

# Safety data sheet

Safe Work Australia - Code of Practice



## Titanium Standard Solution -ICP 1000 mg/l Ti

article number: **2479**  
Version: **GHS 2.0 en**  
Replaces version of: 2016-10-10  
Version: (GHS 1)

date of compilation: 2016-10-10  
Revision: 2020-10-20

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

### 1.1 Product identifier

Identification of the substance **Titanium Standard Solution -ICP 1000 mg/l Ti**  
Article number 2479  
Registration number (REACH) not relevant (mixture)

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses:** laboratory chemical  
laboratory and analytical use

### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carloth.de](mailto:sicherheit@carloth.de)

**Website:** [www.carloth.de](http://www.carloth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carloth.de](mailto:sicherheit@carloth.de)

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

**Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification acc. to GHS**

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
2.16	substance or mixture corrosive to metals	(Met. Corr. 1)	H290
3.2	skin corrosion/irritation	(Skin Irrit. 2)	H315
3.3	serious eye damage/eye irritation	(Eye Irrit. 2)	H319

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### 2.2 Label elements

#### Labelling GHS

#### Signal word

Warning

#### Pictograms

GHS05



#### Hazard statements

H290 May be corrosive to metals  
H315 Causes skin irritation  
H319 Causes serious eye irritation

#### Precautionary statements

##### Precautionary statements - prevention

P280 Wear protective gloves.

##### Precautionary statements - response

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.  
P321 Specific treatment (see on this label).  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P390 Absorb spillage to prevent material damage.

#### Labelling of packages where the contents do not exceed 125 ml

Signal word: **Warning**

Symbol(s)



### 2.3 Other hazards

There is no additional information.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures






#### Description of the mixture

Composition/information on ingredients.

Name of substance	Identifier	wt %	Classification acc. to 1272/2008/EC	Pictograms	Notes	Specific Conc. Limits
Ammonium hexafluorotitanate(IV)	CAS No 16962-40-6  EC No 241-036-9	> 0.2 5 - < 5	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Acute Tox. 4 / H332			

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Name of substance	Identifier	wt %	Classification acc. to 1272/2008/EC	Pictograms	Notes	Specific Conc. Limits
Nitric acid ...%	CAS No 7697-37-2  EC No 231-714-2  Index No 007-004-00-1	2	Ox. Liq. 2 / H272 Met. Corr. 1 / H290 Acute Tox. 3 / H331 Skin Corr. 1A / H314 Eye Dam. 1 / H318 EUH071	   	B(a) GHS- HC IOELV	Ox. Liq. 2; H272: C ≥ 99 % Ox. Liq. 3; H272: 65 % ≤ C < 99 % Skin Corr. 1A; H314: C ≥ 20 % Skin Corr. 1B; H314: 5 % ≤ C < 20 % Skin Irrit. 2; H315: 1 % ≤ C < 5 % Eye Dam. 1; H318: C ≥ 3 % Eye Irrit. 2; H319: 1 % ≤ C < 3 %
Hydrofluoric acid ... %	CAS No 7664-39-3  EC No 231-634-8  Index No 009-003-00-1	0.1	Acute Tox. 2 / H300 Acute Tox. 1 / H310 Acute Tox. 2 / H330 Skin Corr. 1A / H314 Eye Dam. 1 / H318	 	B(a) GHS- HC IOELV	Skin Corr. 1A; H314: C ≥ 7 % Skin Corr. 1B; H314: 1 % ≤ C < 7 % Eye Dam. 1; H318: C ≥ 1 % Eye Irrit. 2; H319: 0.1 % ≤ C < 1 %

### Notes

B(a): The classification refers to an aqueous solution  
 GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)  
 IOELV: Substance with a community indicative occupational exposure limit value

### Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Medical treatment necessary.

#### Following skin contact

Rinse skin with water/shower. Rub with a gel containing calcium gluconate. In case of skin irritation, consult a physician.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

#### Following ingestion

Rinse copiously with a calcium gluconate solution.

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

Irritation

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

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

Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: nitrogen oxides (NO<sub>x</sub>), hydrogen fluoride (HF)

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

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### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Use extractor hood (laboratory).

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

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

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice

- **Ventilation requirements**

Use local and general ventilation.

- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C.

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Source
AU	hydrogen fluoride	7664-39-3	F	WES					3	2.6	WES
AU	nitric acid	7697-37-2		WES	2	5.2	4	10			WES

#### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

F Calculated as F (fluorine)

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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### Relevant DNELs/DMELs/PNECs and other threshold levels

#### • relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Nitric acid ...%	7697-37-2	DNEL	1.3 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
Nitric acid ...%	7697-37-2	DNEL	1.3 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Nitric acid ...%	7697-37-2	DNEL	2.6 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects
Hydrofluoric acid ... %	7664-39-3	DNEL	1.5 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Hydrofluoric acid ... %	7664-39-3	DNEL	2.5 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
Hydrofluoric acid ... %	7664-39-3	DNEL	1.5 µg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Hydrofluoric acid ... %	7664-39-3	DNEL	2.5 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects

#### • relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment	Exposure time
Hydrofluoric acid ... %	7664-39-3	PNEC	0.9 mg/l	freshwater	short-term (single instance)
Hydrofluoric acid ... %	7664-39-3	PNEC	0.9 mg/l	marine water	short-term (single instance)
Hydrofluoric acid ... %	7664-39-3	PNEC	51 mg/l	sewage treatment plant (STP)	short-term (single instance)
Hydrofluoric acid ... %	7664-39-3	PNEC	11 mg/kg	soil	short-term (single instance)

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

#### Skin protection



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### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

### • type of material

Butyl caoutchouc (butyl rubber)

### • material thickness

0,7mm

### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: NO-P3 (against nitrous gases and particles, colour code: Blue/White).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	liquid (fluid)
Colour	colourless
Odour	stinging
Odour threshold	no data available

#### Other physical and chemical parameters

pH (value)	(acidic)
Melting point/freezing point	not determined
Initial boiling point and boiling range	this information is not available
Flash point	not determined
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)

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### Explosive limits

- lower explosion limit (LEL)
- upper explosion limit (UEL)

this information is not available

this information is not available

Explosion limits of dust clouds

not relevant

Vapour pressure

this information is not available

Density

this information is not available

Vapour density

this information is not available

Bulk density

Not applicable

Relative density

this information is not available

### Solubility(ies)

Water solubility

miscible in any proportion

### Partition coefficient

n-octanol/water (log KOW)

this information is not available

Auto-ignition temperature

Information on this property is not available.

Decomposition temperature

no data available

Viscosity

not determined

Explosive properties

Shall not be classified as explosive.

Oxidising properties

none

## 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Substance or mixture corrosive to metals.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Violent reaction with: Alkali hydroxide (caustic alkali), Alkali metals, Fluorine, Metals, Phosphorus oxides (e.g. P<sub>2</sub>O<sub>5</sub>), Strong alkali

### 10.4 Conditions to avoid

Keep away from heat.

### 10.5 Incompatible materials

different metals

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.



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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

Shall not be classified as acutely toxic.

##### • Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Nitric acid ...%	7697-37-2	inhalation: vapour	2.65 mg/l/4h
Hydrofluoric acid ... %	7664-39-3	oral	5 mg/kg
Hydrofluoric acid ... %	7664-39-3	dermal	5 mg/kg
Hydrofluoric acid ... %	7664-39-3	inhalation: gas	100 ppmV/4h
Hydrofluoric acid ... %	7664-39-3	inhalation: vapour	0.5 mg/l/4h

##### Skin corrosion/irritation

Causes skin irritation.

##### Serious eye damage/eye irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

##### • Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### • Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

##### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

##### Symptoms related to the physical, chemical and toxicological characteristics

##### • If swallowed

data are not available

##### • If in eyes

Causes serious eye irritation

##### • If inhaled

cough, Dyspnoea

##### • If on skin

causes skin irritation

##### Other information

None

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### SECTION 12: Ecological information

#### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

##### Aquatic toxicity (acute)

##### Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Hydrofluoric acid ... %	7664-39-3	EC50	48 mg/l	aquatic invertebrates	96 h

#### 12.2 Process of degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

#### 12.3 Bioaccumulative potential

Data are not available.

##### Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Hydrofluoric acid ... %	7664-39-3	53 - 58		

#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

Data are not available.

#### 12.6 Other adverse effects

Data are not available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

##### Sewage disposal-relevant information

Do not empty into drains.

##### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

#### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

14.1	UN number	3264
14.2	UN proper shipping name	<b>CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.</b>
	Hazardous ingredients	Nitric acid ...%, Hydrofluoric acid ... %
14.3	Transport hazard class(es)	
	Class	8 (corrosive substances)
14.4	Packing group	III (substance presenting low danger)
14.5	Environmental hazards	NONE (non-environmentally hazardous acc. to the dangerous goods regulations)
14.6	<b>Special precautions for user</b>	
		Provisions for dangerous goods (ADR) should be complied within the premises.
14.7	<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	
		The cargo is not intended to be carried in bulk.
14.8	<b>Information for each of the UN Model Regulations</b>	
	<b>• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b>	
	UN number	3264
	Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
	Particulars in the transport document	UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (contains: Nitric acid ...%, Hydrofluoric acid ... %), 8, III, (E)
	Class	8
	Classification code	C1
	Packing group	III
	Danger label(s)	8
		
	Special provisions (SP)	274
	Excepted quantities (EQ)	E1
	Limited quantities (LQ)	5 L
	Transport category (TC)	3
	Tunnel restriction code (TRC)	E
	Hazard identification No	80



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<b>Emergency Action Code</b>	2X
<b>• International Maritime Dangerous Goods Code (IMDG)</b>	
UN number	3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Particulars in the shipper's declaration	UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (contains: Nitric acid ...%, Hydrofluoric acid ... %), 8, III
Class	8
Marine pollutant	-
Packing group	III
Danger label(s)	8
	
Special provisions (SP)	223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-B
Stowage category	A
Segregation group	1 - Acids
<b>• International Civil Aviation Organization (ICAO-IATA/DGR)</b>	
UN number	3264
Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Particulars in the shipper's declaration	UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (contains: Nitric acid ...%, Hydrofluoric acid ... %), 8, III
Class	8
Packing group	III
Danger label(s)	8
	
Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 L

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### SECTION 15: Regulatory information

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

##### National inventories

Country	National inventories	Status
AU	AICS	not all ingredients are listed
CA	DSL	not all ingredients are listed
CA	NDSL	not all ingredients are listed
CN	IECSC	not all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	not all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	not all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

##### Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NDSL	Non-domestic Substances List (NDSL)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

#### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

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### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1	Remarks: For full text of Hazard- and EU Hazard-statements: see SECTION 16.		yes
2.2		Pictograms: change in the listing (table)	yes
2.2		Hazard statements: change in the listing (table)	yes
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2		Precautionary statements - response: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
3.2		Description of the mixture: change in the listing (table)	yes
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
8.1		• relevant DNELs of components of the mixture: change in the listing (table)	yes
8.1		• relevant PNECs of components of the mixture: change in the listing (table)	yes
14.2	Hazardous ingredients: Nitric acid	Hazardous ingredients: Nitric acid ...%, Hydrofluoric acid ... %	yes
14.3	Transport hazard class(es)	Transport hazard class(es): class 8 hazard - corrosive substances	yes
14.8	Particulars in the transport document: UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (contains: Nitric acid), 8, III, (E)	Particulars in the transport document: UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (contains: Nitric acid ...%, Hydrofluoric acid ... %), 8, III, (E)	yes
14.8	Particulars in the shipper's declaration: UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (contains: Nitric acid), 8, III	Particulars in the shipper's declaration: UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (contains: Nitric acid ...%, Hydrofluoric acid ... %), 8, III	yes
14.8		Marine pollutant: -	yes
14.8		• International Civil Aviation Organization (ICAO-IATA/DGR)	yes
14.8		UN number: 3264	yes
14.8		Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s.	yes
14.8		Particulars in the shipper's declaration: UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (contains: Nitric acid ...%, Hydrofluoric acid ... %), 8, III	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
14.8		Class: 8	yes
14.8		Packing group: III	yes
14.8		Danger label(s): 8	yes
14.8		Danger label(s): change in the listing (table)	yes
14.8		Special provisions (SP): A3	yes
14.8		Excepted quantities (EQ): E1	yes
14.8		Limited quantities (LQ): 1 L	yes

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	ceiling value
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam.	seriously damaging to the eye
Eye Irrit.	irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations

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Abbr.	Descriptions of used abbreviations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
log KOW	n-octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	substance or mixture corrosive to metals
NLP	No-Longer Polymer
Ox. Liq.	oxidising liquid
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	corrosive to skin
Skin Irrit.	irritant to skin
STEL	short-term exposure limit
TWA	time-weighted average
vPvB	very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne conatminants

### Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H272	may intensify fire; oxidiser
H290	may be corrosive to metals
H300	fatal if swallowed
H302	harmful if swallowed
H310	fatal in contact with skin
H312	harmful in contact with skin
H314	causes severe skin burns and eye damage
H315	causes skin irritation



# Safety data sheet

Safe Work Australia - Code of Practice



## Titanium Standard Solution -ICP 1000 mg/l Ti

article number: **2479**

Code	Text
H318	causes serious eye damage
H319	causes serious eye irritation
H330	fatal if inhaled
H331	toxic if inhaled
H332	harmful if inhaled

### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.