

Revision Date 06-Feb-2012

Revision Number 3

## SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product Identifier**

**Product Description:** Titanium(IV) fluoride  
**Cat No.** 308430000; 308430100

**Relevant identified uses of the substance or mixture and uses advised against**

**Recommended Use** Laboratory chemicals  
**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**Company**

Acros Organics BVBA  
 Janssen Pharmaceuticaaan 3a  
 2440 Geel, Belgium

**E-mail address** begel.sdsdesk@thermofisher.com

**Emergency Telephone Number**

For information in the US, call: 001-800-ACROS-01  
 For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99  
 Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300  
 CHEMTREC Phone Number, Europe: 001-703-527-3887

## SECTION 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

**REGULATION (EC) No 1272/2008**

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

*For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16*

**Symbol(s)** C - Corrosive  
**R-phrase(s)** R34 - Causes burns  
**Risk Combination Phrases** R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

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**SECTION 2. HAZARDS IDENTIFICATION**

Label Elements



Signal Word

**Danger**

**Hazard Statements**

H314 - Causes severe skin burns and eye damage  
 H332 - Harmful if inhaled  
 H302 - Harmful if swallowed  
 H312 - Harmful in contact with skin

**Precautionary Statements - EU (§28, 1272/2008)**

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
 P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
 P280 - Wear eye protection/ face protection  
 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/ physician  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
 P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell  
 P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

**Other Hazards**

No information available.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.
Titanium tetrafluoride 7783-63-3	EEC No. 232-017-6	99	7783-63-3	Xn; R20/21/22 C; R34	Skin Corr. 1B (H314) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)	-

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

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**SECTION 4. FIRST AID MEASURES****Description of first aid measures****Eye Contact**

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

**Ingestion**

Do not induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately. If possible drink milk afterwards.

**Inhalation**

Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention.

**Notes to Physician**

Treat symptomatically

**SECTION 5. FIRE-FIGHTING MEASURES****Extinguishing media****Suitable Extinguishing Media**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. chemical foam.

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

Water.

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

Thermal decomposition can lead to release of irritating gases and vapors

**Advice 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****Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

**Environmental precautions**

Prevent further leakage or spillage if safe to do so

**Methods and material for containment and cleaning up**

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Sweep up or vacuum up spillage and collect in suitable container for disposal.

**SECTION 7. HANDLING AND STORAGE**

**Precautions for Safe Handling**

Do not breathe dust. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Use only in area provided with appropriate exhaust ventilation.

**Conditions for safe storage, including any incompatibilities**

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

**Specific End Uses**

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure limits**

**Component**

Titanium tetrafluoride

Italy	Germany	Portugal	The Netherlands	Finland
	TWA: 1 mg/m <sup>3</sup> 8 Stunden. F inhalable fraction exposure factor 4	TWA: 2.5 mg/m <sup>3</sup> 8 horas		

**Component**

Titanium tetrafluoride

Austria	Denmark	Switzerland	Poland	Norway
				TWA: 0.6 mg/m <sup>3</sup> 8 timer

**Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

**Derived No Effect Level (DNEL)**

No information available.

**Predicted No Effect Concentration (PNEC)**

No information available.

**Exposure controls**

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas Ensure that eyewash stations and safety showers are close to the workstation location

**Personal protective equipment**

**Eye Protection**

Goggles

**Hand Protection**

Protective gloves

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

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Environmental exposure controls No information available.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State	Powder, Solid
Appearance	White
Boiling Point/Range	No information available.
Melting Point/Range	No information available.
Flash Point	No information available.
Autoignition Temperature	No information available.
Molecular Formula	Ti F <sub>4</sub>
Molecular Weight	123.89

**SECTION 10. STABILITY AND REACTIVITY**ReactivityChemical Stability

Moisture sensitive.

Possibility of Hazardous Reactions

Hazardous Polymerization	No information available.
Hazardous Reactions .	No information available.

Conditions to Avoid

Incompatible products, Exposure to moist air or water.

Incompatible Materials

Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents.

Hazardous Decomposition Products

Gaseous hydrogen fluoride (HF).

**SECTION 11. TOXICOLOGICAL INFORMATION**Information on Toxicological EffectsAcute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

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**Chronic Toxicity****Carcinogenicity**

There are no known carcinogenic chemicals in this product

**Sensitization**

No information available.

**Mutagenic Effects**

No information available

**Reproductive Effects**

No information available.

**Developmental Effects**

No information available.

**Target Organs**

No information available.

**Other Adverse Effects**

The toxicological properties have not been fully investigated.

**Endocrine Disruptor Information**

None known

**SECTION 12. ECOLOGICAL INFORMATION****Toxicity****Ecotoxicity effects**

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

**Persistence and degradability**

No information available

**Bioaccumulative potential**

No information available.

**Mobility in soil**

No information available.

**Results of PBT and vPvB assessment****Other adverse effects**

No information available

**SECTION 13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Waste from Residues / Unused Products**

Dispose of in accordance with local regulations

**Contaminated Packaging**

Empty containers should be taken to local recyclers for disposal

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**SECTION 14. TRANSPORT INFORMATION**
**IMDG/IMO**

<b>UN-No</b>	3260
<b>Hazard Class</b>	8
<b>Packing Group</b>	II
<b>Proper Shipping Name</b>	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.

**ADR**

<b>UN-No</b>	3260
<b>Hazard Class</b>	8
<b>Packing Group</b>	II
<b>Proper Shipping Name</b>	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.

**IATA**

<b>UN-No</b>	3260
<b>Hazard Class</b>	8
<b>Packing Group</b>	II
<b>Proper Shipping Name</b>	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.*

**SECTION 15. REGULATORY INFORMATION**
**Safety, health and environmental regulations/legislation specific for the substance or mixture**
**International Inventories**

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Titanium tetrafluoride	232-017-6	-		-	-	-	-	X	-	-	X

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

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

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

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**CHINA** - China Inventory of Existing Chemical Substances

**AICS** - Inventory of Chemical Substances

**KECL** - Existing and Evaluated Chemical Substances

**Chemical Safety Assessment**

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**SECTION 16. OTHER INFORMATION****Full text of R-phrases referred to under sections 2 and 3**

R34 - Causes burns

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

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Revision Summary Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

**Disclaimer**

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet