

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

### Section 1 - Identification

Product Name Iron, plasma standard solution, Specpure®, Fe 1000µg/ml

Product Code 47206

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

This product does not contain any 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 1 A
Serious Eye Damage/Eye Irritation Category 1

Environmental hazards
No hazards identified

Label Elements



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#### Signal Word Danger

#### **Hazard Statements**

H290 - May be corrosive to metals

H314 - Causes severe skin burns and eye damage

#### **Precautionary Statements**

P234 - Keep only in original packaging

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

P271 - Use only outdoors or in a well-ventilated area

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

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

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

P363 - Wash contaminated clothing before reuse

P390 - Absorb spillage to prevent material damage

P402 - Store in a dry place

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

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

P501 - Dispose of contents/ container to an approved waste disposal plant

#### Other information

## Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Water	7732-18-5	94.28
Nitric acid% [C ≤ 70 %]	7697-37-2	5.00
Iron(III) nitrate nonahydrate	7782-61-8	0.72

# Section 4 - First Aid Measures

**Inhalation** If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use

mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory

medical device. Call a physician immediately.

**Ingestion** Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an

unconscious person. Call a physician immediately.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Remove and wash

contaminated clothing and gloves, including the inside, before re-use. Call a physician

immediately.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Immediate medical attention is required.

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

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.

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**First Aid Facilities** Eyewash, safety shower and washroom.

Most important symptoms and

effects

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue

and danger of perforation

Notes to Physician Treat symptomatically.

# Section 5 - Fire Fighting Measures

#### **Suitable Extinguishing Media**

Not combustible. CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

#### Extinguishing media which must not be used for safety reasons

No information available.

#### **Hazardous Decomposition Products**

Nitrogen oxides (NOx), Iron oxides.

#### **Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

#### 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. Thermal decomposition can lead to release of irritating gases and vapors.

### Section 6 - Accidental Release Measures

#### **Emergency procedures**

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

#### **Environmental Precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

#### 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. Use only under a chemical fume

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hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

#### Conditions for Safe Storage, Including any Incompatibilities

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place.

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 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 <sup>3</sup>	TWA: 5.2 mg/m <sup>3</sup>	STEL: 4 ppm	STEL: 2.6 mg/m <sup>3</sup> 15 min	Stunden). AGW -
	TWA: 2 ppm	STEL: 4 ppm			TWA: 2.6 mg/m <sup>3</sup> (8
	TWA: 5.2 mg/m <sup>3</sup>	STEL: 10 mg/m <sup>3</sup>			Stunden). AGW -
Iron(III) nitrate	TWA: 1 mg/m <sup>3</sup>		TWA: 1 mg/m <sup>3</sup>	STEL: 2 mg/m <sup>3</sup> 15 min	_
nonahydrate	_		_	TWA: 1 mg/m <sup>3</sup> 8 hr	

#### **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

ſ	Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
1	Natural rubber	See manufacturers	-	AS/NZS 2161	(minimum requirement)
	Nitrile rubber	recommendations			
	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

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Iron, plasma standard solution, Specpure®, Fe 1000µg/ml

Recommended Filter type:

### SAFETY DATA SHEET

and maintenance of repiratory protective devices

Organic gases and vapours filter Particulates filter conforming to EN 143 (or AUS/NZ

equivalent)

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

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

Liquid

Liquid

**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** 

Physical State Liquid

Odor Acidic

Odor Threshold No data available

pH

Melting Point/RangeNo data availableSoftening PointNo data availableBoiling Point/RangeNo information available

Flash Point No information available Method - No information available

**Evaporation Rate** No data available

Flammability (solid,gas)

Not applicable

Explosion Limits No data available

Vapor Pressure23 hPa @ 20 °CVapor DensityNo data available

Vapor DensityNo data available(Air = 1.0)Specific Gravity / DensityNo data available

Bulk Density / Density No data available

No data available

Water Solubility Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component  $\log Pow$ Nitric acid ...% [C  $\leq$  70 %] -2.3

Autoignition Temperature
Decomposition Temperature
Viscosity
Explosive Properties
Oxidizing Properties
No data available
No data available
No information available
No information available

Other information

Molecular Formula (Fe(NO3)3).9H2 O in 5% HN O3

## 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 Strong bases.

Hazardous Decomposition Products Nitrogen oxides (NOx). Iron oxides.

**Hazardous Polymerization** No information available.

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# Section 11 - Toxicological Information

#### Information on Toxicological Effects

**Product Information** 

(a) acute toxicity;

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

No data available Dermal No data available Inhalation

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Nitric acid …% [C ≤ 70 %]			LC50 = 2500 ppm. (Rat) 1h
Iron(III) nitrate nonahydrate	LD50 = 3250 mg/kg (Rat)		

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available No data available Skin

(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

No information available. **Target Organs** 

No data available (j) aspiration hazard;

delayed

Symptoms / effects,both acute and Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes

severe swelling, severe damage to the delicate tissue and danger of perforation

# Section 12 - Ecological Information

May cause long-term adverse effects in the environment. Do not allow material to **Ecotoxicity effects** 

contaminate ground water system.

Persistence and Degradability Product contains heavy metals. Discharge into the environment must be avoided. Special

pre-treatment is necessary

based on information available, May persist. **Persistence** 

Contains substances known to be hazardous to the environment or not degradable in waste Degradation in sewage

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treatment plant Bioaccumulative Potential	water treatment plants.  May have some potential to bioaccumulate						
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 environment due to its water solubility. Highly mobile in soils						
Endocrine Disruptor Information Persistent Organic Pollutant	This product does not contain any known or suspected endocrine disruptors  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

**Ozone Depletion Potential** 

**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. Do not flush to sewer. Large amounts will

affect pH and harm aquatic organisms.

# Section 14 - Transport Information

#### IMDG/IMO

UN-No UN3264

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

Technical Shipping Name (Nitric acid)

Hazard Class 8
Packing Group III

<u>ADG</u>

UN-No UN3264

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

Technical Shipping Name (Nitric acid)

Hazard Class 8
Packing Group III

Component	Hazchem Code
Nitric acid% [C ≤ 70 %]	2R
7697-37-2 ( 5.00 )	2P
	2PE
Iron(III) nitrate nonahydrate 7782-61-8 ( 0.72 )	2X

#### <u>IATA</u>

UN-No UN3264

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

Technical Shipping Name (Nitric acid)

Hazard Class 8
Packing Group

Environmental hazards No hazards identified

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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
Iron(III) nitrate nonahydrate - 7782-61-8	Schedule 2 listed
	Schedule 4 listed - in injectable preparations for human use
	Schedule 5 listed - for the treatment of animals except up to 1% of Iron oxides when present as an excipient;in preparations for injection except in preparations containing <=0.1% of Iron
	Schedule 5 listed - for the treatment of animals except up to 1% of Iron oxides when present as an excipient;in other preparations except in liquid or gel preparations containing <=0.1% of Iron, or in animal feeds or feed premixes
	Schedule 5 listed - for use as agricultural chemicals except in preparations containing <=4% of Iron
	Schedule 6 listed - except up to 1% of Iron oxides when present as an excipient. For the treatment of
	animals except: when included in Schedule 5, in liquid or gel preparations containing <=0.1% of Iron,
	or in animal feeds or feed premixes

#### **Australian Industrial Chemicals Introduction Scheme (AICIS)**

	Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
	Water - 7732-18-5	Present	-
[	Nitric acid% [C ≤ 70 %] - 7697-37-2	Present	-
Ī	Iron(III) nitrate nonahydrate - 7782-61-8	Present	-

#### Australian - Illicit Drug Precursors/Reagents Substance List

This product does not contain any 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	Chemicals of Security Concern
	Precursors/Reagents Substance List	-
Nitric acid% [C ≤ 70 %] - 7697-37-2		Listed in Appendix A
		Precursors to homemade explosives -
		concentration >=30%

#### Legend

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

National pollutant inventory Subject to reporting requirements

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

#### 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	<b>ENCS</b>	ISHL	IECSC	KECL
Water	X	Х	231-791-2	-	Х	Х	-	Х	Х		Х	KE-35400
Nitric acid% [C ≤ 70 %]	Х	Х	231-714-2	-	Х	Х	-	Х	Х	Х	Х	KE-25911
Iron(III) nitrate nonahydrate	Х	Х	-	-	-	ı	-	Х	Х		Х	-

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

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
Iron(III) nitrate nonahydrate	7782-61-8	Not applicable	Not applicable	Not applicable	Not applicable

#### Authorisation/Restrictions according to EU REACH

Component		REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	
Nitric acid% [C ≤ 70 %]	-	Use restricted. See item 75. (see link for restriction details)	-

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

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### 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

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

ADG Australian Code for the Transport of Dangerous Goods by Road and Rail

**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

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data **Health Hazards** Calculation method **Environmental hazards** Calculation method

#### **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.

19-Nov-2022 **Revision Date Revision Summary** Not applicable.

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**

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