

## Safety Data Sheet

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

#### Identification of the substance or mixture

**Product code** 430122821401  
**Product name** iCAP 6000 Multi-Element Test Solution

#### Company/undertaking identification

Thermo Fisher Scientific  
1228 Titan Way  
P.O. Box 3603  
Sunnyvale, CA 94088-3603

Thermo Fisher Scientific (Bremen) GmbH  
Hanna-Kunath-Str. 11  
28199 Bremen  
Germany  
Phone: +49 (0)421-5493-219  
Email: cmd.sds@thermofisher.com

**24 hour Emergency Response for Hazardous Materials** Within the USA + Canada: 1-800-424-9300 and  
**[or Dangerous Goods] Incident. Spill, Leak, Fire,** 1-703-527-3887  
**Exposure, or Accident. Call CHEMTREC** Outside the USA + Canada: 1-703-741-5970

**Country Specific Emergency Number (if available):**

**For research use only**

### SECTION 2: Hazards identification

#### GHS Classification

**Signal Word**  
None

**Hazard pictograms**  
None

**Health hazards**

Not Hazardous

**Physical hazards**

Not Hazardous

**Environmental hazards**

Not Hazardous

**Hazard Statements**

Not Applicable

**Precautionary Statements****Prevention**

Not Applicable

**Response**

Not Applicable

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Other hazards**

Not Applicable

**HMIS**

Health	0
Flammability	0
Reactivity	0

### SECTION 3: Composition/information on ingredients

Chemical Name	CAS No.	Common name	EC No.	Weight-%
Nitric acid	7697-37-2	Not applicable	231-714-2	0.01-0.5
Phosphorus	7723-14-0	Not applicable	231-768-7	0.001-0.005
Nickel	7440-02-0	Not applicable	231-111-4	0.0001-0.001
Potassium	7440-09-7	Not applicable	231-119-8	0.0001-0.001
Manganese	7439-96-5	Not applicable	231-105-1	0.0001-0.0005
Zinc	7440-66-6	Not applicable	231-175-3	0.0001-0.0005
BARIUM	7440-39-3	Not applicable	231-149-1	0.0001-0.0005
Magnesium	7439-95-4	Not applicable	231-104-6	0.0001-0.0005
Copper	7440-50-8	Not applicable	231-159-6	0.0001-0.0005
Calcium	7440-70-2	Not applicable	231-179-5	0.0001-0.0005
Aluminum	7429-90-5	Not applicable	231-072-3	0.0001-0.0005
Water	7732-18-5	Not applicable	231-791-2	95-100

We recommend handling all chemicals with caution.

### SECTION 4: First aid measures

#### Description of first aid measures

<b>Skin contact</b>	Rinse skin with water. Immediate medical attention is not required.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Ingestion</b>	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.
<b>Inhalation</b>	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.
<b>Notes to Physician</b>	Treat symptomatically.

#### Most important symptoms and effects, both acute and delayed

Not Applicable

#### Indication of any immediate medical attention and special treatment needed

None.

### SECTION 5: Firefighting measures

#### Extinguishing media

<b>Suitable extinguishing media</b>	Use fire extinguishing materials appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	No information available.

#### Special hazards arising from the substance or mixture

Not known

#### Advice for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

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

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Nitric acid	2 ppm 5 mg/m <sup>3</sup>	None	2 ppm	4 ppm
Phosphorus	None	None	None	None
Nickel	1 mg/m <sup>3</sup>	None	1.5 mg/m <sup>3</sup>	None
Potassium	None	None	None	None
Manganese	None	5 mg/m <sup>3</sup>	0.02 mg/m <sup>3</sup> 0.1 mg/m <sup>3</sup>	None
Zinc	None	None	None	None
BARIUM	None	None	0.5 mg/m <sup>3</sup>	None
Magnesium	None	None	None	None
Copper	0.1 mg/m <sup>3</sup> 1 mg/m <sup>3</sup>	None	0.2 mg/m <sup>3</sup>	None
Calcium	None	None	None	None
Aluminum	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	1 mg/m <sup>3</sup>	None
Water	None	None	None	None

Chemical Name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
Nitric acid	2 ppm	None	None
Phosphorus	None	None	None
Nickel	1.5 mg/m <sup>3</sup>	None	None
Potassium	None	None	None

<b>Manganese</b>	5 mg/m <sup>3</sup> 1 mg/m <sup>3</sup> 0.02 mg/m <sup>3</sup>	None	None
<b>Zinc</b>	None	None	None
<b>BARIUM</b>	0.5 mg/m <sup>3</sup>	None	None
<b>Magnesium</b>	None	None	None
<b>Copper</b>	0.2 mg/m <sup>3</sup>	None	None
<b>Calcium</b>	None	None	None
<b>Aluminum</b>	1 mg/m <sup>3</sup>	None	None
<b>Water</b>	None	None	None

**Engineering Measures**      Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### **Personal Protective Equipment**

**Respiratory protection**      In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

**Hand protection**      Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

**Eye protection**      Tight sealing safety goggles.

**Skin and Body Protection**      Wear suitable protective clothing.

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

#### **Environmental exposure controls**

Do not allow material to contaminate ground water system. Prevent product from entering drains.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Physical state	liquid	
Color	No data	
Odor	characteristic	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C 100	°F 212
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
pH	No data	
Evaporation rate	No data	
Viscosity	No data	
Solubility	Not miscible or difficult to mix.	
Partition coefficient: n-octanol/water	No data	
Vapor Pressure	23 hPa at 20 °C	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

### Other information

#### Information with regard to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

Reactivity	None known.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous reaction has not been reported.
Conditions to avoid	No information available.
Incompatible materials	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	No data available.

## SECTION 11: Toxicological information

### Information on toxicological effects

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Nitric acid	No data available	No data available	=2500ppm(Rat)
Phosphorus	> 15000 mg/kg (Rat) = 3030 µg/kg (Rat)	No data available	=4.3mg/L(Rat)
Nickel	> 9000 mg/kg (Rat)	No data available	>10.2mg/L(Rat)
Potassium	No data available	No data available	No data available
Manganese	= 9 g/kg (Rat)	No data available	>5.14mg/L(Rat)
Zinc	= 630 mg/kg (Rat)	No data available	No data available
BARIUM	= 132 mg/kg (Rat)	No data available	No data available
Magnesium	= 230 mg/kg (Rat)	No data available	No data available
Copper	No data available	No data available	>5.11mg/L(Rat)
Calcium	No data available	No data available	No data available
Aluminum	No data available	No data available	>0.888mg/L(Rat)
Water	> 90 mL/kg (Rat)	No data available	No data available

### Principal Routes of Exposure

**Acute toxicity** Data are conclusive but insufficient for classification.

**Skin corrosion/irritation** Data are conclusive but insufficient for classification

**Serious eye damage/irritation** Data are conclusive but insufficient for classification

**Respiratory or skin sensitization** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – single exposure** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – repeated exposure** Data are conclusive but insufficient for classification

**Carcinogenicity** Data are conclusive but insufficient for classification

**Germ cell mutagenicity** Data are conclusive but insufficient for classification

**Reproductive toxicity** Data are conclusive but insufficient for classification

**Aspiration hazard** Data are conclusive but insufficient for classification

## SECTION 12: Ecological information

### Toxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
<b>Nitric acid</b>	No data available	No data available	No data available	No data available	logPow-2.3
<b>Phosphorus</b>	No data available	Daphnia magna EC50=0.03 mg/L (48 h) Daphnia magna EC500.025 - 0.037 mg/L (48 h)	No data available	No data available	No data available
<b>Nickel</b>	Pseudokirchneriella subcapitata EC500.174 - 0.311 mg/L (96 h) Pseudokirchneriella subcapitata EC50=0.18 mg/L (72 h)	Daphnia magna EC50>100 mg/L (48 h) Daphnia magna EC50=1 mg/L (48 h)	No data available	No data available	No data available
<b>Potassium</b>	No data available	No data available	No data available	No data available	No data available
<b>Manganese</b>	No data available	No data available	No data available	No data available	No data available
<b>Zinc</b>	Pseudokirchneriella subcapitata EC500.09 - 0.125 mg/L (72 h) Pseudokirchneriella subcapitata EC500.11 - 0.271 mg/L (96 h)	Daphnia magna EC500.139 - 0.908 mg/L (48 h)	No data available	No data available	No data available
<b>BARIUM</b>	No data available	No data available	No data available	No data available	No data available
<b>Magnesium</b>	No data available	No data available	No data available	No data available	No data available
<b>Copper</b>	Pseudokirchneriella subcapitata EC500.0426 - 0.0535 mg/L (72 h) Pseudokirchneriella subcapitata EC500.031 - 0.054 mg/L (96 h)	Daphnia magna EC50=0.03 mg/L (48 h)	No data available	No data available	No data available
<b>Calcium</b>	No data available	No data available	No data available	No data available	No data available
<b>Aluminum</b>	No data available	No data available	No data available	No data available	No data available
<b>Water</b>	No data available	No data available	No data available	No data available	No data available

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** No information available.



## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number or ID number	Not Applicable
UN proper shipping name	Not Applicable
Transport hazard class(es)	Not Applicable
Packing group	Not Applicable

### Marine pollutant

No

### Special precautions for user

Not Applicable

### Maritime transport in bulk according to IMO instruments

Not Applicable.

## SECTION 15: Regulatory information

Component	US TSCA
Nitric acid 7697-37-2 ( 0.01-0.5 )	Listed
Phosphorus 7723-14-0 ( 0.001-0.005 )	Listed
Nickel 7440-02-0 ( 0.0001-0.001 )	Listed
Potassium 7440-09-7 ( 0.0001-0.001 )	Listed
Manganese 7439-96-5 ( 0.0001-0.0005 )	Listed
Zinc 7440-66-6 ( 0.0001-0.0005 )	Listed
BARIUM 7440-39-3 ( 0.0001-0.0005 )	Listed
Magnesium 7439-95-4 ( 0.0001-0.0005 )	Listed
Copper	Listed

7440-50-8 ( 0.0001-0.0005 )	
Calcium 7440-70-2 ( 0.0001-0.0005 )	Listed
Aluminum 7429-90-5 ( 0.0001-0.0005 )	Listed
Water 7732-18-5 ( 95-100 )	Listed

## US Federal Regulations

### **SARA 313**

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Weight-%</u>	<u>SARA 313 - Threshold Values</u>
Nitric acid	7697-37-2	0.01-0.5	1.0
Phosphorus	7723-14-0	0.001-0.005	1.0
Nickel	7440-02-0	0.0001-0.001	0.1
Manganese	7439-96-5	0.0001-0.0005	1.0
Zinc	7440-66-6	0.0001-0.0005	1.0
BARIUM	7440-39-3	0.0001-0.0005	1.0
Copper	7440-50-8	0.0001-0.0005	1.0
Aluminum	7429-90-5	0.0001-0.0005	1.0

### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs

<u>Component</u>	<u>CAS No.</u>	<u>Weight-%</u>	<u>HAPS data</u>
Phosphorus 7723-14-0 ( 0.001-0.005 )	7723-14-0	0.001-0.005	Present

## US State Regulations

<u>Chemical Name</u>	<u>Massachusetts - RTK (Right-to-Know)</u>	<u>New Jersey - RTK (Right-to-Know)</u>	<u>Pennsylvania - RTK (Right-to-Know)</u>
Nitric acid	Listed	Listed	Listed
Phosphorus	Listed	Listed	Listed
Nickel	Listed	Listed	Listed
Potassium	Listed	Listed	Listed
Manganese	Listed	Listed	Listed
Zinc	Listed	Listed	Listed
BARIUM	Listed	Listed	Listed
Magnesium	Listed	Listed	Listed
Copper	Listed	Listed	Listed
Calcium	Listed	Listed	Listed
Aluminum	Listed	Listed	Listed
Water			Listed

### **California Proposition 65**

This product contains the following Proposition 65 chemicals:

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Weight-%</u>	<u>Category</u>
Nickel	7440-02-0	0.0001-0.001	Carcinogen

## WHMIS Hazard Class

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

## National Regulations - Brazil

<u>Chemical Name</u>	<u>CAS No.</u>	<b>Brazil - National Agency for Sanitary Surveillance (ANVISA)</b>	<b>Brazil - National List of Carcinogen Agents to Humans (LINACH)</b>
Nitric acid	7697-37-2	Not Listed	Not Listed
Phosphorus	7723-14-0	Not Listed	Not Listed
Nickel	7440-02-0	Not Listed	Group 2B
Potassium	7440-09-7	Not Listed	Not Listed
Manganese	7439-96-5	Not Listed	Not Listed
Zinc	7440-66-6	Not Listed	Not Listed
BARIUM	7440-39-3	Not Listed	Not Listed
Magnesium	7439-95-4	Not Listed	Not Listed
Copper	7440-50-8	Not Listed	Not Listed
Calcium	7440-70-2	Not Listed	Not Listed
Aluminum	7429-90-5	Not Listed	Not Listed
Water	7732-18-5	Not Listed	Not Listed

## SECTION 16: Other information

**Reason for revision** SDS sections updated.  
**Revision number** 4  
**Revision date** 11-Nov-2022

For research use only.

### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency

**Revision date** 11-Nov-2022  
**Product code** 430122821401

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**OSHA** - Occupational Safety and Health Administration of the US Department of Labor  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**End of Safety Data Sheet**