

**Section 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier****Product name:** TITANIUM ETCHANT 2:8:90**CAS number:** Mixture**Product code:** UPC048**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of substance / mixture:** Raw material for laboratory and industrial use.**1.3. Details of the supplier of the safety data sheet****Company name:** OM Group Ultra Pure Chemicals Ltd

Amber Business Centre

Riddings

Alfreton

Derbyshire

DE55 4DA

United Kingdom

**Tel:** +44 (0) 1773 844200**Fax:** +44 (0) 1773 844244**Email:** [steve.grundy@omgi.com](mailto:steve.grundy@omgi.com)**1.4. Emergency telephone number****Emergency tel:** +44 (0) 1235 239670**Section 2: Hazards identification****2.1. Classification of the substance or mixture****Classification under CHIP:** C: R34**Most important adverse effects:** Causes burns.**2.2. Label elements****Label elements under CHIP:****Hazard symbols:** Corrosive.**Risk phrases:** R34: Causes burns.**Safety phrases:** S1/2: Keep locked up and out of the reach of children.

S23: Do not breathe fumes.

# SAFETY DATA SHEET

TITANIUM ETCHANT 2:8:90

Page: 2

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36: Wear suitable protective clothing.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## 2.3. Other hazards

**PBT:** This substance is not identified as a PBT substance.

## Section 3: Composition/information on ingredients

### 3.2. Mixtures

#### Hazardous ingredients:

NITRIC ACID

EINECS	CAS	CHIP Classification	CLP Classification	Percent
231-714-2	7697-37-2	O: R8; C: R35	Ox. Liq. 3: H272; Skin Corr. 1A: H314	1-10%

AMMONIUM FLUORIDE

235-185-9	12125-01-8	T: R23/24/25	Acute Tox. 3: H331; Acute Tox. 3: H311; Acute Tox. 3: H301	<1%
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## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** Wash immediately with plenty of soap and water.

**Eye contact:** Bathe the eye with running water for 15 minutes.

**Ingestion:** Wash out mouth with water.

**Inhalation:** Consult a doctor.

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

**Skin contact:** There may be mild irritation at the site of contact.

**Eye contact:** There may be irritation and redness.

**Ingestion:** There may be irritation of the throat.

**Inhalation:** No symptoms.

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

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

[cont...]

# SAFETY DATA SHEET

TITANIUM ETCHANT 2:8:90

Page: 3

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

**Exposure hazards:** In combustion emits toxic fumes.

## 5.3. Advice for fire-fighters

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

## Section 6: Accidental release measures

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

**Personal precautions:** Refer to section 8 of SDS for personal protection details. Turn leaking containers leak-side up to prevent the escape of liquid.

### 6.2. Environmental precautions

**Environmental precautions:** Do not discharge into drains or rivers. Contain the spillage using bunding.

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

**Clean-up procedures:** Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

### 6.4. Reference to other sections

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling requirements:** Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid the formation or spread of mists in the air.

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

**Storage conditions:** Store in cool, well ventilated area. Keep container tightly closed.

**Suitable packaging:** Must only be kept in original packaging.

### 7.3. Specific end use(s)

## Section 8: Exposure controls/personal protection

### 8.1. Control parameters

**Hazardous ingredients:**

**NITRIC ACID...100%**

**Workplace exposure limits:**

**Respirable dust**

State	8 hour TWA		15 min. STEL	
	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	-	2.6 mg/m <sup>3</sup>	-	-

[cont...]

# SAFETY DATA SHEET

TITANIUM ETCHANT 2:8:90

Page: 4

## 8.2. Exposure controls

**Engineering measures:** Ensure there is sufficient ventilation of the area.

**Respiratory protection:** Respiratory protection not required.

**Hand protection:** Protective gloves.

**Eye protection:** Safety glasses. Ensure eye bath is to hand.

**Skin protection:** Protective clothing.

## Section 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**State:** Liquid

**Colour:** Colourless

**Odour:** Barely perceptible odour

**Solubility in water:** Highly soluble

**Boiling point/range°C:** Not available

**Melting point/range°C:** Not available

**Relative density:** Not available

**pH:** Not available

### 9.2. Other information

**Other information:** Not applicable.

## Section 10: Stability and reactivity

### 10.1. Reactivity

### 10.2. Chemical stability

**Chemical stability:** Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

### 10.4. Conditions to avoid

**Conditions to avoid:** Heat.

### 10.5. Incompatible materials

**Materials to avoid:** Strong oxidising agents. Strong acids.

### 10.6. Hazardous decomposition products

**Haz. decomp. products:** In combustion emits toxic fumes.

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

**Relevant effects for mixture:**

Effect	Route	Basis
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[cont...]

# SAFETY DATA SHEET

TITANIUM ETCHANT 2:8:90

Page: 5

Corrosivity	OPT INH DRM	Hazardous: calculated
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## Symptoms / routes of exposure

**Skin contact:** There may be mild irritation at the site of contact.

**Eye contact:** There may be irritation and redness.

**Ingestion:** There may be irritation of the throat.

**Inhalation:** No symptoms.

## Section 12: Ecological information

### 12.1. Toxicity

**Ecotoxicity values:** Not applicable.

### 12.2. Persistence and degradability

**Persistence and degradability:** Biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential:** No bioaccumulation potential.

### 12.4. Mobility in soil

**Mobility:** Readily absorbed into soil.

### 12.5. Results of PBT and vPvB assessment

**PBT identification:** This substance is not identified as a PBT substance.

### 12.6. Other adverse effects

**Other adverse effects:** Negligible ecotoxicity.

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal operations:** Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the other possible disposal operations (e.g. evaporation, drying, calcination, etc.).

**Disposal of packaging:** Arrange for collection by specialised disposal company.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

## Section 14: Transport information

### 14.1. UN number

**UN number:** UN1760

### 14.2. UN proper shipping name

**Shipping name:** CORROSIVE LIQUID, N.O.S.  
(NITRIC ACID; AMMONIUM FLUORIDE; WATER)

[cont...]

# SAFETY DATA SHEET

TITANIUM ETCHANT 2:8:90

Page: 6

## 14.3. Transport hazard class(es)

Transport class: 8

## 14.4. Packing group

Packing group: II

## 14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

## 14.6. Special precautions for user

## Section 15: Regulatory information

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

### 15.2. Chemical Safety Assessment

**Chemical safety assessment:** A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

## Section 16: Other information

### Other information

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

\* indicates text in the SDS which has changed since the last revision.

**Phrases used in s.2 and 3:** H272: May intensify fire; oxidiser.

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H314: Causes severe skin burns and eye damage.

H331: Toxic if inhaled.

R8: Contact with combustible material may cause fire.

R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.

R34: Causes burns.

R35: Causes severe burns.

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.