤ 70 %] - 7697-37-2	10 tonne/yr. Threshold category 1
Hydrochloric acid - 7647-01-0	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

Prohibition or notification/licensing requirements

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

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

International Inventories

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	ISHL	IECSC	KECL
Water	X	Х	231-791-2	-	X	Х	-	Х	Х		Х	KE-35400
Nitric acid% [C ≤ 70 %]	Х	Х	231-714-2	-	Х	Х	-	Х	Х	Х	Х	KE-25911
Hydrochloric acid	Х	Х	231-595-7	-	Х	Х	-	Х	Х	Х	Х	KE-20189

Legend: X - Listed. '-' - Not Listed. KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

Basel convention on the control of transboundary movements of hazardous wastes and their dispoal

Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Component	Basel Convention (Hazardous Waste)	Australian Hazardous Waste Act - Categories of Wastes to Be Controlled
Nitric acid% [C ≤ 70 %] - 7697-37-2	Annex I - Y34	Y34 solid or solution
Hydrochloric acid - 7647-01-0	Annex I - Y34	Y34 solid or solution

Component	CAS No	OECD HPV	Restriction of Hazardous Substances (RoHS)	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable
Nitric acid% [C ≤ 70 %]	7697-37-2	Listed	Not applicable	Not applicable	Not applicable
Hydrochloric acid	7647-01-0	Listed	Not applicable	25 tonne	250 tonne

Authorisation/Restrictions according to EU REACH

ſ	Component	REACH (1907/2006) - Annex XIV -	REACH (1907/2006) - Annex XVII -	REACH Regulation (EC
	-	Substances Subject to	Restrictions on Certain Dangerous	1907/2006) article 59 - Candidate
		Authorization	Substances	List of Substances of Very High
				Concern (SVHC)

ALFAA47450 Version 2 20-Nov-2022 Page 9 / 10

SAFETY DATA SHEET

Nitric acid% [C ≤ 70 %]	-	Use restricted. See item 75. (see link for restriction details)	-
Hydrochloric acid	-	Use restricted. See item 75. (see link for restriction details)	-

https://echa.europa.eu/substances-restricted-under-reach

Section 16 - Other Information

Legend

AICS - Australian Inventory of Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Shins

NZS 5433:2012 - Transport of Dangerous Goods on Land

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%
WEL - Workplace Exposure Limit
DNEL - Derived No Effect Level

POW - Partition coefficient Octanol:Water **vPvB** - very Persistent, very Bioaccumulative

VOC - (Volatile Organic Compound)

NZIoC - New Zealand Inventory of Chemicals

EINECS/ELINCS - European Inventory of Existing Commercial Chemical

Substances/EU List of Notified Chemical Substances
ENCS - Japanese Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

ACGIH - American Conference of Governmental Industrial Hygienists

Predicted No Effect Concentration (PNEC)

IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

LC50 - Lethal Concentration 50%
ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment

NOEC - No Observed Effect Concentration

BCF - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

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.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards

First aid for chemical exposure, including the use of eye wash and safety showers.

Revision Date 20-Nov-2022 Revision Summary Initial Release.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

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

ALFAA47450 Version 2 20-Nov-2022 Page 10 / 10